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SECY-75-391

UNITED STATES
NUCLEAR REGULATORY COMMISSION

POLICY SESSION ITEM

8/6
1-3 P.M.

22 9/1/75

For: The Commissioners

Thru: Executive Director for Operations *[Signature]*

Subject: EARLY SITE REVIEWS FOR PLANNED NUCLEAR POWER STATIONS

Purpose: To obtain Commission approval for establishing a new policy and procedure for the advanced review of sites proposed for eventual construction and operation of a nuclear power station under present legislative authority.

Category: This paper involves a major policy question.

Issue: Should the NRC establish a new policy and procedure for early site reviews prior to the enactment of proposed nuclear facility licensing reform legislation (S. 1717 and H.R. 7002).

Decision Criteria:

1. The extent to which an early site review policy and procedure can contribute to enhancing the overall licensing process.
2. Impact on the review process with respect to deferred plants by utilities.
3. Impact on pending legislation.

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Alternatives: The following alternatives are possible for consideration:

1. Prompt issuance of a policy and procedure document for early site reviews.
2. Issue nothing in this regard until the proposed legislation has been enacted or it is evident that enactment will not occur.

Discussion: With regard to alternative 1:

- Pro:
- (1) Establishes and publicizes an NRC policy and procedure for early site reviews which will encourage applications now, thereby accruing the benefits of the concept of separating site and plant reviews and approvals earlier than would otherwise be possible.
 - (2) Promotes dialogue with the industry and States regarding such site reviews to enhance the development of procedures and criteria for future applications.
 - (3) Utilities that have deferred plants in recent months would be encouraged to proceed with the staff review and approval of sites. These are included in the several early site review applications anticipated for submittal under this proposed policy in FY 76 and FY 77. Total staff manpower estimated to carry out this program over the next two years will average about 20 man-years per year and has been included in the FY 76 and FY 77 budget requests.
- Con:
- (1) May undercut the incentive for passage of the proposed legislation since ways must be provided under present legislative authority for early approval of sites through the public hearing stage to attract applicants.
 - (2) May be difficult to obtain comments from Federal and State agencies without a more formalized early site review program that the proposed legislation would provide.
 - (3) For those applicants, such as States, with no plans to submit a CP application, the process would be limited since it would not include a hearing and related procedures.

With regard to Alternative 2:

- Pro: (1) This would be a conservative approach which would not incur the risks and difficulties identified in Alternative 1.
- Con: (1) The licensing concept for early site reviews would not be advanced as much as in Alternative 1 particularly if the enactment of the proposed legislation is significantly delayed.
- (2) The other advantages identified for Alternative 1 would not be achieved.

Recommendation: That the Commission adopt Alternative 1. A copy of the policy and procedure statement for early site reviews is set forth as Attachment A.

Note: The JCAE will be notified and briefed prior to issuing the policy and procedure statement. Also, to assure consistency, the policy and procedure statement will not be issued until the Commission has approved proposed changes to the regulations which extend the Early Site Review approach through the public hearing stage. The latter are being prepared and will be submitted separately.

Coordination: This paper has been concurred in by the following offices:

Office of Nuclear Reactor Regulation
Office of Standards Development
Office of the Executive Legal Director

Scheduling: At an early Policy Session.



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Attachment:
Policy and procedure for early site reviews

Contact: W. P. Haass, RL
Ext. 7581

SECRETARIAT NOTE: This paper has been concurred in by the Office of Congressional Affairs.

POLICY AND PROCEDURE
EARLY SITE REVIEWS
FOR
PLANNED NUCLEAR POWER STATIONS

Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Licensing

July 1975

ABSTRACT

This document presents the policy and procedure for NRC review and approval of early site review applications that are independent of specific nuclear power station designs. It encompasses the processing of applications involving complete site information for both environmental and safety areas as well as those involving only certain key areas upon which a go/no-go decision may hinge.

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DEFINITION OF TERMS

ACRS	Advisory Committee on Reactor Safeguards
ASLB	Atomic Safety and Licensing Board
CP	Construction Permit
DSES	Draft Site Environmental Statement
ESR	Early Site Review
FSES	Final Site Environmental Statement
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission
Nuclear Power Station	One or more nuclear power plants
Site-SER	Site-Safety Evaluation Report
SSP	Staff Site Position
Standard Design	Design of a nuclear power plant, or major portion thereof, submitted under the Reference System option of the standardization policy (10 CFR Part 50 Appendix N)

I. INTRODUCTION

As a major part of the Nuclear Regulatory Commission's continuing efforts to improve the effectiveness and efficiency of the licensing process, a policy and procedure has been developed for the early review of sites planned for the location of nuclear power stations, independent of the specific design and construction features of the station itself. Such early site reviews, for new nuclear sites as well as those on which a nuclear power station is already located, can provide advanced assurance of site acceptability by the NRC staff for all site considerations or for certain key areas. This staff report presents a policy and procedure for early site reviews for use by applicants - utilities, States, governmental agencies, or other entities - who wish to pursue this initial step leading to the licensing of a nuclear power station.

To accommodate the variety of applicant needs and siting concerns that may exist, the early site review policy permits the selection of either of two approaches. These approaches provide flexibility in the scope of the review process. The approaches are described as follows:

Early Site Review (ESR): This approach involves the applicant's submittal of complete site information, both in the safety area with the review process carried through the NRC staff and ACRS, and in the

environmental area with the review process carried through the NRC staff and other participating NEPA-commenting agencies.

Limited Early Site Reviews (LESR): This approach involves the submittal of limited site information related to specific site issues in either or both the safety and environmental areas with the review process again carried through the NRC staff and ACRS for the safety areas, and the NRC staff and participating NEPA-commenting agencies for environmental areas.

The Early Site Review approach offers advanced assurance of the acceptability by the staff of limiting values for site parameters and of environmental analyses performed under NEPA at an early stage in the design of the nuclear power station. With the exception of possible new information or other good cause, all site-related considerations may be completely resolved to the satisfaction of the NRC staff, ACRS and participating NEPA-commenting agencies in advance of the submittal of specific nuclear plant design information.

The Limited Early Site Review approach permits applicants to obtain a staff, ACRS and possibly participating NEPA-commenting agency evaluation and conclusion regarding one or more particular site issues important to the siting, design and construction of a planned nuclear power station. Firm staff decisions on important

siting issues at an early date should assist applicants in stabilizing nuclear power station design requirements. The Limited Early Site Review approach replaces the preliminary, informal type of site review performed in the past.

To complete the Early Site Review process in its entirety, the applicant may elect to carry the application through a public hearing and an ASLB decision followed by a definitive NRC decision. This may be accomplished for either the complete or limited Early Site Review application. Under present legislative authority, the complete processing of an Early Site Review application through the public hearing phase may only be accomplished in the context of a construction permit application.

As an extension of the Early Site Review process, the NRC's proposed legislation (S. 1717 and H. R. 7002) would allow NRC to consider site suitability issues in a site permit proceeding that is entirely separate from the construction permit proceeding. The site permit proceeding would include public hearings when requested by any person whose interest may be affected. Further, under the proposed legislation site permit applications could be filed by persons who have no intention of filing a construction permit application referencing the site. For example, States could seek a site permit as a part of energy facility planning efforts.

II. EARLY SITE REVIEWS

Site reviews performed in accordance with this policy will be generally similar to site reviews performed in connection with construction permit applications. The major differences are the limited extent to which the review is carried (i.e., no public hearing or ASLB decision), and the lack of a specific nuclear power station design. The latter necessitates the identification and definition of site/station interface design requirements against which the specific design of the nuclear power station must be evaluated to demonstrate site/station compatibility* at the CP application stage. These and other aspects of an early site review are discussed in this chapter.

A. Review Process

As shown in Figure 1, Early Site Review applications will be subjected to the same acceptance review and docketing procedures presently utilized for other types of applications submitted for staff review. The acceptability of a tendered application will be based on a comparison of the informational needs as described in Regulatory Guide 4.Z**.

*For example, see 10 CFR Part 50 Appendix O, paragraph 3.

**Informational needs are given in Regulatory Guide 4.Z, "Preparation of Early Site Review Reports for Nuclear Power Stations".

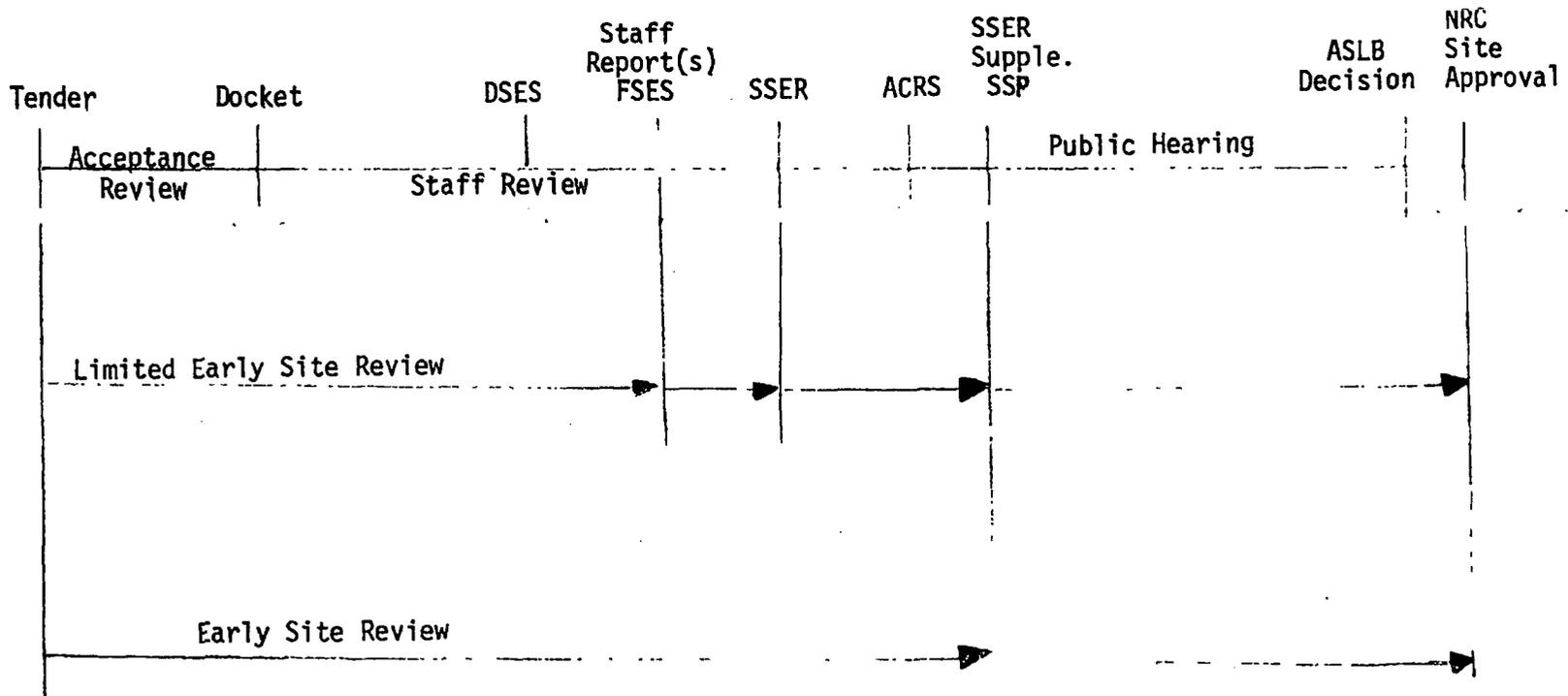


Figure 1

Extent of Review and Approval Process for Early Site Review Applications

As for other applications for staff review, the receipt of Early Site Review applications will be noticed in the Federal Register and comments from interested persons will be invited. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

Following docketing of the application, the staff review will be performed in accordance with present procedures. For the safety areas, the conclusions of the staff review will be documented in a Site-Safety Evaluation Report (SSER). The review will be carried through the ACRS stage with an ACRS letter report issued and SSER Supplement prepared as appropriate. For the environmental area, the conclusions of the review will be documented in a Draft Site Environmental Statement (DSES) distributed for Federal and State agency review, and a Final Site Environmental Statement (FSES) incorporating the resulting comments.

B. Content of Early Site Review Reports

Early Site Review applications must present the necessary site information in two self-sufficient and separate reports -- one for environmental information entitled "Early Site Review-Environmental Report" and the other for safety-related information entitled "Early Site Review - Site Safety Report".

Guidance regarding the format and content of these reports is given in Regulatory Guide 4.Z. This guide includes all the necessary categories of information regarding the description of a site for a nuclear power station. It describes the necessary environmental information similar to that presented in an Environmental Report, and safety-related site information similar to that presented in a Preliminary Safety Analysis Report. In addition, Regulatory Guide 4.Z describes the need for interface information which defines the site-related design limits for the nuclear power station based on the values of the various parameters established for the site. With regard to environmental and meteorological data, 12 months of data must be provided at the time of tendering.

C. Scheduling Considerations

In general, Regulatory processing of Early Site Review applications will be accomplished under a scheduling arrangement similar to that used for applications for licenses, except that a lower priority will be assigned. As discussed in Section A of this chapter and as shown in Figure 1, the major processing steps are the same as for other applications. However, the review areas involved are restricted to those concerned with siting considerations only.

It is anticipated that in the majority of cases the submittal and completion of NRC processing of Early Site Review applications will precede the submittal of a CP application utilizing the site. Other equally acceptable scheduling relationships between the Early Site Review applications and the CP application could involve both reviews underway in parallel. The site review application would be concerned with qualifying the site for a greater number of nuclear power plants than is specified by the CP application. However, the granting of a CP cannot precede the completion of that portion of the site review and approval process for the number of nuclear plants specified in the CP application.

D. Mode of Approval

For Early Site Review applications successfully carried through the staff, ACRS, and Federal and State agency review process, a Staff Site Position (SSP), issued by the NRC staff, will be granted. An SSP will consist of a letter to the applicant specifying the acceptability or unacceptability to the staff of the site for eventual location of a nuclear power station, and the acceptability or unacceptability to the staff of the site parameters for the design of the nuclear power station established during the review. It would reference the

original application including the Environmental and Site Safety Reports and would state any conditions imposed on the staff's acceptability of the site, including the need to modify any aspects of acceptability based on significant new information which substantially affects the earlier determination or other good cause. At the time the site is used in a CP application, the review process for the site would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision.

E. Tenure of Approval

For Early Site Review applications, the Staff Site Position (SSP) granted would have a tenure of about five years unless significant new considerations or significant new data arose. During this period, defined as the interval between issuance of the SSP and tendering of a CP application that uses the site, the site could be used in CP applications without staff and ACRS re-review under the conditions specified in the SSP documentation discussed above and except for an updating review to determine the significance of new data and requirements. If the site were not utilized in CP applications within the five year period, it would be subjected to a "qualification review" performed by the NRC staff at the time of its use. The "qualification review" involves a determination

of the applicability of any new NRC considerations and requirements or new applicant data that may have arisen since the issuance of the SSP. The site aspects affected by the results of the "qualification review" would be reviewed again. Those areas that are unaffected would not be reviewed again. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and the Site Safety Report. If no updating is required, the applicant must so certify, including the bases (subject to staff review), at the time of site utilization in a CP application.

Examples of site review considerations that may require updating at the time of site use in a CP application include need for power, source of power, cost-benefit analysis, and population density. For purposes of accomplishing the environmental review under NEPA and determining site acceptability regarding safety considerations at an early stage, it will be necessary to provide projections for some of the site considerations. The validity of these projections

must then be confirmed at the time of site use. Depending upon the extent and direction of departure from these projections, re-review may be necessary.

III. LIMITED EARLY SITE REVIEWS

Limited Early Site Reviews performed under this policy will permit an applicant to obtain NRC staff and, as appropriate, ACRS and participating NEPA-commenting agency review and evaluation of selected site considerations that are determined to be important for a go/no-go decision regarding site acceptability, or for which an early decision is necessary with respect to site selection or advanced design efforts for a nuclear power station. The selected site considerations may be in the safety and/or environmental areas, and must qualify as considerations warranting an early and separate review, including whether conducting such a review would tend to foreclose later evaluation of alternate sites.

The NRC staff position associated with a Limited-ESR application must necessarily be confined to the particular site considerations addressed, and for the environmental area, it cannot encompass full NEPA review unless all NEPA considerations are addressed in order to perform the required balancing determination.

A. Review Process

As shown in Figure 1, Limited-ESR applications will be subjected to the same docketing and review procedures as Early Site Review applications. With regard to the acceptability of a tendered Limited-ESR application, the

staff will make a comparison of the informational needs as described in Regulatory Guide 4.Z for the scope of the site considerations addressed, with the information provided in the Limited Early Site Review report(s)*. As for Early Site Review applications, the receipt of a Limited-ESR application will be noticed in the Federal Register and comments from interested persons will be invited. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

With regard to the conclusions of the review, a Staff Report - Safety Considerations will be prepared for safety areas of review, and a Staff Report - Environmental Considerations** will be prepared for environmental areas of review. The latter will be distributed to appropriate Federal and State agencies for review.

*Limited Early Site Review-Environmental Report for environmental information, and/or Limited Early Site Review-Site Safety Report for safety-related information.

**For Limited-ESR applications involving complete NEPA review, the staff will issue a DSES and an FSES.

B. Content of Limited Early Site Review Reports

Similar to Early Site Review applications, Limited-ESR applications must also include a Limited Early Site Review report(s). As discussed in the previous section, the scope of the subject matter addressed may necessitate two separate and self-sufficient reports -- one for environmental information and the other for safety information. The subject matter should be addressed completely in accordance with the appropriate portions of Regulatory Guide 4.2 to permit a conclusion to be drawn in the form of a staff report(s) as discussed in Part A of this section. With regard to the environmental area, site considerations selected for submittal in a Limited ESR application must be isolable considerations for which independent conclusions can be drawn (e.g., it is not possible to draw a final conclusion on some site considerations, on a separate basis, directly involved in the cost-benefit analysis under NEPA since that analysis also depends on many other site considerations).

C. Scheduling Considerations

The NRC processing of Limited-ESR applications will be accomplished under a scheduling arrangement determined by the scope of the review requested and, therefore, decided on a case-by-case basis. The major processing steps are the same as those for Early Site Review applications, as shown in Figure 1.

Relative to the CP application that uses the site, a Limited-ESR application, in order to qualify as such, must be submitted more than six months prior to the submittal of the CP application and will be docketed separately. Special provisions* have previously been made for the submittal of an Environmental Report as much as six months prior to the PSAR for a CP application.

D. Mode of Approval

NRC staff approval of the particular aspects of a site proposed for subsequent location of a nuclear power station will consist of a letter to the applicant summarizing the conclusions of the staff, ACRS (as applicable), and participating NEPA-commenting agency (as applicable) reviews including the specific areas of acceptability, limits established for the design of the nuclear power station, and any other necessary qualifications. The Staff Report-Safety Considerations and supplements (including the ACRS letter report) and/or the Staff Report-Environmental Considerations (including participating NEPA-commenting agency comments) become a portion of the approval documentation. At the time the site is used in a CP application, the review process for these site aspects would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision.

*10 CFR Part 2.101(a)

E. Tenure of Approval

A Limited-SSP will have a tenure of approval of about five years, the same as an SSP for an Early Site Review application, unless significant new considerations or significant new data arise. As for an SSP, the conclusions given in the Limited-SSP could be utilized in CP applications using the site without re-review by the staff for the five year period. If the site were not utilized in a CP application within the five year period, the prior conclusion would be subjected to a "qualification review" at the time of its use in a manner identical to that for Early Site Review approvals. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and/or Site Safety Report for staff review. If no updating is required, the applicant must so state, including the bases (subject to staff review), at the time of site utilization in a CP application.

IV. PUBLIC HEARING ASPECTS

As a further step toward stabilizing site-related design requirements for the planned nuclear power station at an early stage, an Early Site Review application may be processed through the public hearing phase as an early part of the CP review process at the discretion of the applicant. The site would then be established as a pre-approved site. The process would involve a public hearing conducted by an ASLB, an Initial Decision by the ASLB, and a Final Decision by the NRC. A site for a nuclear power station that has progressed to this point can be utilized later in the CP review without the need for additional review or public hearings unless significant new information which substantially affects the earlier determination has arisen or other good cause.

As stated in Section I of this document, only those Early Site Review applications submitted in the context of a CP application may be carried through the public hearing phase. The NRC's proposed legislation would allow consideration of site suitability issues in a site permit proceeding that is entirely separate from the construction permit proceeding. The site permit proceeding would include public hearings when requested by any person whose interest may be affected. Further, under the proposed legislation site permit

applications could be filed by persons who have no intention of filing a construction permit application referencing the site. For example, States could seek a permit as a part of energy facility planning efforts.

9/17/77
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April 7, 1977

UNITED STATES
NUCLEAR REGULATORY COMMISSION SECY-77-185

POLICY SESSION ITEM

For: The Commissioners

From: Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Thru: Executive Director for Operations *JWZ*

Subject: STATEMENT ON STANDARDIZATION OF NUCLEAR POWER PLANTS

Purpose: To obtain Commission approval for issuance of a proposed statement providing further definition of the standardization program and reaffirming the Commission's support of standardization.

Category: This paper covers a major policy matter.

Discussion: The initial Commission statement on standardization of nuclear power plants was issued in April 1972. In March 1973, the Commission announced the staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the Commission announced that the concept of replication would be acceptable as a transitional step toward standardization.

The record shows that the standardization program has progressed in a meaningful way. However, it has been more than four years since its implementation and additional definition of the program is warranted as a consequence of the experience gained since the inception of the program. A proposed statement (Enclosure 1) has been composed to provide reaffirmation of Commission support of the standardization program and to describe additional definition of certain aspects of that program presently under consideration; the statement requests public comment on these measures within a period of 60 days.

Contact:
R. C. DeYoung, DPM
492-7373

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A proposed public announcement concerning the statement is provided as Enclosure 2.

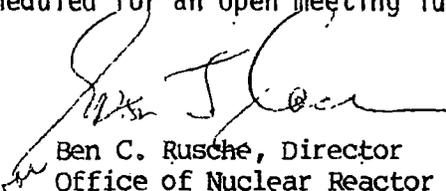
A report prepared by the Office of Nuclear Reactor Regulation, and which served as the principal basis for the proposed statement, is provided as Enclosure 3. The proposed public announcement states that copies of this report will be made available upon request to the Director of the Office of Nuclear Reactor Regulation.

This action involves no new resource requirements.

Recommendation: Recommend that the Commission approve the proposed statement (Enclosure 1) and public announcement (Enclosure 2).

Coordination: The Office of the Executive Legal Director has no legal objection to this paper. The public announcement has been prepared by the Office of Public Affairs.

Scheduling: This item is scheduled for an open meeting Tuesday, April 12, 1977.



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Proposed Commission Statement on Standardization of Nuclear Power Plants
2. Proposed Public Announcement
3. Report on Standardization by the Office of Nuclear Reactor Regulation

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ENCLOSURE 1

STATEMENT ON

STANDARDIZATION OF NUCLEAR POWER PLANTS

The initial Commission policy statement on standardization of nuclear power plants was issued in April 1972. In March 1973, the Commission announced the staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the Commission announced that the concept of replication would be acceptable as a transitional step toward standardization. Currently, available guidance on standardization is contained in WASH-1341, "Programmatic Information for the Licensing of Standardized Nuclear Plants," dated August 1974, and supplementary documents.

The record shows that the standardization program has progressed in a meaningful way. However, it has been more than four years since its implementation and, on the basis of a report on standardization prepared by the Office of Nuclear Reactor Regulation,^{1/} certain changes and additional definition of the program are warranted as a consequence of the experience gained since the inception of the program. Specifically the following actions are being taken:

1. The replication concept was developed to serve during the transition phase of standardization and we continue to believe it can play a useful role in that regard. The concept has been utilized in three construction applications for a total of six units but it has not been used to the extent expected and its need appears to be diminishing. The replication concept has been acceptable and no changes in the definition or use of the concept will be made at this time. However, we continue to expect that this concept will eventually be discontinued and we will evaluate this concept further in the future to determine when this should be accomplished.
2. The duplicate plant concept of standardization has been utilized in eight construction permit applications for a total of fifteen units. The experience has been favorable and no changes in the definition or use of this concept appear to be needed.
3. The manufacturing license concept of standardization has been utilized in one application for eight floating nuclear plants. No changes in the definition or use of this concept appear to be needed at this time.

^{1/} Copies may be obtained from the Director, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555.

4. The reference design concept of standardization is the most widely used of the concepts. Seventeen design approval applications have been accepted for review and ten have been approved to date. The present guidance was mainly directed to the preliminary design approval phase and has been shown to be effective. However, the staff is proceeding with a program to provide further needed definition to the concept with respect to the final design approval phase. Two alternative final design approvals are contemplated:

- (1) A final design approval (Alternate 1), designated FDA/1, which will be:
 - (a) Based on the preliminary design on which the preliminary design approval (PDA) was based except for those necessary changes incident to the applicant converting the preliminary to a final design.
 - (b) Subject to the regulatory guides in effect as of the time the staff positions were issued in connection with the review of the PDA. However, this cutoff date will not apply in the case of new significant safety issues.
 - (c) Acceptable for referencing by operating license applicants who have previously referenced the PDA on which the FDA/1 is based, and remain in effect until those referencing applications have resulted in receipt of operating licenses or have been disqualified for good cause as reference applications. An FDA/1 may not be referenced by construction permit applicants after the PDA on which it was based has expired.

- (2) A final design approval (Alternate 2), designated FDA/2, which will be:
 - (a) Based on the preliminary design on which the PDA was based except that the applicant may make a limited number of changes which it considers to be desirable.
 - (b) Subject to all regulatory guides in effect at the time the FDA/2 application is accepted for docketing.
 - (c) Acceptable for referencing by applicants for combined construction permits and final design approvals for

purposes of issuance of operating licenses^{2/} from the time of docketing until five years after issuance of the FDA/2.

- (d) Acceptable for referencing by applicants for operating licenses who have previously referenced the PDA on which it is based, and have confirmed their designs to the design for which the FDA/2 has been issued.

We believe that standardization of nuclear power plants continues to be in the interest of public health and safety and we reaffirm our strong support for its use within the Commission's regulatory activities. It should continue to be recognized that the full benefits of standardization can only be realized if strong management discipline is rigorously maintained, to enforce the principles on which it is founded, both within the Commission's staff and within the staffs of the involved industry organizations.

The staff would appreciate receiving comments and suggestions within sixty days on the matters discussed herein, and on other matters that might be considered in order to provide further needed definition to the Commission's standardization program. After review of such comments, the further definition will be published in a revision to WASH-1341. Comments should be sent to the Director, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555.

^{2/} Under 10 CFR Sections 2.105(c), 50.35 Note, and 50.52, the Commission may issue a combined construction permit and final design approval for purposes of issuance of an operating license. Legislation to specifically authorize issuance of combined construction permits and operating licenses has been proposed by the Commission in the 94th Congress.

ENCLOSURE 2

PUBLIC ANNOUNCEMENT

NRC STAFF REAFFIRMS COMMITMENT
TO STANDARDIZED POWER REACTOR DESIGNS

The Nuclear Regulatory Commission's Office of Nuclear Reactor Regulation has further confirmed its commitment to the standardization of nuclear power reactor designs in a statement issued today. The statement is based on a new document, "Report on Standardization by the Office of Nuclear Reactor Regulation."

The statement provides new guidance for use by the industry by describing two mechanisms for obtaining final design approvals (FDAs) for the reference design concept of standardization—one of four options available.

Under the reference design concept, first announced in March 1973, an entire nuclear power plant design or major fractions of it can be reviewed as a standard design to be used in more than one application to build such a facility.

To date, this has been the most widely used of the four standardized design concepts. Seventeen design approval applications have been accepted for review and ten of these have received preliminary design approvals (PDAs).

The statement also discusses the three other standardization options; these options are:

The duplicate plant concept: Under this option, if a utility, or group of utilities, plans to build a limited number of duplicate plants within a limited time span, the NRC staff simultaneously reviews the safety related aspects of all of the plants. Since March 1973, applications to build fifteen power reactors have been filed under this option.

A license to manufacture: This involves a standardized reactor design and an envelope of assumed site conditions for a specified number of plants to be manufactured at a location which is different from the location where the plant eventually would be operated. One application has been received to build eight floating nuclear power plants under this option.

Replication: This option which was developed and announced in August 1974 to serve during the transition phase to standardized designs. This involves replication of plants for which the NRC staff completed initial safety reviews after January 1, 1974. This concept has not been used to the extent expected--three applications to construct six power reactors have been reviewed--and its use appears to be diminishing. However, the option still will be available until an evaluation is completed--at some future date--as to when it should be discontinued.

A copy of the statement is attached. Single copies of the "Report on Standardization by the Office of Nuclear Reactor Regulation" may be obtained by writing to the Director, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D. C. 20555.

April 6, 1977

ENCLOSURE 3

REPORT ON STANDARDIZATION

BY

THE OFFICE OF NUCLEAR REACTOR REGULATION

I. INTRODUCTION

The initial Commission policy statement on standardization of nuclear power plants was issued in April 1972. In March 1973, the Commission announced the staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the Commission announced that the replication concept would be acceptable as a transitional step toward standardization.

Since the standardization policy was announced:

- (1) We have received seventeen applications for preliminary design approvals under the reference system concept. One was subsequently withdrawn. Another, involving a gas cooled reactor, has been essentially suspended at the request of the applicant. We have issued ten preliminary design approvals for reference system designs to date, and expect to reach a decision on three others this year, and the remaining two in 1978.
- (2) We have received ten construction permit applications, for a total of twenty-five units, referencing five of the fifteen reference system designs. We have issued construction permits for five of the units, and expect to reach decisions on permits for sixteen others this year, and the remaining four in 1978.
- (3) We have received one application for a manufacturing license for eight floating nuclear plants. We expect to reach a decision on issuance of the manufacturing license late this year or next year.
- (4) We have received eight applications for construction permits, for a total of fifteen units, under the duplicate plant concept. Two of the applications, for a total of six units, also reference an approved reference system design. We have issued construction permits for six of the units, and expect to reach decisions on the remaining nine units this year.
- (5) We have received three applications for construction permits, for a total of six units, under the replication concept. We expect to reach a decision on construction permits for four of the units this year, and for the remaining two units in 1978.

The record demonstrates that the standardization program has progressed in a meaningful way. However, because it is more than five years since its inception and more than four years since its initial implementation, we reviewed the program to determine what further definition and support of the program is needed on the basis of our accumulated experience.

II. RESULTS OF ASSESSMENT

Our assessment of the standardization program concentrated on two principal areas; that is, whether the existing guidance and incentives offered by the standardization program are adequate, at both the construction permit stage and the operating license stage of the nuclear power plant licensing process.

Guidance and Incentives for the Construction Permit Stage

Replication

The replication concept was conceived to serve primarily during the transition phase from custom plant applications to applications based on reference system designs. When the replication policy was announced in August 1974, it was expected that the replication concept would have the greatest impact of all the standardization concepts during the following several years. However, only three "replicate" applications have been submitted. All three applications have replicated base plants that in turn referenced the Westinghouse RESAR-3 nuclear steam supply system design which was not reviewed in the context of the Commission's standardization program (although it was a precursor to that program).

Although the replication concept has not been widely used by industry, we believe that is a result of the depressed market situation and of the utilities' desire to use the newer plant designs which are available only in the reference system concept. The safety review for the first replicate plant was completed in twenty-eight months and the safety review for the second replicate plant should be completed in about eighteen months. The third replicate plant was docketed in the latter part of 1976 and is in review.

The replicate plant concept has been acceptable and we believe that no further definition is needed for the concept at the construction permit stage of review. We continue to view the replication concept as an interim approach to standardization and expect that this concept will be discontinued in the future. We will continue to evaluate the need for this concept as part of the standardization program.

Duplication

The duplicate plant concept has been used in three instances. In the first instance, a single utility used it for two dual-unit plants, two units located at one site and the other units at a second site. The safety review was completed in about twenty-five months and construction permits issued about two months later. In the second instance, four

applicants participated in the SNUPPS program and developed a duplicate plant design for use on three of the applications for single-unit plants and on the fourth application for a dual-unit plant. The safety review for the SNUPPS design was completed in nineteen months and the construction permits for the dual-unit plant were issued about three months later; decisions on the other permits are expected this year after delays related to need for power, financial, or environmental considerations. The third instance was similar to the first except that it involved two 3-unit plants. The safety review is nearing completion after three years; the delay was mainly due to a delay in the need for the plants.

The duplicate plant concept experience has been favorable. The staff has had no real difficulties with it and the users have expressed satisfaction with the concept. We believe that no further definition is needed for the concept at the construction permit stage and it can be used as it has been in the past.

Reference System

The reference system concept has been the most widely used of the standardization concepts. We have issued preliminary design approvals for two General Electric, two Westinghouse, and one Combustion Engineering nuclear steam supply system designs, and we expect to reach decisions on preliminary design approvals for a Babcock & Wilcox and a third Westinghouse nuclear steam supply system design within the next year. We have also issued preliminary design approvals for a C F Braun turbine island design, a General Electric nuclear island design, and three Stone & Webster balance-of-plant designs. We expect to reach decisions on a Fluor-Pioneer, a Gibbs & Hill, and one additional Stone & Webster balance-of-plant design in the next one and one-half years.

To date, the safety review has been completed for only four of the referencing construction permit applications. The times to complete these reviews have been sixteen, eighteen, twenty-three, and twenty-nine months, respectively.

We believe the guidance established for the reference system concept has been demonstrated to be sufficient for both the preliminary design approval stage of review and for its use for construction permit applications.

Guidance and Incentives for the Operating License Stage

Replication

It is the staff's intent to permit the replication process to be used through the completion of the operating license review for the base plant.

For such applications, any design or other changes deemed necessary for the base plant as a result of its operating license review will be applied to the replicate plant. There has been no experience to date with replicate plants at the operating license stage but no additional guidance would appear to be necessary at this time.

Duplication

It is the staff's intent to permit use of the duplication process through the completion of the operating license review for the units involved. For such applications, any design or other changes deemed necessary as a result of the operating license review will be applicable to all of the duplicate units. There has been no experience to date with duplicate plants at the operating license stage but no additional guidance would appear necessary at this time.

Reference System

The guidance established for the reference system concept has been demonstrated to be sufficient for preliminary design approval purposes. However, the General Electric Company and Combustion Engineering, Inc., have recently indicated the need for further definition on (a) how the length of time that a preliminary design approval can be referenced by an applicant for a construction permit could be extended (without the need for the staff to update the review) or, alternatively, the means by which a new standard design could be made available for referencing pending completion of the staff review, and (b) the possible uses and period of effectiveness of a final design approval.

These two organizations would be expected to be the first to raise these post-PDA questions since their approved designs are the only ones referenced in more than one construction permit application. If a PDA has not been referenced in an application, it is unlikely that the PDA-holder would develop the final design with its own funds and without the essential exchange of information between major design participants that occurs when a construction permit is issued for a plant incorporating one or more approved standard preliminary designs. On the other hand, if a PDA has been referenced in several applications which have led to construction permits, the final design will need to be developed for such plants and the value of an FDA, which can be referenced for all such plants, is evident. However, if a PDA has been referenced in only one or two applications, the worth of an FDA is open to question unless the FDA also could be referenced in new construction permit applications after the expiration of the associated PDA.

10 CFR Part 50, Appendix O, addresses standard reference design applications but does not provide guidance of the type being sought. WASH-1341, "Programmatic Information for the Licensing of Standardized Nuclear Power Plants," issued in August 1974 provides guidance in addition to that provided in Appendix O. However, WASH-1341 was issued at the onset of standardization and, as might be expected, the guidance provided was neither complete nor consistent with the needs of the programs that subsequently developed. We believe that further definition is needed with respect to:

- (1) The period of effectiveness of an FDA during which it may be referenced in applicable operating license applications.
- (2) The period of time during which an FDA application and an FDA itself may be referenced in construction permit applications.
- (3) Issuance of an FDA (without the need for a PDA) for an updated version of an earlier design for which a prior PDA or FDA had been issued.
- (4) Definition of the cutoff date for new regulatory guides to be applied to the plant design.

We believe that without such further definition, the reference system design concept will be used in only a limited fashion at the operating license stage of review. Sections III and IV of this report provide this definition and describe two alternate approaches for final design approvals which we presently plan to incorporate into the standardization program. The use and basis for development of these two alternate final design approvals is discussed in those sections.

III. FINAL DESIGN APPROVAL (ALTERNATE 1)

The Final Design Approval (Alternate 1), hereinafter identified as FDA/1, is currently described in WASH-1341. The general guidelines for use of an FDA/1 given in WASH-1341 would remain essentially valid. However, it is important that these guidelines be amplified to some extent and be more precisely defined at this time, as discussed in Section II of this report. The guidelines of interest offered by WASH-1341 for the FDA/1 are as follows:

The final review stage for a standard design is analogous to the normal operating license stage of review. When the applicant has prepared final design information, a final SSAR is submitted by amendment for staff review. At the conclusion of the review, a final design approval (FDA), rather than an operating license is granted. The FDA should

remain valid for a fixed period of time, at least five years, during which time no rereview of the design should be necessary other than to account for the potential areas of rereview resulting from safety considerations.

Based on our review of the FDA/1 concept, we currently plan to incorporate the following clarifications to the policy delineated in WASH-1341 for FDAs:

- (1) The final design presented by the applicant in the SSAR application for an FDA/1 should be based on the preliminary design on which the PDA was based, except for those necessary changes which occur incident to the applicant converting a preliminary to a final design.
- (2) The cutoff date for new regulatory guides for the FDA/1 should be the cutoff date used for the PDA on which the FDA/1 is based. However, this cutoff date will not apply in the case of significant new safety issues.
- (3) The FDA/1 should be referenced by only those applications which have referenced the PDA on which the FDA/1 is based and should remain in effect until those referencing applications have resulted in receipt of an operating license or are disqualified as reference applications for good cause. An FDA/1 may not be referenced by new construction permit applicants.

IV. FINAL DESIGN APPROVAL (ALTERNATE 2)

In assessing the final design area of the standardization program for the reference system concept, we believe there is a need for a second type of FDA. We have designated this type of FDA as a Final Design Approval (Alternate 2), hereinafter referred to as FDA/2.

As described in the previous section, the FDA/1 is intended to be used only by those applicants referencing the PDA on which the FDA/1 is based. Using this concept, there will be approximately a three-year period during which a utility can reference an initial PDA and thus be able to take advantage of the FDA/1. We see the FDA/1 as playing an important but limited role in standardization in that it cannot be referenced in new construction permit applications. Since the ultimate product in the reference system concept of standardization should be an approved and current final design which can be referenced at both the preliminary and final design stages, we believe there is a strong incentive for industry and the staff to proceed to the FDA/2. In establishing the guidelines for the FDA/2, we have attempted to effectively balance the needs for reviewing applications to the most recent regulatory requirements against the needs of industry of having the proper incentives to invest their efforts in applications for an FDA/2.

Based on our review of the FDA/2 concept, we currently plan to establish the following guidelines for the FDA/2:

- (1) The final design presented by the applicant in the SSAR application for an FDA/2 should be based on the preliminary design on which the PDA was based, except that the applicant may make a limited number of design changes which it considers to be desirable.
- (2) The FDA/2 should be subject to all regulatory guides in effect as of the date that the FDA/2 application is docketed. However, this cutoff date should not apply in the case of significant new safety issues.
- (3) The FDA/2 may be referenced by applicants for construction permits and final design approval for purposes of issuance of operating licenses^{1/} from the time the FDA/2 is accepted for docketing until five years after the FDA/2 is issued.
- (4) The FDA/2 may be referenced at the operating license stage by all construction permit licensees who previously referenced the PDA on which the FDA/2 is based.
- (5) The FDA/2 should remain in effect until those referencing applications have received an operating license or are otherwise disqualified for good cause as reference applications.

In establishing the cutoff date for regulatory guides, we considered the need for establishing these requirements at an early date as well as limiting the interval between the cutoff date and the last combined construction permit and operating license issued under the FDA/2. We also considered the need for consistency with other forms of standardization, particularly the manufacturing license concept. We believe that using the docketing date as the cutoff date for FDA/2 applications is desirable and will prevent unnecessary changes in guidelines during the staff review. We established the limiting date of five years after issuance of the FDA/2 for applicants to reference the FDA/2 in construction permit applications to assure that the intervals between the regulatory guide cutoff date and the last construction permit and operating license are reasonable.

^{1/} Under 10 CFR Sections 2.105(c), 50.35 Note, and 50.52, the Commission may issue a combined construction permit and final design approval for purposes of issuance of an operating license. Legislation to specifically authorize issuance of combined construction permits and operating licenses has been proposed by the Commission in the 94th Congress.

In summary, we believe the new FDA/2 will permit applicants to make maximum use of both existing and future FDAs in both construction permit and operating license applications and to advance toward the goal of a single review by the staff of a facility application.

V. MANUFACTURING LICENSE CONCEPT

The manufacturing license concept has been used only by Offshore Power Systems in its application for a license to manufacture eight floating nuclear plants. The application was submitted in July 1973 and a licensing decision on this application is expected within about a year. No changes in the definition or use of this concept appear to be needed at this time.

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September 30, 1975

UNITED STATES

SECY-75-391A

NUCLEAR REGULATORY COMMISSION

POLICY SESSION ITEM

For: The Commissioners *[Signature]*
Thru: *Att 1* Executive Director for Operations
Subject: ADDENDUM TO SECY-75-391 WHICH ADDRESSED "EARLY SITE REVIEWS FOR PLANNED NUCLEAR POWER STATIONS"

Purpose: To provide supplementary information to SECY-75-391 as a result of questions raised during the Commissioners' briefing held on August 6, 1975,* and to provide a draft press release.

Discussion: At an NRC Commissioner briefing on "Early Site Reviews for Planned Nuclear Power Stations" held on August 6, 1975, several issues were raised for which additional information was requested. The additional information may be summarized as follows:

- The proposed early site review process is authorized by existing law.
- Proposed changes to current practice serve primarily to formalize and publicize the early site review process and therefore provide encouragement to industry to submit such applications.
- The proposed legislative changes are compatible with the proposed process and will serve to extend its usefulness.
- The proposed early site review process will complement early design reviews already proceeding under standardization.

Each issue is listed below with the accompanying additional information.

1. More detailed discussion of advantages over the present system.

Response: Relative to the present system for conducting the advanced review of sites, the proposed policy and procedure statement, in conjunction with appropriate changes to the Regulations, assures a formalized method for processing such reviews and may be used to determine final conclusions.

*SECY NOTE: Policy Session 75-43

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Further, it publicizes an NRC policy for both complete and limited early site reviews that should provide encouragement to industry for the submittal of such applications. This is of particular value at the present time when several utilities have delayed or cancelled their applications for CP's with detailed site information already available.

For comparison purposes, the proposed system for handling such early site reviews differs from the present system in the following specific ways:

- a. The staff will perform all complete and limited early site reviews on a formal basis. This means that the applicant must provide complete information for the intended scope of the application. The staff will review this information for acceptability and issue a formal report(s) presenting its conclusions. For an application involving site safety matters, the application will be reviewed by the ACRS with attendant ACRS letter report issued. For an application involving environmental matters, a formal report will also be issued. This will result in the issuance of a Staff Site Position (SSP). This early site review can be performed for site environmental and safety considerations from a single issue up to and including the complete site review, at the discretion of the applicant. Under the present system, most early site reviews were of an informal nature with no firm conclusion drawn by the staff. Very few were carried through the SER issuance and ACRS review stages. As a result, the issue (or issues) was re-reviewed in the context of the CP application causing inefficiencies in the licensing process.
- b. Additional guidance will be made available (Regulatory Guide 4.Z) for use in preparing early site review applications that will permit the clear separation of site review matters from nuclear plant design matters. This guidance was not available, nor was it necessary, under the present system since such site reviews conducted to date always involved only one or two considerations; none involved all site considerations.
- c. The processing of an early site review application received from a bonafide CP applicant can be carried through a public hearing and the issuance of an NRC final decision. This will permit a final conclusion to be drawn regarding the site consideration tendered, with no need to re-review these matters even in a public hearing. This has not been done under the present system.

With these proposed improvements for the processing of early site review applications, the staff believes that the previously experienced delays in the design, licensing, construction, and initiation of operation of nuclear power plants, caused by uncertainty or changes in the values of site parameters, can largely be eliminated.

2. The effect on and relationship to proposed legislation .

Response: With regard to early site reviews, the proposed legislation is intended to expand the usefulness of this approach to licensing by permitting such reviews to be conducted, through the public hearing and NRC final decision phases, outside the context of a CP application. Therefore, any applicant, utilities as well as States and other entities, will be permitted to participate, thereby encouraging an even greater degree of advanced planning for the design, construction, and operation of nuclear power plants. Under present legislative authority, any person, including States and other entities, may tender an application for an early site review, but those interested in pursuing the review through a public hearing and an NRC final decision must be bonafide CP applicants (i.e., those who can be responsible for construction and operation of a nuclear plant). Only utilities, public and private, qualify; States and other entities do not.

3. More detail on how the "need for power" would be handled .

Response: As indicated on page 10 of the proposed policy and procedure statement, "need for power" has been identified as a site review consideration that may require updating at the time of site use in a CP application because of the significant variation that may occur in this parameter with time. In an early site review application, the staff expects the applicant to present an electrical power demand projection over a period of time that would encompass the submittal date for the plant design information. The projection presented would indicate the time frame during which an additional nuclear power plant must be made operational. At the time of submittal of the CP application, the applicant must verify by means of an updated power demand projection that indeed there is now a true need for power generation and that the processing of the CP application should go forward.

4. Explanation of, and linkage to, an extension of the concept to early design review - even through Licensing Boards, i.e., Standardization

Response: More than two years ago, a program, for the standardization of nuclear power plants was initiated by the then AEC and that program is continuing and gathering increased momentum under the NRC. This program does involve the early review of nuclear plant designs and major portions thereof (i. e., designs for nuclear steam supply systems, and balance-of-plant) for referencing by utilities in their applications for licenses. The CP review process for these utility applications while reduced significantly in scope by the use of preapproved standard designs, is still controlled in duration by the review that must be performed for the site. The proposed program for conducting early site reviews on a formalized basis is intended to fill this need, thereby providing the opportunity for utilities to reference preapproved sites as well as plant designs in CP applications. As stated previously, the early site review application may be carried through the ASLB hearing stage with the issuance of a final decision by the NRC. The identical steps may be taken for standard designs under the provisions of 10 CFR Part 50 Appendix O. Therefore, all major portions of a nuclear power plant design - NSSS, BOP and site - can be preapproved through a final NRC decision. The only remaining areas of review at the time of the docketing of a CP application are those associated with utility-specific and site-specific areas, and a verification that the plant design selected is compatible with the design parameters associated with the site. With this combination, the NRC staff expects to achieve a significant reduction (i.e., as much as a year for a well prepared application and an uncontested proceeding) in the schedule time for issuance of a CP and an LWA. It should be noted that appropriate changes have already been incorporated in 10 CFR Part 50.33a "Information required for antitrust review" to require the submittal of antitrust information at least nine months but no more than thirty-six months in advance of a CP application. The antitrust review need not be pacing, therefore, for the type of CP application discussed herein.

Coordination: This addendum has been concurred in by the following offices:

Office of Nuclear Reactor Regulation
Office of Standards Development
Office of the Executive Legal Director

Scheduling: For an early Policy Session in conjunction with SECY-75-391.



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Attachment:
Press Release

Contact: W. P. Haass, RL
Ext. 7581

October 9, 1975

11.017
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CORRECTION NOTICE TO SECY-75-391A - ADDENDUM TO SECY-75-391
WHICH ADDRESSED "EARLY SITE REVIEWS FOR PLANNED NUCLEAR POWER
STATIONS"

SECY-75-391A is amended to delete
the attached draft press release.
A revised press release will be
prepared for inclusion in a follow-
on staff paper containing proposed
changes in regulations.

PRESS RELEASE

NRC ESTABLISHES EARLY SITE REVIEW POLICY
FOR NUCLEAR POWER PLANTS

Nuclear Regulatory Commission Chairman William A. Anders today announced a major step in its continuing efforts to improve the efficiency and effectiveness of the licensing process for nuclear power plants. Effective immediately the NRC staff is prepared to accept, for review and licensing, applications for the early review of sites planned for the eventual location of nuclear power plants.

Under the new policy, early site review efforts, heretofore generally performed in an informal manner and involving only one to two significant considerations, will be performed on a formal basis through staff and Advisory Committee on Reactor Safeguards (ACRS) reviews, and culminate in the issuance of a Staff Site Position. At the discretion of the applicant, the application may encompass a scope of review that varies from a single issue upon which a go/no-go decision may hinge to a complete safety and environmental review. For bonafide construction permit applications, the review process may be extended to include an Atomic Safety & Licensing Board hearing with a final NRC decision.

Copies of the NRC Staff's report, NUREG -- "Policy and Procedure - Early Site Reviews for Planned Nuclear Power Stations", may be obtained by writing to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20545. Comments on the report or suggestions for other procedural approaches for processing early site review applications should be sent to the same address.

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UNITED STATES

NUCLEAR REGULATORY COMMISSION

CONSENT CALENDAR ITEM

June 2, 1977

SECY-77-185A

FOR: The Commissioners

FROM: Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

THRU: Lee V. Gossick ~~(Signed) William J. Dircks~~
Executive Director for Operations

SUBJECT: POLICY STATEMENT ON STANDARDIZATION OF NUCLEAR POWER
PLANTS

Enclosed for Commission approval for publication in the Federal Register is the proposed Commission policy statement on standardization of nuclear power plants. This statement, which initially was proposed to the Commission for approval on April 7, 1977, has been revised in accordance with the Secretary's memorandum to the Executive Director for Operations dated April 26, 1977.

This statement incorporates comments from the Office of Policy Evaluation and the Office of the General Counsel. Copies of the public announcement prepared by the Office of Public Affairs and the staff report on which the policy statement is based are also enclosed.

Original Signed By
E. G. Case

Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Proposed Commission Policy Statement on Standardization
2. Public Announcement
3. Staff Report

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B-4

Scheduling: For affirmation at an open meeting during the Week of June 20.

Commissioners' comments or consents should be provided directly to the Office of the Secretary by. c.o.b. Wednesday, June 15, 1977.

Commission staff office comments, if any, should be submitted to the Commissioners NLT June 9, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION:

Commissioners
Commission Staff Offices
Exec Dir for Operations
ACRS
Secretariat

ENCLOSURE 1

NUCLEAR REGULATORY COMMISSION
GENERAL STATEMENT OF POLICY ON
STANDARDIZATION OF NUCLEAR POWER PLANTS

The initial policy statement on standardization of nuclear power plants was issued by the Atomic Energy Commission (AEC) in April 1972. In March 1973, the AEC announced the regulatory staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the AEC announced that the concept of replication would be acceptable as a transitional step toward standardization. The AEC was abolished and its regulatory responsibilities assigned to the newly formed Nuclear Regulatory Commission (NRC) on January 19, 1975. Currently, available guidance on standardization is contained in WASH-1341, "Programmatic Information for the Licensing of Standardized Nuclear Plants," dated August 1974, and supplementary documents, and in published speeches given by AEC and NRC Commissioners and senior management representatives.

The record shows that the standardization program has progressed in a meaningful way. Since the standardization policy was announced:

1. Seventeen applications for preliminary design approvals under the reference system concept have been received. Ten preliminary design approvals for reference system designs have been issued to date and decisions are expected to be reached on three others this year and

two others in 1978. The review of the remaining two applications has been deferred or terminated at the request of the applicants.

2. Ten construction permit applications for a total of 25 units referencing five of the reference system designs have been received. Construction permits for nine of the units have been issued. Decisions for 12 others are expected to be reached this year and the remaining four in 1978.
3. One application for a manufacturing license for eight floating nuclear plants has been received. A decision on issuance of the manufacturing license is expected later this year or early next year.
4. Eight applications for construction permits, for a total of 15 units, have been received under the duplicate plant concept. Construction permits for seven of the units have been issued and the decisions on the remaining eight units are expected later this year.
5. Three applications for construction permits, for a total of six units, have been received under the replication concept. Decisions on construction permits for four of the units are expected to be reached this year and for the remaining two units in 1978.

The Nuclear Regulatory Commission continues to believe that the potential advantages of standardization are significant. An important advantage is the enhancement of public health and safety due to the

concentration of staff and industry efforts on the in-depth review of standard designs. In addition, there is a reduction in the scope of licensing review for the utility application with the extent of the reduction dependent upon the degree to which the plant is standardized. Finally, there is the potential reduction of construction time which is likely to result from the duplication of final drawings, procedures, and specifications for the standardized portion of the plant. We firmly believe that standardization of the design of nuclear power plants continues to be in the interest of public health and safety, and we reaffirm our strong support for its continued and expanded use within the Commission's regulatory activities. However, it should continue to be recognized that the full benefits of standardization can only be realized if strong management discipline is rigorously maintained, to enforce the principles on which it is founded, both within the Commission's staff and within the staffs of the involved industry organizations.

In a related matter, the Commission has adopted and published effective rules establishing procedures for the early review of site suitability issues associated with sites that are under consideration for location of nuclear power plants. This review could be conducted prior to and separate from the detailed review of the design features for the facility. We believe the early site review process could contribute significantly to cutting down the time needed to plan and construct a nuclear power plant particularly when combined with the use of standardized plants.

The Commission staff has completed a preliminary assessment of the standardization program^{1/} to determine what further definition and support of the program is needed on the basis of the accumulated experience to date. In addition, the staff is planning to conduct a more detailed study for presentation to the Commission in the near future. The purpose of this detailed study is to examine and recommend to the Commission various approaches for encouraging continued and expanded industry support for and participation in the standardization program for nuclear power plants, including possible changes in NRC regulations and possible legislative changes. The staff will consider and evaluate public comments and suggestions in the development of this more detailed study.

Based on its preliminary assessment of the standardization program, the staff has concluded:

1. The replication concept was developed to serve during the transition phase of standardization and can continue to play a useful role in that regard. The concept has been utilized but not to the extent expected and its need appears to be diminishing.

No changes in the definition or use of the concept appear to be needed at this time; however, it is expected that this concept will eventually be discontinued, and the staff plans to evaluate this concept further to determine when this should be accomplished.

^{1/} Copies of the report may be obtained from the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D. C. 20555

2. The experience with the duplicate plant concept of standardization has been favorable and no changes in the definition or use of this concept appear to be needed.
3. The experience with the manufacturing license concept of standardization has been acceptable and no changes in the definition or use of this concept appear to be needed at this time.
4. The reference system concept of standardization is the most widely used of the concepts. The present guidance is directed mainly to the preliminary design approval phase and has been shown to be effective. However, further definition of the concept is needed with respect to the final design approval phase. Two alternative final design approvals for the reference system concept are being contemplated.
 - A. A final design approval (Alternate 1), designated FDA/1, which would be:
 - (1) Based on the preliminary design on which the preliminary design approval (PDA) was based except for those necessary changes incident to converting a preliminary design to a final design.
 - (2) Subject to the Regulatory Guides in effect as of the time the staff positions were issued in connection with the review of the PDA. However, this cutoff date will not apply in the case of new significant safety issues.
 - (3) Acceptable for referencing by operating license applicants who have previously referenced the PDA on which the FDA/1

is based, and remain in effect until those referencing applications have resulted in the granting of operating licenses or have been disqualified for good cause as reference applications. An FDA/1 may not be referenced by construction permit applicants after the PDA on which it is based has expired.

B. A final design approval (Alternate 2), designated FDA/2, which would be:

- (1) Based on the preliminary design on which the PDA was based, except that the applicant may make a limited number of changes which it considers to be desirable beyond those incident to converting a preliminary design to a final design.
- (2) Subject to all Regulatory Guides in effect at the time the FDA/2 application is accepted for docketing.
- (3) Acceptable for referencing by applicants for combined construction permits and final design approvals for purposes of issuance of operating licenses^{2/} from the time of docketing until five years after issuance of the FDA/2.
- (4) Acceptable for referencing by applicants for operating licenses who have previously referenced the PDA on which

^{2/} Under 10 CFR Sections 2.105(c), 50.35 Note, and 50.52, the Commission may issue a combined construction permit and final design approval for purposes of issuance of an operating license. Legislation to specifically authorize issuance of combined construction permits and operating licenses has been proposed by the Commission in the 94th Congress.

it is based, and have conformed their designs to the design for which the FDA/2 has been issued.

It is the staff's view that the FDA/1 can be a useful mechanism to permit a single review at the OL stage for those facility applications that referenced the PDA on which the FDA/1 was based and thus serve to reduce the duplication of licensing efforts. The staff believes that more significant benefits can be derived from the FDA/2 in that it will permit maximum utilization of FDAs in both CP and OL applications and advance toward the goal of a single review by the staff of a facility application.

The Commission would appreciate receiving comments and suggestions by * on (1) the proposed changes and additional definition of the Commission's standardization program developed by the staff and discussed herein, (2) other matters that might be considered and implemented in order to provide further needed definition to the Commission's standardization program, and (3) other steps that the Commission might undertake to further encourage standardization.

Comments and suggestions should be sent to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, in order that they may be considered and evaluated in the staff's detailed study of the standardization program

.....
*30 days after publication of this notice in the Federal Register.

ENCLOSURE 2

PUBLIC ANNOUNCEMENT

NRC POLICY STATEMENT REAFFIRMS COMMITMENT
TO STANDARDIZED POWER REACTOR DESIGNS

The Nuclear Regulatory Commission has reaffirmed its commitment to the standardization of nuclear power reactor designs in a policy statement issued today. The statement reflects a new study, "Preliminary Assessment of the Standardization Program by the Office of Nuclear Reactor Regulation."

In its policy statement, the Commission said:

The Nuclear Regulatory Commission continues to believe that the potential advantages of standardization are significant. An important advantage is the enhancement of public health and safety due to the concentration of staff and industry efforts on the in-depth review of standard designs. In addition, there is a reduction in the scope of licensing review for the utility application with the extent of the reduction dependent upon the degree to which the plant is standardized. Finally, there is the potential reduction of construction time which is likely to result from the duplication of final drawings, procedures, and specifications for the standardized portion of the plant.

We firmly believe that standardization of the design of nuclear power plants continues to be in the interest of public health and safety, and we reaffirm our strong support for its continued and expanded use within the Commission's regulatory activities. However, it should continue to be recognized that the full benefits of standardization can only be realized if strong management discipline is rigorously maintained, to enforce the principles on which it is founded, both within the Commission's staff and within the staffs of the involved industry organizations.

The policy statement requests comments and suggestions on new guidance developed by the Commission staff for use by industry and on other steps that the Commission may undertake to further encourage standardization. The statement noted that the staff plans to utilize such comments and suggestions in the development of a detailed study for the Commission on this matter. The new guidance developed by the staff consists of two mechanisms for obtaining final design approvals (FDAs) for the reference system concept of standardization--one of four options available.

Under the reference system concept, first announced in March 1973, an entire nuclear power plant design or major fractions of it can be reviewed as a standard design to be used in more than one application to build such a facility.

To date, this has been the most widely used of the four standardized design concepts. Seventeen design approval applications have been accepted for review and ten of these have received preliminary design approvals (PDAs).

The statement also discusses the three other standardization options; these options are:

The duplicate plant concept: Under this option, if a utility, or group of utilities, plans to build a limited number of duplicate plants within a limited time span, the NRC staff simultaneously reviews the safety related aspects of all of the plants. Since March 1973, applications to build fifteen power reactors have been filed under this option.

A license to manufacture: This involves a standardized reactor design and an envelope of assumed site conditions for a specified number of plants to be manufactured at a location which is different from the location where the plant eventually would be operated. One application has been received to build eight floating nuclear power plants under this option.

Replication: This option was developed and announced in August 1974 to serve during the transition phase to standardized designs. This involves replication of plants for which the NRC staff completed initial safety reviews after January 1, 1974. This concept has not been used to the extent expected—three applications to construct six power reactors have been received—and its use appears to be diminishing. However, the option still will be available until an evaluation is completed—at some future date—as to when it should be discontinued.

A copy of the statement is attached. Single copies of the "Preliminary Assessment of the Standardization Program by the Office of Nuclear Reactor Regulation" may be obtained by writing to the Director, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D. C. 20555.

Attachment: Policy Statement
on Standardization of Nuclear
Power Plants

ENCLOSURE 3

PRELIMINARY ASSESSMENT OF THE STANDARDIZATION PROGRAM

BY

THE OFFICE OF NUCLEAR REACTOR REGULATION

I. INTRODUCTION

The initial Commission policy statement on standardization of nuclear power plants was issued in April 1972. In March 1973, the Commission announced the staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the Commission announced that the replication concept would be acceptable as a transitional step toward standardization.

Since the standardization policy was announced:

- (1) We have received seventeen applications for preliminary design approvals under the reference system concept. One was subsequently withdrawn. Another, involving a gas cooled reactor, has been essentially suspended at the request of the applicant. We have issued ten preliminary design approvals for reference system designs to date, and expect to reach a decision on three others this year, and the remaining two in 1978.
- (2) We have received ten construction permit applications, for a total of twenty-five units, referencing five of the fifteen reference system designs. We have issued construction permits for nine of the units, and expect to reach decisions on permits for twelve others this year, and the remaining four in 1978.
- (3) We have received one application for a manufacturing license for eight floating nuclear plants. We expect to reach a decision on issuance of the manufacturing license late this year or early next year.
- (4) We have received eight applications for construction permits, for a total of fifteen units, under the duplicate plant concept. Two of the applications, for a total of six units, also reference an approved reference system design. We have issued construction permits for seven of the units, and expect to reach decisions on the remaining eight units this year.
- (5) We have received three applications for construction permits, for a total of six units, under the replication concept. We expect to reach a decision on construction permits for four of the units this year, and for the remaining two units in 1978.

The record demonstrates that the standardization program has progressed in a meaningful way. However, because it is more than five years since its inception and more than four years since its initial implementation, we reviewed the program to determine what further definition and support of the program is needed on the basis of our accumulated experience.

II. RESULTS OF ASSESSMENT

Our assessment of the standardization program concentrated on two principal areas; that is, whether the existing guidance and incentives offered by the standardization program are adequate, at both the construction permit stage and the operating license stage of the nuclear power plant licensing process.

Guidance and Incentives for the Construction Permit Stage

Replication

The replication concept was conceived to serve primarily during the transition phase from custom plant applications to applications based on reference system designs. When the replication policy was announced in August 1974, it was expected that the replication concept would have the greatest impact of all the standardization concepts during the following several years. However, only three "replicate" applications have been submitted. All three applications have replicated base plants that in turn referenced the Westinghouse RESAR-3 nuclear steam supply system design which was not reviewed in the context of the Commission's standardization program (although it was a precursor to that program).

Although the replication concept has not been widely used by industry, we believe that is a result of the depressed market situation and of the utilities' desire to use the newer plant designs which are available only in the reference system concept. The safety review for the first replicate plant was completed in twenty-eight months and the safety review for the second replicate plant should be completed in about eighteen months. The third replicate plant was docketed in the latter part of 1976 and is in review.

We believe that no further definition is needed for the replicate plant concept at the construction permit stage of review. We continue to view the replication concept as an interim approach to standardization and expect that this concept will be discontinued in the future. We will continue to evaluate the need for this concept as part of the standardization program.

Duplication

The duplicate plant concept has been used in three instances. In the first instance, a single utility used it for two dual-unit plants, two units located at one site and the other units at a second site. The safety review was completed in about twenty-five months and construction permits issued about two months later. In the second instance, four

applicants participated in the SNUPPS program and developed a duplicate plant design for use on three of the applications for single-unit plants and on the fourth application for a dual-unit plant. The safety review for the SNUPPS design was completed in nineteen months and the construction permits for the dual-unit plant were issued about three months later; a construction permit was issued this year for one of the single-unit plants and decisions on the other permits are also expected this year after delays related to need for power, financial, or environmental considerations. The third instance was similar to the first except that it involved two 3-unit plants. The safety review is nearing completion after three years; the delay was due mainly to a delay in the need for the plants.

The duplicate plant concept experience has been favorable. The staff has had no real difficulties with it and the users have expressed satisfaction with the concept. We believe that no further definition is needed for the concept at the construction permit stage and it can be used as it has been in the past.

Reference System

The reference system concept has been the most widely used of the standardization concepts. We have issued preliminary design approvals for two General Electric, two Westinghouse, and one Combustion Engineering nuclear steam supply system designs, and we expect to reach decisions on preliminary design approvals for a Babcock & Wilcox and a third Westinghouse nuclear steam supply system design within the next year. We have also issued preliminary design approvals for a C F Braun turbine island design, a General Electric nuclear island design, and three Stone & Webster balance-of-plant designs. We expect to reach decisions on a Fluor-Pioneer, a Gibbs & Hill, and one additional Stone & Webster balance-of-plant design in the next one and one-half years.

To date, the safety review has been completed for only four of the referencing construction permit applications. The times to complete these reviews have been sixteen, eighteen, twenty-three, and twenty-nine months, respectively.

We believe the guidance established for the reference system concept has been demonstrated to be sufficient for both the preliminary design approval stage of review and for its use for construction permit applications.

Guidance and Incentives for the Operating License Stage

Replication

It is the staff's intent to permit the replication process to be used through the completion of the operating license review for the base plant.

For such applications, any design or other changes deemed necessary for the base plant as a result of its operating license review will be applied to the replicate plant. There has been no experience to date with replicate plants at the operating license stage but no additional guidance would appear to be necessary at this time.

Duplication

It is the staff's intent to permit use of the duplication process through the completion of the operating license review for the units involved. For such applications, any design or other changes deemed necessary as a result of the operating license review will be applicable to all of the duplicate units. There has been no experience to date with duplicate plants at the operating license stage but no additional guidance would appear necessary at this time.

Reference System

The guidance established for the reference system concept has been demonstrated to be sufficient for preliminary design approval purposes. However, the General Electric Company and Combustion Engineering, Inc., have recently indicated the need for further definition on (a) how the length of time that a preliminary design approval can be referenced by an applicant for a construction permit could be extended (without the need for the staff to update the review) or, alternatively, the means by which a new standard design could be made available for referencing pending completion of the staff review, and (b) the possible uses and period of effectiveness of a final design approval.

These two organizations would be expected to be the first to raise these post-PDA questions since their approved designs are the only ones referenced in more than one construction permit application. If a PDA has not been referenced in an application, it is unlikely that the PDA-holder would develop the final design with its own funds and without the essential exchange of information between major design participants that occurs when a construction permit is issued for a plant incorporating one or more approved standard preliminary designs. On the other hand, if a PDA has been referenced in several applications which have led to construction permits, the final design will need to be developed for such plants and the value of an FDA, which can be referenced for all such plants, is evident. However, if a PDA has been referenced in only one or two applications, the worth of an FDA is open to question unless the FDA also could be referenced in new construction permit applications after the expiration of the associated PDA.

10 CFR Part 50, Appendix O, addresses standard reference design applications but does not provide guidance of the type being sought. WASH-1341, "Programmatic Information for the Licensing of Standardized Nuclear Power Plants," issued in August 1974 provides guidance in addition to that provided in Appendix O. However, WASH-1341 was issued at the onset of standardization and, as might be expected, the guidance provided was neither complete nor consistent with the needs of the programs that subsequently developed. We believe that further definition is needed with respect to:

- (1) The period of effectiveness of an FDA during which it may be referenced in applicable operating license applications.
- (2) The period of time during which an FDA application and an FDA itself may be referenced in construction permit applications.
- (3) Issuance of an FDA (without the need for a PDA) for an updated version of an earlier design for which a prior PDA or FDA had been issued.
- (4) Definition of the cutoff date for new regulatory guides to be applied to the plant design.

We believe that without such further definition, the reference system concept will be used in only a limited fashion at the operating license stage of review. Sections III and IV of this report provide this definition and describe two alternate approaches for final design approvals which we presently plan to incorporate into the standardization program. The use and basis for development of these two alternate final design approvals is discussed in those sections.

III. FINAL DESIGN APPROVAL (ALTERNATE 1)

The Final Design Approval (Alternate 1), hereinafter identified as FDA/1, is currently described in WASH-1341. The general guidelines for use of an FDA/1 given in WASH-1341 would remain essentially valid. However, it is important that these guidelines be amplified to some extent and be more precisely defined at this time, as discussed in Section II of this report. The guidelines of interest offered by WASH-1341 for the FDA/1 are as follows:

The final review stage for a standard design is analogous to the normal operating license stage of review. When the applicant has prepared final design information, a final SSAR is submitted by amendment for staff review. At the conclusion of the review, a final design approval (FDA), rather than an operating license is granted. The FDA should

remain valid for a fixed period of time, at least five years, during which time no rereview of the design should be necessary other than to account for the potential areas of rereview resulting from safety considerations.

Based on our review of the FDA/1 concept, we currently plan to incorporate the following clarifications to the policy delineated in WASH-1341 for FDAs:

- (1) The final design presented by the applicant in the SSAR application for an FDA/1 should be based on the preliminary design on which the PDA was based, except for those necessary changes which occur incident to converting a preliminary design to a final design.
- (2) The cutoff date for new regulatory guides for the FDA/1 should be the cutoff date used for the PDA on which the FDA/1 is based. However, this cutoff date will not apply in the case of significant new safety issues.
- (3) The FDA/1 should be referenced by only those applications which have referenced the PDA on which the FDA/1 is based and should remain in effect until those referencing applications have resulted in receipt of an operating license or are disqualified as reference applications for good cause. An FDA/1 may not be referenced by new construction permit applicants.

IV. FINAL DESIGN APPROVAL (ALTERNATE 2)

In assessing the final design area of the standardization program for the reference system concept, we believe there is a need for a second type of FDA. We have designated this type of FDA as a Final Design Approval (Alternate 2), hereinafter referred to as FDA/2.

As described in the previous section, the FDA/1 is intended to be used only by those applicants referencing the PDA on which the FDA/1 is based. Using this concept, there will be approximately a three-year period during which a utility can reference an initial PDA and thus be able to take advantage of the FDA/1. We see the FDA/1 as playing an important but limited role in standardization in that it cannot be referenced in new construction permit applications. Since the ultimate product in the reference system concept of standardization should be an approved and current final design which can be referenced at both the preliminary and final design stages, we believe there is a strong incentive for industry and the staff to proceed to the FDA/2. In establishing the guidelines for the FDA/2, we have attempted to effectively balance the needs for reviewing applications to the most recent regulatory requirements against the needs of industry of having the proper incentives to invest their efforts in applications for an FDA/2.

Based on our review of the FDA/2 concept, we currently plan to establish the following guidelines for the FDA/2:

- (1) The final design presented by the applicant in the SSAR application for an FDA/2 should be based on the preliminary design on which the PDA was based, except that the applicant may make a limited number of design changes which it considers to be desirable beyond those incident to converting a preliminary to a final design.
- (2) The FDA/2 should be subject to all regulatory guides in effect as of the date that the FDA/2 application is docketed. However, this cutoff date should not apply in the case of significant new safety issues.
- (3) The FDA/2 may be referenced by applicants for construction permits and final design approval for purposes of issuance of operating licenses ^{1/}from the time the FDA/2 is accepted for docketing until five years after the FDA/2 is issued.
- (4) The FDA/2 may be referenced at the operating license stage by all construction permit holders who previously referenced the PDA on which the FDA/2 is based.
- (5) The FDA/2 should remain in effect until those applications that have made reference to it during the proper period have received an operating license or are otherwise disqualified for good cause as reference applications.

In arriving at the cutoff date for regulatory guides, we considered the need for establishing this guidance at an early date as well as limiting the interval between the cutoff date and the last combined construction permit and operating license issued under the FDA/2. We also considered the need for consistency with other forms of standardization, particularly the manufacturing license concept. We believe that using the docketing date as the cutoff date for FDA/2 applications is desirable and will prevent unnecessary changes in guidelines during the staff review. We established the limiting date of five years after issuance of the FDA/2 for applicants to reference the FDA/2 in construction permit applications to assure that the intervals between the regulatory guide cutoff date and the last construction permit and operating license are reasonable.

^{1/} Under 10 CFR Sections 2.105(c), 50.35 Note, and 50.52, the Commission may issue a combined construction permit and final design approval for purposes of issuance of an operating license. Legislation to specifically authorize issuance of combined construction permits and operating licenses has been proposed by the Commission in the 94th Congress.

In summary, we believe the new FDA/2 will permit applicants to make maximum use of both existing and future FDAs in both construction permit and operating license applications and to advance toward the goal of a single review by the staff of a facility application.

V. MANUFACTURING LICENSE CONCEPT

The manufacturing license concept has been used only by Offshore Power Systems in its application for a license to manufacture eight floating nuclear plants. The application was submitted in July 1973 and a licensing decision on this application is expected within about a year. No changes in the definition or use of this concept appear to be needed at this time.

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December 22, 1977

UNITED STATES

SECY-77-480A

NUCLEAR REGULATORY COMMISSION

CONSENT CALENDAR ITEM

5

For: The Commissioners

From: Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Thru: Executive Director for Operations *WJ Durb*

Subject: POLICY STATEMENT ON IMPLEMENTING CERTAIN STUDY GROUP
RECOMMENDATIONS ON IMPROVING NUCLEAR POWER PLANT
LICENSING

Category: This paper covers a significant policy action.

Discussion: ^{Oct 77} At Commission Policy Session 77-48, the Commission considered SECY-77-480. "Action Plan to Implement Study Group Recommendations on Improving Nuclear Power Plant Licensing" and approved most of the proposed plans. Although activities are underway on all Commission-approved plans, this discussion concerns only recommendations Nos. 3, 4, 5, and 6 of the Action Plan, which are:

3. Increase Pretendering Coordination With Applicants.
4. Expand and Restructure The Acceptance Review.
5. Modify Current Review Process by Developing Early Safety Evaluation Report
6. Increase Public Participation During Staff Review.

As stated in the Action Plan, Items 3, 4, 5, and 6 are strongly interrelated and naturally group together as an integrated package to form a new set of procedures for reviewing construction permit applications. Consistent with the sense of the Commission, we are pursuing the implementation of recommendations 3, 4, and 5 on an experimental basis for a few CP applications beginning with the application expected to be filed in late 1978 by the New York State Electric and Gas Company. The timing of this particular application is such that the appropriate pretendering activities (Recommendation No. 3) can take place so as to significantly

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enhance the likelihood of an acceptable finding at the conclusion of the activities of Recommendation No. 4 — both of which recommendations are prerequisites to the maximum realization of the benefits hoped for in Recommendation No. 5.

The evaluation of the overall results of this experimental program will be particularly meaningful when such a step-wise and integrated process is utilized. A clear indication of the impact of an improvement (or lack of improvement) in a particular activity on the subsequent activity will provide a valuable feedback in identifying and isolating particular trouble spots or shortcomings where further effort may need to be applied.

Based upon our present information regarding the anticipated application referred to above, and consistent with the activities outlined in the Action Plans for these four recommendations, we are preparing specific implementation schedules for the licensing review of the application. A project manager has been assigned, a pretendering schedule is being established, and internal meetings are being scheduled to review changes to current procedures that will be used on an experimental basis for these reviews.

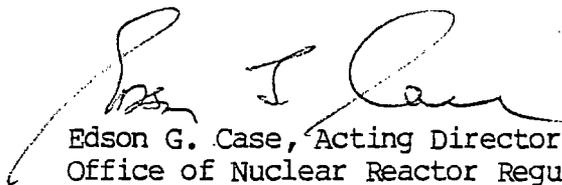
In addition, consistent with our response to the recommendations contained in GAO's letter report to the Honorable William J. Hughes (B-170186), we intend to initiate implementation of recommendation No. 6, "Increased Public Participation During Staff Review," with the first of our pretendering meetings with the applicant, anticipated to be about February, 1978.

As our activities in this matter proceed during the coming year, we propose scheduling status report briefings for the Commissioners, reviewing our experience to date with regard to these four recommendations. These briefings would highlight any problem or difficulties that may have surfaced, assess applicant response, and give a current evaluation of the progress toward our goals. We are proposing that the first of such briefings be held about July 1978.

In accordance with the requirements of the Action Plans, we are proposing that the enclosed policy statement (Enclosure 1) be issued in order to outline the Commission's intent regarding the implementation of these four recommendations.

A proposed public announcement concerning the statement is provided as Enclosure 2.

- Recommendation: That the Commission approve the publication of the proposed Policy Statement in the Federal Register.
- Coordination: This paper has been concurred in by the Offices of Inspection and Enforcement and Standards Development. The Office of the Executive Legal Director has no legal objections. The public announcement has been prepared by the Office of Public Affairs.
- Scheduling: Early consideration is requested in light of the necessary activities that must commence to be compatible with the scheduling of the proposed construction permit applicants.


Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Proposed Policy Statement
2. Proposed Public Announcement

Commissioners' comments or consent should be provided directly to the Office of the Secretary by close of business Monday, January 9, 1978.

Commission staff office comments, if any, should be submitted to the Commissioners NLT January 4, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION:

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POLICY STATEMENT ON RECOMMENDATIONS FOR
IMPROVING NUCLEAR POWER PLANT LICENSING

In its continuing efforts to improve the effectiveness and efficiency of Nuclear Regulatory Commission (NRC) licensing activities consistent with providing increased opportunity for the public to participate in the licensing process, the Commission requested a staff study of the lessons learned in nuclear power plant licensing since the NRC was created. The results of this study were published in June 1977 as NUREG-0292, "Nuclear Power Plant Licensing; Opportunities for Improvement". A press release was issued on July 27, 1977 which summarized these recommendations, noted public availability of the report, and indicated that the Commission had directed the staff to prepare a plan to implement these recommendations.

It is the intent of the Commission to implement the following recommendations of NUREG-0292 on an experimental basis for a few construction permit applications, beginning with the construction permit application expected to be filed in late 1978 by the New York State Electric and Gas Company.

Recommendation No. 3:

Increase Pretendering Coordination with Applicants

The expanded pretendering coordination with applicants has as its objective the subsequent filing of an application that is of such quality as to minimize the need for extensive requests for additional information, clarification or design or procedural commitment that often result in considerable delay in the review of an application after docketing. The expanded pretendering activities will be initiated about 9 months prior to the proposed tendering of an application and will be designed to provide additional guidance and direction to the applicant during the preparation of its application. The increased coordination activities during this period will include several working level meetings between the applicant and the staff to provide specific updated guidance to the applicant regarding the format and content of the application and to provide an opportunity to discuss key aspects of the design, relevant problems, and current staff positions.

Recommendation No. 4:

Expand and Restructure the Acceptance Review

The present acceptance review program was initiated following publication of the Standard Format and Content document in 1972 and provided the staff with a standard by which to determine whether a tendered application was sufficiently complete to permit docketing and detailed review. The Acceptance Review will be expanded to emphasize the quality of the material presented as well as completeness.

The expanded and restructured Acceptance Review has as its objective the assurance that all significant information needed by the staff for the preparation of its Safety Evaluation Report will be in the docketed application. During the acceptance review, the staff will examine the information provided in the tendered application to determine that it includes most, if not all, of the information that is generally presently available in an application only after it has been amended to include the additional information developed in response to the staff's first round of questions after the application is docketed. This expanded and restructured Acceptance Review in conjunction with the proposed increased pretending coordination activities should result in a significant reduction, if not elimination, in the need for repetitive and time-consuming question and answer cycles subsequent to docketing.

Recommendation No. 5:

Modify Current Review Process by Developing Early Safety Evaluation Report

In order to achieve the full measure of the benefits envisioned in implementing Recommendations No. 3 and No. 4, the present safety review sequence will be altered somewhat in this experimental program. Because of the increased pretending coordination with applicants and the expanded and restructured Acceptance Review, it is expected that the two rounds of questions which are a part of the present review sequence would be essentially eliminated, and the review would be performed on the basis of the contents and quality of the application as docketed and supplemented by the applicant's responses to the staff questions asked during the expanded and restructured Acceptance Review. The staff's positions would be reflected in a Safety Evaluation Report which would be issued within about 6 months of docketing.

After evaluating the results of this experimental program, appropriate changes will be made to pertinent staff documents concerning procedures and practices in licensing reviews. If required, changes to Commission rules and regulations will be initiated. Pending any changes in the regulations after this evaluation, it is the intent of the Commission to proceed with the Acceptance Reviews of the next few construction permit applications on a case-by-case basis notwithstanding the provisions of the current regulation in 10 CFR 2.101 concerning the time limit and content of Acceptance Reviews.

In addition, the Commission has directed the staff to implement Recommendation No. 6:

Increase Public Participation During Staff Review

Although the hearing process provides an opportunity for public participation, there is very little practical opportunity for interested members of the public, particularly those in the vicinity of the proposed site, to become aware of the staff's role during review of construction permit applications. It is the intent of the Commission to provide increased opportunity for the public to observe and participate in the licensing process in a meaningful way without imposing an undue burden upon the resources of staff manpower.

While the most efficient way to handle interaction of the staff with the applicant on licensing matters is to hold meetings in Bethesda, where it is possible to have access to various elements of the staff, the costs and distance make it almost impossible, except for certain well-established intervenor organizations, for members of the public living near the proposed site to participate in these meetings. On the other hand, to arrange all such meetings near the proposed plant site would impose significant burdens upon the staff without necessarily providing commensurate improvement in public understanding of the licensing process.

Past experience with staff interaction with the public has shown that:

- (1) The public appears to be most interested in the licensing process in the pre-docketing and/or early stages of the review.
- (2) The number of people who attend public meetings appears to be directly correlated with the time of day at which the meetings are held. Past experience has shown that many more people attend meetings held in the evening than during the working day.

Based on the above considerations, a number of working meetings between the staff and construction permit applicants, both prior to and after docketing of an application, normally held at Commission offices in Bethesda, Maryland, will be held in the vicinity of the proposed site.

These meetings will provide an opportunity for interested members of the public to listen to the staff and applicant discussions and observe the staff's role in the review of applications. Appropriate provisions will be made for public comments and questions and responses by the applicant and the staff.

The timing of staff implementation of Recommendation No. 6 will coincide with and be initially used in the review of the applications involved in the experimental program, beginning with meetings anticipated about February, 1978.

Finally, whatever improvements that accrue in efficiency as a result of these recommendations will not be permitted to reduce the quality of the licensing review.

Future Statements concerning the other recommendations of NUREG-0292 will be issued as appropriate.

NUCLEAR REGULATORY COMMISSION DIRECTS STAFF
TO TAKE EXPERIMENTAL STEPS TO IMPROVE LICENSING PROCESS

The Nuclear Regulatory Commission today issued a Policy Statement outlining how its staff will implement certain procedures--on an experimental basis--for improving the nuclear power plant licensing process.

The procedures are among recommendations contained in a staff study prepared for the Commission last June on "Nuclear Power Plant Licensing; Opportunities for Improvement."

The experimental procedures will be used in connection with a few construction permit applications received by the NRC staff--beginning with that expected in late 1978 from the New York State Electric and Gas Company. _____

As outlined in the Commission's Policy Statement, the staff will:

- (1) Begin working with applicants about nine months in advance of the time an application is to be submitted in an effort to minimize the need for extensive requests for additional information after the application is tendered for review. Several working-level meetings between applicants and the staff will be involved

to enable the staff to provide updated guidance regarding the format and content of the application and to provide an opportunity to discuss key aspects of the facility design, relative problems, and current staff positions on key safety and environmental issues.

- (2) Expand the acceptance review procedure to emphasize the quality of the application as well as the completeness of the information contained in it. Since 1974 applications have been reviewed for completeness of information before being docketed for formal review; this review will be expanded to examine the information provided on important technical issues that make up the main aspects of the staff safety review and assure that it includes most of the additional information presently requested in questions submitted after the formal review of the application has been initiated. Together with the early pretending activities, this step should result in a significant reduction--if not elimination--in the need for repetitive and time-consuming question and answer cycles after formal docketing of an application for review.
- (3) Alter the present safety review sequence so that a Safety Evaluation Report is issued within about six months of formal docketing of the application. This would be accomplished by essentially eliminating two rounds of questions which are part of the present

review procedure and relying instead on the contents and quality of the application and the applicant's response to questions posed by the staff during the acceptance review.

In addition, the Commission has directed the staff to implement procedures to provide increased opportunity for the public to observe and participate in the licensing process in a meaningful way without imposing an undue burden upon the resources of the Commission's staff. To accomplish this, a number of working meetings between the staff and applicant--both before and after docketing of an application--will be held in the vicinity of the proposed site rather than in the staff's offices in Bethesda, Maryland. Appropriate provisions will be made for the public to comment and ask questions during these meetings and for the staff and applicant to respond to questions. These procedures will be initially applied to the experimental program, beginning with a meeting with the first applicant anticipated about February, 1978.

After the results of this experimental program have been evaluated, necessary changes will be made in procedures and practices and--if appropriate--in Commission regulations. However, none of these steps will be permitted to reduce the quality of the licensing review. Future statements concerning other recommendations in the staff's study will be issued as appropriate.

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January 23, 1978

UNITED STATES
NUCLEAR REGULATORY COMMISSION

SECY77-480B

INFORMATION REPORT

For: The Commissioners

From: Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Thru: Executive Director for Operations *for V.G.*

Subject: FURTHER DISCUSSION OF POLICY STATEMENT ON IMPLEMENTING
CERTAIN STUDY GROUP RECOMMENDATIONS ON IMPROVING NUCLEAR
POWER PLANT LICENSING

The proposed policy statement was reviewed by individual Commissioners earlier this month. The staff has considered the comments received to date. Our response to the comments is discussed below.

- (1) The wording for Recommendation No. 3 will be revised in accordance with comments made by Chairman Hendrie. The changes are of an editorial nature that improve the clarity of the discussion. These are the only changes being made to the proposed policy statement.
- (2) Commissioner Kennedy indicated his opinion that a status briefing should be given sooner than July 1978, as proposed in SECY-77-480A. We believe that some useful results from the trial program will be available by April 1978 and will propose a Commission briefing at that time.
- (3) Commissioner Bradford indicated an interest in knowing how the staff planned to implement Recommendation No. 6, for increasing public participation during staff reviews, on applications other than the applications included in the trial program. We informed Commissioner Bradford's office that:
 - (a) It is our intent to develop procedures for increasing public participation as a part of the trial program. We expect these procedures to be developed during the spring of this year. They will address matters related to

Contact:
R. C. DeYoung, NRR
492-7373

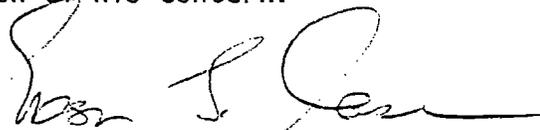
~~OFFICIAL USE ONLY~~

B-6

public announcements of forthcoming meetings, the rental of a meeting place, the provision of a suitable public address system, arrangements for public statements and questions, and guidelines to limit staff travel costs. Once these procedures are established, we will assess all ongoing staff reviews to determine the extent to which the procedures should be implemented. We would expect to be able to brief the Commission on this aspect of the program during this coming summer.

- (b) In the interim we intend to follow our current policy. This generally includes one or more meetings with the applicant in the area of the site or the applicant's offices. We inform all intervenors of these planned meetings if they have requested to be so informed. When an application is strongly contested, several local meetings may occur. This has been the case for the Diablo Canyon and North Anna reviews, for example. We believe these present procedures should be continued until revised procedures are developed in the trial program and a plan for across-the-board implementation is proposed considering cost/benefit factors.

We believe Commissioner Bradford's office is satisfied with our discussion of his concern.



Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

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Secretariat

February 8, 1978

SECY-78-80

COMMISSIONER ACTION

For: The Commissioners

From: Lee V. Gossick *WJD*
Executive Director for Operations

Subject: PROPOSED REPLY TO GAO RE DRAFT REPORT ENTITLED "LICENSING THE FLOATING NUCLEAR POWER PLANT--MANY ANSWERS ARE NEEDED"

Purpose: To request Commissioners' comments on a response to GAO on the subject report.

Discussion: GAO has routinely provided NRC the opportunity to comment on the above referenced report. (This report was provided separately to the Commissioners on January 5, 1978 by OIA.)
The attached letter to GAO takes exception to certain portions of the report.

Coordination: ELD has no legal objection. SD, RES and NRR have concurred in the letter in their areas of interest.

Lee V. Gossick

WJD
Lee V. Gossick
Executive Director
for Operations

Attachment:
Proposed letter to
Canfield, GAO

Contact:
CAHaupt, NRR
492-8434

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NOTE: Commissioners' comments should be provided directly to the Office of the Secretary by close of business Wednesday, February 22, 1978.

Commission staff office comments, if any, should be submitted to the Commissioners NLT February 15, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Docket Nos. STN 50-477 and 478
and STN 50-437

Mr. Monte E. Canfield, Jr
Director
Energy and Materials Division
United States General Accounting Office
441 G Street NW
Washington, D. C. 20548

Dear Mr. Canfield:

The NRC staff has reviewed the draft of a proposed report prepared by your office entitled, "Licensing the Floating Nuclear Power Plant-- Many Answers Are Needed" - January 1978, and offer the following comments and responses to its contents and recommendations.

We find the report likely to mislead its readers because it does not present a complete, accurate and current overview of the NRC policies and reviews related to the licensing of floating nuclear power plants (FNP). The report has deficiencies in the following general areas:

1. The report and its associated findings and recommendations are premature because they criticize draft information as well as NRC studies and assessments currently in progress, without explicitly acknowledging the status of the NRC review. The report presents the reader with an erroneous impression of inadequacy where, in reality, upon completion of the NRC review many answers will have been provided.
2. Allegations are made with respect to the technical adequacy of both NRC staff and associated contractor reviews in spite of the GAO's candid admission to the staff that they had not enlisted independent technical consultants in their assessment and development of recommendations relative to the NRC evaluations of complex technical issues.
3. There is an absence of discussion of various interagency agreements developed principally by the NRC to assess the broad environmental and safety aspects of the floating nuclear power plant concept e.g., Interagency Regulatory Steering Committee, Memorandum of Understanding between the NRC and U.S. Corps of Engineers, Memorandum of Understanding between the NRC and the U. S. Coast Guard and cooperative arrangements between the NRC and the NOAA.

Our detailed written comments on these and other points were provided to GAO representatives during a meeting with NRC staff members on January 23, 1978. Summaries of the NRC positions relative to specific findings and recommendations presented in the GAO report are provided below.

Preparation of the generic environmental statement:

The GAO contends that the generic statement added little, if anything, to the licensing process because it did not address cumulative impacts of many plants operating simultaneously and did not include specific sites. The staff position is that a programmatic statement which addresses the impacts of a large number of operational FNP's is not a legal requirement and not germane to the application for a license to manufacture eight FNP's. However, the reader should be made aware that the question of generic effects resulting from the deployment of large numbers of FNP's has already been discussed in a report* prepared by the Council on Environmental Quality.

The purpose of the NRC generic environmental statement was to determine for the decision-makers whether there was reasonable assurance that eight FNP's could be sited with acceptable environmental impacts both offshore and nearshore in oceans, rivers and estuaries on the Atlantic and Gulf coasts.

Delays in evaluating siting possibilities:

Contrary to the GAO report, the NRC has not delayed the analysis of riverine and estuarine siting of FNP's. The generic environmental statement (Part II) assessed the environmental impact of various FNP siting alternatives including those in offshore ocean areas as well as at riverine and estuarine locations. The NRC considered the generic statement adequate with respect to the discussion of estuarine and riverine siting of FNP's. Nevertheless, upon receiving comments from the Council on Environmental Quality, the NRC agreed to prepare an Addendum which expands upon the previous assessment of riverine and estuarine siting.

Furthermore, contrary to the report, the NRC has never instructed the applicant to refrain from evaluating siting alternatives to the offshore option.

*OFFSHORE NUCLEAR POWERPLANTS -
A CEQ/Interagency Task Force Study, February 1976

GAO Recommendations:

The GAO recommends that the Chairman, Nuclear Regulatory Commission before issuing a manufacturing license for eight nuclear power plants:

- a) "--evaluate the need for a comprehensive analysis of a core-melt accident on a floating nuclear plant;"
 - b) "--require procedures be developed for mitigating the consequences of a core-melt accident; and,"
 - c) "--require weight parameters be established for the safe operation of the floating plant and insure that these parameters are met."
- a) It is the staff's view that a comprehensive risk assessment as conducted in the Reactor Safety Study (WASH-1400) is unwarranted for the FNP licensing process. Subsequent assessments by the staff and its consultants have shown that WASH-1400 results with regard to airborne releases are generally applicable to the FNP design. With respect to the liquid pathway, a spectrum of accident scenarios (including the core-melt event) will be considered in the staff's revised Liquid Pathway Generic Study (LPGS).

The question of comparing the total risk of a spectrum of accidents (including core-melt) at an FNP with a land-based plant will be considered in the generic environmental statement (Part III) which will draw heavily upon the findings in the revised LPGS report. We believe the generic statement (Part III) and the supporting LPGS are comprehensive in their respective areas of scope.

- b) The GAO recommendation to develop procedures for mitigating the consequences of a core-melt accident is premature because it presumes that risk is high enough to justify such mitigation. The generic environmental statement (Part III) will consider, based upon the revised LPGS and a cost-benefit balancing, whether the total risk of a core-melt event for an FNP would be of such a magnitude that mitigation would be required. If such a need is determined, then the manufacturer or specific owner of an FNP would be required to develop appropriate mitigation procedures or designs for NRC approval.

- c) GAO erred in identifying weight in isolation as a safety issue. The NRC has properly considered weight in perspective with the many other safety and environmental considerations and found that they are more appropriately satisfied by a "no grounding parameter." We have required a site envelope parameter in Supplement No. 2 to the Safety Evaluation Report, NUREG-0054 (See Table 1.2) that the "Plant must not ground under the influence of environmental loads." For each specific site, this requirement dictates a minimum low water depth. Furthermore, the effect of weight on seaworthiness during tow will be reviewed by the Coast Guard in their permit review process. The NRC finds that the establishment of the "no grounding" criteria provides an integrated approach which evaluates the effects of various parameters, and that imposition of such a narrow regulatory requirement (weight monitoring) has no technical merit.

The GAO also recommends that before issuing an operating license for two floating plants off the coast of New Jersey, the Chairman, Nuclear Regulatory Commission:

- a) "--identify specific methods for handling the loading and off-loading of radioactive material and the recovery of such material in case of an accident;"
 - b) "--require that a specific decommissioning plan be prepared for the floating plant and the breakwater; and"
 - c) "--reanalyze the effect on tourism."
 - d) "Further, we recommend that if the licensing review should continue, that the Chairman determine as early as possible if the State of New Jersey is willing to provide a grant for the siting of two floating power plants off that State's coast."
- a) The NRC position concerning loading and off-loading spent fuel casks on barges is that the development of specific handling methods and procedures will be required for review and approval by the NRC before an operating license will be issued and thus this GAO recommendation is consistent with our present policy.

However, the GAO fails to inform the reader that Sections 6.13 and 12.6.9 of the generic environmental statement (FES-Part II, NUREG-0056) related to the OPS application and Section 5.6 of the draft environmental statement (NUREG-0058) related to the Atlantic Generating Station (AGS) application describe in some detail the activities associated with the transportation of nuclear materials to and from FNP's. The utility/owner of an FNP would have to conform to

regulations established by the NRC, the Department of Transportation (U.S. Coast Guard) and affected states regarding the packaging and shipping of nuclear materials. These regulations are intended to insure that the transport of such materials by land, sea or air to and from FNP's will be conducted with an acceptably low level of risk to the health and safety of the public and with adequate protection of the environment. The NRC has established regulations (10 CFR Part 71) that describe design and test requirements for the packaging and transportation of nuclear materials. In addition, the U. S. Coast Guard is responsible for all maritime safety considerations including barge design and operation as well as special aspects of maritime environmental protection including the waterborne shipment of fuel, radioactive wastes and other hazardous cargoes.

- b) It is the NRC policy to determine that there are feasible and acceptable methods for decommissioning nuclear power plants (land-based or floating) rather than to require, before licensing, the specification of a particular plan. This allows for changes in the law and for improvements in technology as well as consideration of future alternative uses of the power plant site in the 30 or 40 years between licensing and decommissioning.

GAO failed to indicate that Sections 9.5 and 12.4 of the generic environmental statement (FES-Part II, NUREG-0056) and Section 10.2.3 of the AGS draft environmental statement (NUREG-0058) discuss various alternative decommissioning techniques for both the FNP itself, the breakwater and associated transmission lines and shore facilities. Contrary to the GAO report, not all of the four FNP decommissioning methods identified by the staff in these statements necessarily require removal of the plant from the breakwater. Furthermore, the staff does not concur with the GAO implication that dismantling of the FNP might have to be delayed some 110 years after cessation of operation to permit sufficient radioactive decay. In this regard, studies of alternative decommissioning methods being conducted for NRC by Battelle's Pacific Northwest Laboratories on a pressurized water reactor show that there is little advantage in waiting the 110 years since radiological exposures from decommissioning work decrease markedly out to about 30 years, but decline at a very low rate thereafter.

Decommissioning the FNP, including the breakwater poses some different, though no more serious problems, than land-based plants and viable decommissioning methods are available.

Although the NRC may in the future require that an applicant develop preliminary decommissioning plans, we conclude that the GAO recommendation to require a specific decommissioning plan at the time of licensing is neither prudent nor in the public interest.

- c) The GAO report does not adequately characterize the scope of the staff's analysis of the potential effect of a floating nuclear plant on tourism. The report only discusses a draft of a study prepared by Baker and West of Florida State University for the NRC, "Impact of Offshore Nuclear Generating Stations on Recreational Behavior at Adjacent Coastal Sites." Both the staff's investigation and the Baker study are broader in scope than depicted by the GAO report.

In addition to the Baker study, the staff assessment considers:

- a. Various studies of the social and economic impacts from construction and operation activities in the vicinity of operating nuclear power plants; (These studies have been sponsored by, or conducted by, the NRC.)
- b. A staff survey of recreational behavior at water oriented recreational facilities in the vicinity of operating nuclear power plants; and,
- c. The literature on human behavior relative to exposure to natural hazards and the literature on risk taking.

Although the GAO staff admits to no special expertise in statistical or behavioral analysis, the GAO questioned the conclusions in the Baker study indicating "...the adjustments made to the percentage seem one-sided in that they all have the effect of reducing the percentage." Percentage refers to percent of beachgoers who initially claim they would avoid the beach if an FNP were sited offshore. Professors Baker and West conducted a multifaceted investigation that went considerably beyond simple reporting of raw survey results. In their final report, "Impact of Offshore Nuclear Generating Stations on Recreational Behavior at Adjacent Coastal Sites," (NUREG-0394), the authors discuss the problem of inferring behavior from expressed attitudes and the resulting need to integrate information and findings from the multifaceted approach into an overall "impression" of likely behavior. The adjustments made to the initial estimates of intended avoidance and the rationale for modifying verbal responses when predicting actual behavior are explained in NUREG-0394, Chapter 6 and Appendix D, respectively.

As indicated, the staff has not completed its analysis of tourism as related to FNP's and, as such, the GAO recommendation is unwarranted at this time.

Mr. Monte E. Canfield, Jr.

- 7 -

- d) The general NRC policy with regard to our review of applications for nuclear power plants prior to acquisition of the associated site is, unless other events render a Commission proceeding moot, that the Commission's review process will not be stayed based on what might or might not happen at some future date. However, in view of the recent events concerning the status of the AGS application, which are discussed in the GAO report, the GAO recommendation concerning the State riparian grant is moot.

We appreciate the opportunity for providing comments on this draft GAO report.

Sincerely,

Lee V. Gossick
Executive Director for Operations

February 13, 1978

SECY-78-92

COMMISSIONER ACTION

FOR: The Commissioners *i. J. Duda*

FROM: Lee V. Gossick
Executive Director for Operations

SUBJECT: AIF BRIEFING ON LICENSING REFORM

PURPOSE: Approval of responses to AIF comments and recommendations.

DISCUSSION: On December 20, 1977 representatives of the AIF briefed the Commission on the energy situation and problems of the nuclear industry. A January 12, 1978 memorandum from Samuel Chilk (Enclosure 2) abstracted a number of AIF comments and recommendations from the briefing transcript and asked for staff replies or comments, as appropriate, on these items.

The proposed comments and responses to Parts I and II of the Chilk memorandum are in Enclosure 1. The AIF items have been reordered and grouped to facilitate responses in the proper context. Responses to other AIF comments and recommendations are being provided separately by the ASLBP and OPE.

In late January we received a copy of the AIF report entitled, "Licensing, Design and Construction Problems: Priorities for Solution". This report had been completed at the time of the AIF briefing to the Commission and portions of the contents were mentioned in the briefing.

Contact:
Herbert N. Berkow, NRR
2-7901

b-8

The report identifies three categories of contributing causes to the present extended durations for nuclear power plant design and construction. These are: (1) expansion and instability of regulatory activities; (2) increased complexity and scope of engineered design; and (3) increased material quantities and field labor manhours as a result of increased plant size. Only the first category is directed at the NRC and it is presented as the key to shortening overall lead times. But it contains very few basic points that haven't been identified and discussed in the past.

The study results are presented as a series of findings by the AIF. They are not presented in a context that solicits any response from the NRC. An attempt to respond to all, or even some, of the broad points would be unproductive.

The December briefing to the Commission contained some specific recommendations and concerns which reflect the findings of the report and which were directed at the NRC. The proposed responses to these recommendations and concerns in Enclosure 1 also constitute adequate and appropriate responses to the formal AIF report. Therefore we plan no separate response to the formal AIF report.

COORDINATION: The Office of the Executive Legal Director has no legal objection.

(Signed) William J. Dirck

 Lee V. Gossick
Executive Director for Operations

Enclosures:

1. Proposed Responses to AIF Recommendations on Licensing Reform, NUREG-0292, and Water Quality
2. Memorandum from Samuel Chilk
3. Letter from E. Case and J. Ward dtd 2-6-78
4. 1-26-78 ltr fm Walske to Chairman

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NOTE: Commissioners' comments should be provided directly to the Office of the Secretary by close of business Monday, February 27, 1978.

Commission staff office comments, if any, should be submitted to the Commissioners NLT February 21, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

ENCLOSURE 1

PROPOSED RESPONSES TO AIF RECOMMENDATIONS ON LICENSING REFORM, NUREG-0292,
AND WATER QUALITY

PROPOSED RESPONSES TO AIF RECOMMENDATIONS ON LICENSING
REFORM, NUREG-0292, AND WATER QUALITY

1. AIF Comment - Reform must be addressed to reducing the time frame from placement of the NSSS order to plant operation.

Response -

The NRC recognizes the problems associated with the expanding time frame of nuclear power plant licensing and construction, as well as the importance of reducing this time frame. The Commission has taken several major steps to reduce lead times, but these must be considered in terms of reducing those portions of the lead time affected by the licensing process and under the control of the NRC. The licensing process is not the dominant factor in current nuclear power plant lead times. In fact, the licensing process is on the critical path of the planning, design and construction process for no more than about three years of the total 12 year period. Most of this is at the construction permit stage, since operating license reviews generally do not impact on the critical path for design and construction. Any reform or change affecting this licensing critical path period must be fully consistent with our primary responsibilities, which are the protection of the common defense and security and health and safety of the public and protection of the environment.

Limited Work Authorizations, in those cases where they are requested and issued, allow construction activities to start prior to an Initial Decision on the complete construction permit. During the past few years, LWA's have been issued an average of one year prior to the CP. Early Site Review procedures have been established and are encouraged as a means for resolving part or all of the environmental and site suitability issues off the critical path of the CP review. Preparation and publication of the Standard Format and Content Guidance and the Standard Review Plans added significant predictability to the information needed by the staff and how that information would be used in support of the review. Establishment of the Regulatory Requirements Review Committee provides a mechanism for management control over changes to regulatory requirements. The standardization policy, which is encouraged by the NRC, promises threefold benefits. Safety is enhanced by better utilization of successful experience and greater concentration of effort on fewer concepts and problems. Government and industry resources are used more efficiently. Significantly shorter review and construction times should be realized. The use of rulemaking on generic technical issues, while used only to a limited extent so far, can be effective in expediting individual reviews.

These are just some of the changes that have been implemented in the last few years to add stability to the licensing process, to increase the efficiency and effectiveness of the review and to reduce the time frame. None of these changes is operating ideally yet but each has yielded measureable improvements. More time will be needed to measure the effects meaningfully. Also, outside influences during the past few years have impacted the review process severely, and to a large extent have masked the effects of the changes made during this period. A large number of plants have been delayed or cancelled since mid-1974 due to economic conditions. Court decisions have led to delays and changes in the review process. There have been other impacts as well.

Improving the licensing process is a continuing effort. The recent report, NUREG-0292, by an NRC Study Group, identified several opportunities for improvement. Most of the Study Group's recommendations are being implemented. A group of these recommendations will be used on a trial basis with the aim of completing the staff Safety Evaluation Report within six months of application docketing while simultaneously increasing the effectiveness and efficiency of the review. Some of the details of the NUREG-0292 recommendations will be discussed further in the responses to other AIF comments.

The proposed nuclear siting and licensing legislation, while still evolving, will likely offer several alternative licensing tracks which could result in significant time reductions, not only in the licensing process but in the overall span from NSSS order to plant operation. These tracks are based largely on increased use of standardization and early site approvals.

The NRC has sought, and will continue to seek, improvements to the licensing process, that portion of the total time frame over which we exercise some control. Reducing the time span is an important goal of these improvements, to the extent that this can be accomplished concurrently with maintaining or improving the level of safety and environmental protection.

2. AIF Comments - Under the expanded acceptance review, as proposed in NUREG-0292, there would be no management constraints or pressures on the staff to maintain the review schedule, as there is now in the technical review. Technical adequacy of the application should be determined during the technical review after docketing, and not during the acceptance

2. AIF Comments - (Cont'd)

review. The recommendations of NUREG-0292 shift a portion of the licensing time from the post-docketing to the pre-docketing period, thus shortening the NRC's period on the critical path.

Response -

These three comments pertain to the staff's implementation of three recommendations proposed in NUREG-0292. These three recommendations are interdependent and are being developed as an integrated package for trial application on the next few CP applications. The essence of the plan is as follows: (1) Increase the scope and intensity of staff-applicant coordination during the period of one year or so prior to tendering of the application. This should assure a clear understanding of the staff's requirements and information needs. It might also highlight potential design problems so as to have a positive impact on design efforts and preparation of the application prior to tendering. The goal is to obtain a tendered application which is complete, fully responsive and acceptable for docketing. (2) Expand and restructure the present acceptance review from a cursory evaluation of completeness with respect to the Standard Format requirements to a more thorough review and evaluation of

acceptability in terms of detail, quality and clarity, as well as conformance with the Standard Format. An application is acceptable if the staff can complete its detailed technical review of that application, as docketed, without any additional information or clarification from the applicant. (3) Starting with the docketed application resulting from the expanded pretending and acceptance review efforts, perform an intensive and detailed safety evaluation with no question-answer cycles. The staff's positions and conclusions will be given in the Safety Evaluation Report which will be issued about six months after docketing.

One of AIF's concerns is that the staff will not have the discipline, constraints or incentive to keep the acceptance review on schedule because the time is running on the applicant's clock and not on the staff's clock at that point. AIF predicts that the nominal 60 day review will expand and approach the current technical review period as each group strives for perfection prior to docketing.

The staff believes that this new review methodology will work well and therefore we have a great deal of incentive to make it work. Detailed schedules will be prepared, in advance, for the pretending,

acceptance review and technical review phases. In fact, these are already being prepared for the first trial application. Considerable management attention will be focused on these activities and schedule performance will be monitored as part of our Management By Objectives system as well as by the usual Blue Book procedures. The acceptance review will follow several months of close coordination between staff and applicant which, if successful, should yield a high quality application. The staff also will have developed some familiarity with the content of the application and, to the extent possible, the same staff personnel will follow the application from pretending through completion of the CP licensing effort. Further, whereas the present acceptance review has a nominal schedule of 30 days, some review branches spend only a few days on the actual review. The expanded acceptance review, for which we are allowing about 60 days, will be performed by a more or less dedicated team of project manager and reviewers whose primary responsibility and top priority task will be that review for its duration. This intense effort, without interruption, will be completed easily within two months. The only reasons why an acceptance review might extend significantly beyond 60 days are that the application is seriously deficient or that the applicant is not responsive to the acceptance review questions, since the application will not be docketed with significant information missing.

Another related AIF concern is that application preparation time will be lengthened because the applicant will have to prepare for an uncertain acceptance review. We don't anticipate the need for a longer preparation period. The preparation, or pretending, period should be very productive because the applicant will be getting considerable staff guidance which should assist in preparing the application. Also, the acceptance review will be well defined and understood by the applicant so that there should be little, if any, uncertainties.

AIF commented in their briefing that the technical adequacy of the application ought to be determined during the technical review and not as part of the acceptance review. We emphasize that the expanded acceptance review does not replace the detailed staff safety review. Rather, the two are complementary. The increased scope and depth of the acceptance review and the pretending coordination are prerequisite to completing the staff safety evaluation within six months of docketing. The technical adequacy will be determined during the post-docketing review. In the acceptance review, the staff must determine that not only are all the subject areas covered but that they are covered with enough detail and clarity such that the evaluation can be completed and staff positions and conclusions developed without any additional information from the applicant.

A final related AIF concern is that the acceptance review period is being taken out of the so-called "licensing time" and moved to the pre-docketing period so that the critical path is effectively moved out of the NRC official time frame.

It is true that a portion of the current post-docketing review scope is being shifted to the acceptance review and the pre-docketing period is being extended. As planned, the time shift should be no more than about one month. This is being done because we believe it will improve the overall review process and not merely to make our schedule performance look better. A savings of a few months in SER issuance and the question of whose time the review is charged to are far less significant considerations than enabling the review to be carried out in a more effective and efficient manner without the multiple rounds of questions and answers and the seemingly endless and non-productive debates on technical details and staff positions.

3. AIF Comments - The staff has changed from a project team to a gathering of technical branches. The project manager is not controlling the review and not resolving dissention. There needs to be a strong decision-making process to resolve dissention.

Response -

The organization of NRR has evolved to its present project-functional group structure in order to provide well-balanced and uniform reviews. Certainly, the project manager's role has changed in this evolution. Until about 1971, when the technical review organization was expanded and formalized, the project manager performed much of the review himself. The scope and depth of staff review were considerably less than they are now and the project manager functioned somewhat more independently than he does today. For many obvious reasons, the earlier mode of operation would not be satisfactory now.

The project team concept still exists, however. The project manager coordinates continuously with all the assigned reviewers. He holds periodic project meetings with all project reviewers throughout the review to discuss project status, progress, problems and issues. The project team concept will be carried even further in implementing certain of the recommendations of NUREG-0292 on a trial basis. For the next few CP applications, reviewers will be assigned during the pretending period and, to the extent possible, will be kept in these assignments until the CP review is completed. The assignment will be their highest priority task and the reviewers will work on the project essentially on a full-time basis until their work on a given phase is completed.

The project manager, while not having unilateral control over the review decisions and positions, nonetheless has the most important and critical staff function with regard to the overall conduct of the review. While he cannot resolve all dissention independently, one of his most important responsibilities is to identify and expedite the resolution of differences of opinion at their inception, before they become elevated to the level of dissention. Differences of opinion are inevitable in regulatory decisions involving such a highly complex and controversial technology as nuclear power. Indeed, such differing opinions are beneficial, but NRC management has a responsibility to resolve them before they become counter-productive to the regulatory process.

Within the Office of Nuclear Reactor Regulation, a well-defined policy and procedure has been developed for resolving dissenting staff opinions on technical issues and positions. This has been documented as NRR Office Letter No. 11. Before discussing this procedure, it should be understood that the development of staff positions normally involves extensive interaction and discussions among the members of the cognizant review groups and with the project manager. As noted above, the project manager also holds periodic meetings with all the project participants to discuss

progress, problems and issues. These discussions usually lead to a staff position that is acceptable to all concerned.

When a situation arises in which a knowledgeable staff member disagrees with an approved staff position, the procedure specifies discussions with successively higher levels of management to achieve resolution. The first step is a discussion between the staff member and his Section Leader and/or Branch Chief. If this is not satisfactory, the discussions are elevated to the Assistant Director level. Should the disagreement persist, the dissenting staff member prepares a memorandum concerning the details of the issue to the appropriate Division Director with a copy to the Director of NRR. The Division Director, in consultation with the Director of NRR, makes a final decision on the matter and informs the staff member of that decision and its basis in writing. All of the documentation on the issue is sent to the Public Document Room and to the ACRS. As appropriate, this material also is provided to the Licensing Boards and other parties to the proceedings in which the technical issue is involved.

If the disagreement persists, the dissenting staff member is given the opportunity to document his position in an appendix to the staff

Safety Evaluation Report. He may appear before the ACRS to discuss his position on the issue either at his own request or at the Committee's request.

We believe that the present staff organization and the existing policies and procedures are effective in resolving differences of opinion. It is neither possible nor necessary, however, to resolve every issue to the complete satisfaction of everyone concerned.

4. AIF Comments - The Standard Format and Content Guide should be issued. The Standard Review Plan should represent current practice and should be keyed to the Standard Format and Content Guide.

Response -

The staff efforts which address these comments are interrelated and are progressing concurrently.

Revision 2 to Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants - LWR Edition" was issued for a 60-day comment period in October 1975. Comments were received and largely resolved by the end of 1976, when it was

decided to suspend further action due to the need for updating the Standard Review Plan (SRP) to reflect the more current practices being utilized in the review process.

One of the recommendations of the NRC Study Group, as presented in NUREG-0292, was that the staff expedite its reassessment and updating of the Standard Review Plan and that it update the Standard Format Guide to reflect the modified SRP and publish it in effective form as soon as possible. The efficiency and effectiveness of the staff's review depend largely on the quality of the application and of the Standard Review Plan. The quality of the application, in turn, is affected by the requirements as described in the Standard Format Guide.

An accelerated program was initiated in the fall of 1977 to revise the SRP to reflect current practice and simultaneously to make conforming revisions to the Standard Format Guide and to resolve the remaining public comments. This overall effort has been planned for completion in two phases. The initial phase is primarily editorial in nature. The revisions encompass clarifications of existing criteria, incorporation of new staff positions for which the Regulatory Requirements Review Committee (RRRC) and NRR Office

Director approvals have already been given, changes due to staff reorganizations, and other similar changes. This phase will culminate with the issuance of some 130 revised sections to the SRP by February 1978 and the issuance of corresponding changes to the Standard Format Guide (Rev. 2) by May 1978. The second phase involves the incorporation of new staff safety positions for which RRRC consideration and NRR Director approval are necessary and pending. This phase will culminate with the issuance of the remaining revised SRP sections by September 1978, and the issuance of corresponding changes to the Standard Format Guide (Rev. 3) shortly thereafter.

In the future, the SRP and the Standard Format Guide will be updated on a regular basis at intervals of about six months.

The staff had made known its need for applicants to address the content guidance in Regulatory Guide 1.70 (Rev. 2) at the time it was issued in October 1975. Adherence to the format guidance was not required until one year after formal issuance of the revision but the staff is contemplating reducing this grace period.

5. AIF Comments - There should be expanded and consistent use of the value-impact methodology in regulation, particularly

5. AIF Comments - (Cont'd)

in the issuance of regulatory guides. Staff value-impact statements need improvement, especially with respect to cost impact. The staff doesn't have the facility to assess the costs of many of the changes they make.

Response -

These comments are addressed, in same detail, in a letter from Edson G. Case to John E. Ward dated February 6, 1978. This letter responds to a December 5, 1977 letter from Mr. Ward to Mr. Case. We refer the AIF to our letter rather than repeating its contents here.

In addition, we note that the use of value-impact methodology as an evaluative technique for regulatory positions is quite new. The development of guidelines for conducting such analyses took considerable time and effort. It is a difficult technique to implement properly and we wanted assurance that the guidelines would result in uniformly high quality evaluations. The final version of the guidance was approved by the Commission in January 1978.

The staff is generally quite receptive to the use of value-impact analyses. Continued improvement in these analyses and especially the cost impact aspects of the analyses can be expected as the staff gains experience with the technique.

6. AIF Comment - Intervenors should be required to raise technical issues while the technical review is in progress and those issues should be resolved by the staff during the review.

Response -

The AIF comment makes two points. The first addresses the timing of intervenors' technical issues. Notices of hearings, which establish intervention time, are required to be issued as soon as practicable after the application is docketed, usually about 30 days after docketing. Thus, provisions certainly exist for intervenors to raise issues at an early stage of the technical review.

The second AIF point is that technical issues raised early should be resolved by the staff during the review. This is often difficult to do. Frequently, the review is well advanced before all of the contentions are identified and fully defined.

Technical issues raised by intervenors usually are closely related to staff review items in any event. To the extent that the staff is aware of intervenor's issues and their thrust, these issues are addressed in the review. Sometimes, however, the issues cannot be properly addressed until the staff witnesses present their testimony at the hearing.

Early identification and resolution of such issues is consistent with NRC policy and is supported by several of the recommendations in NUREG-0292. Intervenors, as well as applicants and staff, share responsibility for assuring that meritorious technical issues are identified and reviewed at the earliest practicable time in the review sequence.

7. AIF Comment - The staff needs to establish a goal or target to guide the technical reviews.

Response -

Publication and implementation of the Standard Review Plan (SRP) in late

1975 established the goal or target which guides the technical reviews, as recommended by the AIF. At the time of initial publication the staff announced that the SRP represented an acceptable level of safety for proposed nuclear power plants and that substantive changes would be made only upon recommendation of the Regulatory Requirements Review Committee (RRRC) and approval by the Director of NRR. This policy recognizes that regulatory goals and targets cannot be expected to remain static and that the SRP must be a living document. Any significant changes, however, are subject to extensive staff review and analysis, including a value-impact analysis, prior to final management approval.

To add further stability to the regulatory base, all changes which are approved are categorized as to their degree of implementation. The categories specify: forward fit only, case-by-case consideration of backfitting, and backfitting required. This categorization is determined on the basis of the extensive staff analysis and management judgement. Safety significance is an important consideration but is not the sole criterion.

The staff has not established, nor do we presently intend to establish, a quantitative or numerical target level for nuclear safety. We

believe that the existing policy, procedures and guidance, as described above, provide an adequate target level or safety level goal to guide the conduct of the technical reviews and to control changes. We will continue to improve the implementation of these tools as necessary.

8. AIF Comments - NRC and EPA should clarify their respective responsibilities with respect to water quality monitoring and reporting requirements. Overlap and redundancy should be eliminated on an expedited basis.

Response -

The staff has adopted a policy that future licenses will not contain any Limiting Conditions of Operation for plant discharges that could affect the water quality of receiving waters when such conditions also are incorporated into an applicant's NPDES permit. However, if plant discharges have been identified in the environmental review as having potentially significant environmental impacts, the license will include monitoring programs with associated reporting requirements for these discharges. This policy is intended to eliminate duplicative enforcement of numerical constraints while continuing to

satisfy NRC's responsibilities under NEPA. Procedures have been established to work closely with the Environmental Protection Agency in the preparation of environmental impact statements and in the establishment of licensing conditions to avoid inconsistent or redundant requirements. Similar arrangements are being made with states having permit-issuing authority.

Rather than experimenting with the new process, this policy is being actively implemented on current license applications and will be applied on all future cases. The only category of power plants not yet subject to the policy includes those which are operating under previously issued environmental technical specifications. The established procedures for amending licenses are being reviewed to determine the impact that full implementation of the policy will have on our limited manpower resources.

The matter of NRC's treatment of water quality matters in environmental technical specifications was the subject of a paper presented at the AIF Conference on "Current Issues on Environmental Regulation of Nuclear Power Facilities", held in Washington, D. C. in October 1977. The issues were thoroughly aired in the paper and during a question and answer period that followed. We understand

that the conference proceedings will be published in the near future and suggest AIF review of the publication to obtain a more detailed picture of our activities in this area.

ENCLOSURE 2

MEMORANDUM FROM SAMUEL CHILK



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 12, 1978

OFFICE OF THE
SECRETARY

MEMORANDUM FOR: Lee V. Gossick, Executive Director for Operations
Kenneth Pedersen, Director, Office of Policy Evaluation

FROM: *for* Samuel J. Chilk *JSC* Secretary

SUBJECT: AIF BRIEFING

Attached is a transcript of the AIF Briefing to the Commission on December 20, 1977.

AIF made a series of recommendations which are noted in the attached outline. Addressees are requested to review these recommendations and advise the Commission by February 10, 1978 of any action being taken and of any reply or comment they feel should be made to AIF on these areas.

Attachments:
as stated

cc:
J. Nelson, General Counsel

AIF RECOMMENDATIONS
December 20, 1977 Meeting with
NRC Commissioners

- I. Recommendations Regarding Licensing Reform and NUREG-0292
(for reply by EDO staff)
- a. Reform must address two time periods:
1. reduce time from placement of NSSS order to operation of facility
 2. reduce overall schedule time.
- (Reference: Transcript, p. 16)
- b. Need NRC management control to keep acceptance reviews on schedule. NRC has shifted from project teams to technical branches, leaving dissents unresolved.
- (Reference: Transcript pp. 20 & 29)
- c. Reviews of technical adequacy of application should be performed during technical review period, not during pre-docketing acceptance review.
- (Reference: Transcript p. 21)
- d. Final Standard format and content guide (re Early Site Reviews) should be issued.
- (Reference: Transcript p. 23)
- e. Standard review plans for early site reviews should be reviewed, should reflect current practice, and should be keyed to standard format and content guide.
- (Reference: Transcript, pp. 24-25)
- f. Need to see expanded and consistent use of value-impact methodology; value-impact statements need improvement especially re cost side.
- (Reference: Transcript pp. 24 & 28)

-2-

- g. NUREG 0292 simply shifts delay time from period when application formally before NRC to the pre-docketing period.

(Reference: Transcript pps 20-21)

- h. Intervenors should be required to raise technical issues while NRC technical review is still in progress.

(Reference: Transcript, p. 29)

- i. Staff needs to set goals (standard perception of safety) to guide technical reviews.

(Reference: Transcript, p. 30)

II. Water Quality Issues (For reply by EDO staff)

- a. NRC/EPA should clarify roles re water quality to eliminate overlap (NRC asks for information it does not use and EPA does not use same information as provided NRC.)

(Reference: Transcript p. 37)

- b. Water quality reviews should be expedited.

(Reference: Transcript p. 37)

IV. Proliferation (For reply by OPE)

- a. Recommends political/institutional approaches to proliferation not technical (AIF questions value to be placed on denial of plutonium recycle as a mechanism for holding down proliferation, and fact that technical barriers will not limit proliferation).

(Reference: Transcript p. 39)

ENCLOSURE 3

LETTER FROM E. CASE AND J. WARD DATED 2/6/78



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Enclosure 3

February 6, 1978

Mr. John E. Ward, Chairman
Committee on Reactor Licensing and Safety
Atomic Industrial Forum, Inc.
7101 Wisconsin Avenue
Washington, D. C. 20014

Dear Mr. Ward:

This is in response to your letter of December 5, 1977 which reemphasized your support for the development of complete value-impact analyses for regulatory guides. You cited examples of recently issued guides for which you believe the supporting value-impact statements were not adequate. In particular, you expressed concern over the apparently incomplete consideration given to the costs associated with implementation of a new guide. Finally, you recommended that the value-impact statements for all regulatory guides be made publicly available.

The staff's procedure for issuing regulatory guides for public comment now includes placing some preliminary value-impact statements in the Public Document Room at the time the guide is discussed with the ACRS before it is issued for public comment. In the future we will be placing the preliminary value-impact statement for all guides in the Public Document Room at that time. The preliminary value-impact assessment is not sent out widely for public comment with the regulatory guide for reasons of economy, but it is available in the PDR for review. When a guide is being revised to respond to public comments, before being reissued in effective form, a final value-impact statement is prepared. The final statement includes consideration of comments received on the guide and on the preliminary value-impact statement. The final value-impact statement is placed in the Public Document Room when the guide is issued in effective form.

In preparing value-impact statements the staff concentrates on considering the safety impacts of the proposed action; e.g., would an increase in safety of one system result in a decrease in safety of another; or, would a reduction in probability or consequences of one

Enclosure 3

Mr. John E. Ward

-2-

February 6, 1978

postulated accident be accompanied by an increase in probability or consequences of other accidents? The staff is taking every opportunity to encourage industry representatives to especially concentrate on cost or other economic considerations in the comments they offer on regulatory guides. It has been our judgment that the expertise in engineering costing disciplines that exists in industry cannot be duplicated and kept current in the NRC staff. Therefore, it is important for industry expertise in this area to be heard from at the stage of public comment on guides. We have been and continue to be vitally interested in sincere and professional comments in this area aimed at making our regulatory criteria more cost effective. Where industry engineers see more economical alternatives for solving safety problems to the same or higher levels of assurance than we do, you should be assured that we will give considerable weight to their comments.

While the value-impact statements are not usually given the same wide distribution as regulatory guides for reasons of economy, we believe nevertheless, that there is ample opportunity for interested members of the public, and particularly organizations such as the AIF, to review and comment on these statements. In some special cases we have given them and will continue to give them broader distribution for comment.

With regard to our delay in responding to your April 14, 1976 letter, the Office of Standards Development received many comments on Regulatory Guide 1.104, "Overhead Crane Handling Systems for Nuclear Power Plants," and is in the process of resolving these comments. It is presently planned to hold a public meeting to discuss the staff's resolution of these comments in the near future.

Sincerely,



Edson G. Case, Acting Director
Office of Nuclear Reactor
Regulation

ENCLOSURE 4

1/26/78 LETTER FROM WALSKE TO CHAIRMAN

Atomic Industrial Forum, Inc.
7101 Wisconsin Avenue
Washington, D.C. 20014
Telephone (301) 654 9260
Cable Atomforum Washington DC

Carl Walske
President

January 26, 1978

The Honorable Joseph M. Hendrie
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Commissioner Hendrie:

Because of your interest in nuclear power plant licensing reform, I am sending you the enclosed report, Licensing, Design and Construction Problems: Priorities for Solution. It is the result of an intensive effort by several Forum committees to examine leadtimes for design and construction of nuclear power plants.

This report reinforces the premise of the enclosed June 1977 Statement on Licensing Reform, that improvements are needed to infuse stability into licensing requirements and procedures, reducing project leadtime generally, and increasing overall predictability. It concludes that enforcement of measures to stabilize current licensing requirements is a prerequisite to reducing project durations.

The scope of both reports' recommendations go well beyond the licensing reform measures currently under consideration by the Administration.

Sincerely,

Carl Walske

CW/ssd
Enclosure

Enclosure 4

Files

February 16, 1978

*Correction made
1/24/78*

C O R R E C T I O N N O T I C E

TO ALL HOLDERS OF

SECY-78-92 - AIF BRIEFING ON LICENSING REFORM
(Commissioner Action Item)

ATTACHED FOR INCLUSION IN THE SUBJECT STAFF PAPER IS A MEMORANDUM, WITH ATTACHMENT, FROM THE DIRECTOR OF POLICY EVALUATION TO THE SECRETARY, DATED FEBRUARY 9, 1978. THE MEMORANDUM, WHICH WAS INADVERTENTLY OMITTED FROM THE STAFF PAPER, RESPONDS TO PART IV (PROLIFERATION) OF THE SECY MEMORANDUM OF JANUARY 12, 1978 (ENCLOSURE 2 TO THE STAFF PAPER).

THE SECRETARIAT



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
February 9, 1978

MEMORANDUM FOR: Samuel J. Chittk
FROM: Ken Pedersen
SUBJECT: AIF BRIEFING

In response to your memorandum of January 12, attached is a draft response to the AIF "recommendation" concerning political/institutional approaches to proliferation. I understand the Staff is in the process of submitting responses to the other AIF items, and would appreciate your including the attached in the package that goes to the Commission.

As to whether the Commission should, in fact, respond to the AIF on the issue of political versus technical approaches to proliferation, I recommend we do not, since Walske raised this issue in rhetorical fashion at the end of the briefing and neither asked for our views on it nor appeared to expect them. Please inform the Commission of this view.

Attachment
As Stated

CONTACT:
Jim Devine (OPE)
634-1384

AIF Assertion

"(T)here is a difference of views generally held between what you might call the nuclear industry or nuclear establishment in this country and the Administration. But I believe it is an honestly held difference of view that centers around the question of how much value, how much reliance you can put on the denial of the utilization of plutonium, or the denial of reprocessing as a mechanism . . . for slowing or halting proliferation . . . (T)here is a strong feeling that technical barriers won't go far in dealing with the proliferation problem; that our main reliance has to be on political and institutional arrangements . . .".

Proposed Response

An effective non-proliferation strategy must address both the political and the technical aspects of the problem. In the long run, we must continue to pursue political arrangements which reduce the incentives of nations to acquire nuclear weapons. For example, the security assurances that flow from our bilateral and multilateral agreements have served to reduce the political incentive to acquire a nuclear weapons capability, even though, perhaps, the technical capability to do so existed. In a similar fashion, the Non-Proliferation Treaty was designed to create an international regime under which nations have agreed that their security interests would be better served by foregoing the development of nuclear weapons capability. The current Administration has pursued this political route by continuing negotiations on a variety of arms control agreements.

We should not ignore the technical dimension of the proliferation problem, as a given nation's political motivation may change. Historically, we have focussed on developing an effective international safeguards system as the principal means of meeting the technical challenge posed by the proliferation risks of nuclear facilities. This safeguards system, now administered by the International Atomic Energy Agency, is designed to provide early enough warning of diversion to permit international diplomacy to be brought to bear to forestall the acquisition of an explosive capability.

As some nations move beyond a low enriched uranium technology to advanced technologies utilizing plutonium or mixed oxide fuels, we must make every effort to insure that international safeguards meet the "timely warning" challenge posed by the new technologies. Stockpiles of plutonium directly usable for weapons would reduce markedly the threshold of acquiring a nuclear weapons capability.

It is for this reason that the Administration has deferred indefinitely the commercialization of reprocessing and called for a restructuring of the breeder reactor program, while undertaking on a domestic and international basis studies of more proliferation resistant alternative fuel cycles that could prove as economically advantageous as those involving pure plutonium.

March 7, 1978

SECY-78-137

COMMISSIONER ACTION

For: The Commissioners

From: Edson G. Case, Acting Director, Office of Nuclear Reactor Regulation

Thru: *h* Lee V. Gossick, Executive Director for Operations *W. J. D.*

Subject: ASSESSMENTS OF RELATIVE DIFFERENCES IN CLASS 9 ACCIDENT RISKS IN EVALUATIONS OF ALTERNATIVES TO SITES WITH HIGH POPULATION DENSITIES

Purpose: The Staff's criteria call for special consideration of alternative sites when a proposed site has a relatively high population density. The Staff has concluded that, in such instances, assessments of the relative differences in Class 9 accident risks should be included as one element of the site comparisons. This paper provides the basis for the staff's conclusion, and seeks Commission concurrence.

Background: Guidelines Used in the Review of Sites with Relatively Large Surrounding Populations

As noted in the Statement of Considerations to 10 CFR Part 100 it has been the past practice and current policy of the Commission to keep stationary power and test reactors away from densely populated areas (27 FR 3509, April 12, 1962). One basic objective of the criteria in Part 100 is to assure that the cumulative exposure dose to large numbers of people as a consequence of any nuclear accident should be low in comparison with what might be considered reasonable for total population dose. As noted in 10 CFR Part 100, the site location and the engineered features included as safeguards against the hazardous consequences of an accident, should one occur, should insure a low risk of public exposure. In implementing the provisions of Part 100, we have maintained a conservative approach in evaluating plant safety and in establishing a balance between compensating engineered safety features and population density.

t: ch, DSE (49-27323)

b-9

From time to time central station nuclear power reactors have been proposed which would be located in relatively populous areas. One such case was the proposed Newbold Island site. In 1973, as a result of staff review of Newbold Island, we concluded that there existed an alternative site (adjacent to Salem Units 1 and 2) which was a more desirable alternative from an environmental standpoint and that the "principal factor leading to this conclusion is the fact that the population density at the Newbold site is significantly larger than at the Salem location" (Enclosure A). The proposed facility was subsequently relocated to that alternative site (and is now named Hope Creek).

As a result of the Newbold Island review, guidance was developed to aid in the review of alternative sites from the standpoint of the surrounding population (Enclosures B and C).

The substance of these guidelines is that, if the population density projected at the time of initial plant operation exceeds 500 persons per square mile averaged over any radial distance out to 30 miles, or the projected population density over the lifetime of the facility exceeds 1,000 persons per square mile, special attention should be given by the staff to the consideration of alternative sites with lower population densities.

These guidelines do not represent values that determine site suitability. Rather they are a sort of threshold or trigger to indicate the need for additional consideration of population density in the environmental reviews of alternative sites.

Specific guidelines have not been developed that provide the bases for comparing a site whose population exceeds the guideline values to an alternate site with a lower population density. Both sites may be acceptable provided a suitably designed plant is located at each site. Consequently, the balancing between the two sites is necessarily judgmental. For example, it is clear that the consequences of any given release of radioactivity to the environment (routine or accidental) would be proportional to the size and distribution of the surrounding population. However, the relative weight to be given to differences in population densities between alternative sites requires a judgment on the relative weight to be given to risks associated with

routine and accidental releases.

Generally, no significant weight has been given to differences in population densities between alternative sites where both are well below the guideline values of Enclosure C. In such instances, the staff has taken that position, based on the experience gained from previous reviews of LWRs at similar sites.

However, for sites where the surrounding population is relatively large, more detailed assessments are called for. A variety of analytical models are available to aid in evaluations of site-to-site differences from the standpoint of consequences of releases of radioactivity (and which account for more factors than population density). One of these is the Reactor Safety Study Consequence Model (CRAC). While the CRAC model has been principally employed in assessments of Class 9 accidents, it has been used to assess the consequences of lesser accidents as well.

Whether any or all of these models should be used to supplement the site comparisons based on population density depend in part on the perceived benefits of siting in relatively low population density areas.

Analysis of the Role of Class 9 Accidents in Environmental Reviews

At the outset of this paper, it was noted that one stated policy objective in keeping reactors from densely populated areas is to minimize total population dose in the event of any accident (large or small). The Statement of Considerations to Part 100 also notes that events more severe than those commonly postulated as representing a reasonable upper limit in consequences are conceivable, although highly improbable. The policy of keeping reactors away from densely populated areas is one step taken to assure that the risks associated with such accidents are extremely low.

Following the enactment of the National Environmental Policy Act (NEPA), the Commission issued guidance on the treatment of accidents in environmental reports of light water reactors in the form of a proposed annex to 10 CFR Part 50, Appendix D. In that guidance (36 FR 2285, December 1, 1971) it is noted that consequences of accidents beyond the design basis (called Class 9 accidents) could be severe, but that the probability of their occurrence is so small that their environmental risk is extremely low.

The annex stated that the consequences of Class 9 accidents need not be analyzed and, accordingly, until recently the Commission's NEPA environmental reviews have not included calculations of the consequences of Class 9 accidents. Rather, staff environmental impact statements have discussed these accidents only in a qualitative sense by restating the conclusions in the proposed annex and by briefly referencing the existence of a more quantitative analysis in The Reactor Safety Study. While it is not entirely clear, the theory of the proposed annex appears to have been that NEPA requires no discussion of events with minimal risk.

While the proposed annex was never formally adopted by the Commission (for the past 6 years it has technically retained its status as a proposed Commission rule), the matter of Class 9 accidents has been discussed extensively in Commission adjudicatory decisions. These decisions [such as Shoreham, ALAB-156, 7 AEC 831, 834-835 (1973) and Zion, ALAB-226, 8 AEC 381, 407-408 (1974)] are generally construed as holding that NEPA does not require that the consequences of Class 9 accidents be considered unless it is established that there is a "reasonable probability" of the accident occurring to warrant consideration of consequences.

These adjudicatory decisions have rested primarily on the absence of significant probability of Class 9 accidents, whereas the rule relies on the absence of significant risk (which takes into account both probability and consequences). The staff's proposal in this instance is not based on a uniquely high probability of accident but rather on unique circumstances which increase the potential consequences and thus the overall risk.

The Commission's practice of not specifically analyzing the consequences associated with a Class 9 accident has received judicial sanction. [See, e.g., Carolina Environmental Study Group v. U.S., 510 F. 2d 796 (D.C. Cir. 1975), Ecology Action v. A.E.C., 492 F. 2d 998, 1002 (D.C. Cir. 1974)] It is unclear whether the basis for these judicial decisions is low risk or low probability.

In sum, it is the present state of law that there need not be any consideration of the consequences of Class 9 accidents in environmental reviews of nuclear license applications. However, this does not preclude the staff from going beyond the strict requirements of the law when it will assist in performing its NEPA review.

Recently the consequences of certain types of Class 9 accidents have been considered by the staff in connection with their reviews of two recent proceedings. In both instances, the justification for doing so was that there were novel aspects of the project such that the consequences (and hence risks) associated with potential accidents appeared to be outside of the parameters considered in the proposed annex. [cf. Citizens for Safe Power v. Nuclear Regulatory Commission, 524 F.2d 129, 1299 (D.C. Cir. 1975)]. In one of those proceedings, applicants have taken strong exception to the staff efforts, arguing that the adjudicatory decisions and proposed annex preclude consideration of Class 9 accident consequences absent some showing that such accidents are credible events.

The staff believes that the high population density within the vicinity of the plant may be considered another type of special circumstance warranting a more detailed evaluation of the consequences of Class 9 accidents, especially in view of the policy objectives of Part 100.

Discussion:

The staff's bases for recommending that an alternative to the Newbold Island site be considered were general in nature (see Enclosure A). Specific calculations of accident risks were not performed, either on a site-specific basis or on the basis of relative or comparative differences between Newbold Island and alternative sites. Accordingly, the support for the staff's views took the form of qualitative and judgmental arguments.

At about the same period in time, Baltimore Gas and Electric (BG&E) submitted for review a proposed application for a reactor at a site in Harford County, Maryland (the Perryman site). This site was, as in the case of Newbold Island, located in a relatively

populous area. As a result of the initial staff reviews BG&E was advised that the size of the surrounding population at Perryman needed to receive special consideration. The population density values at Perryman were greater than the guideline values issued after the Newbold Island decision (see Enclosures B and C)

In late 1976, the staff was informally advised by the Baltimore Gas and Electric that they still intended to tender an application for a reactor at Perryman.

In anticipation that a site would be proposed that exceeded the above-mentioned population density guidelines (the Perryman site), NRR staff began exploring various methods to evaluate comparative differences between sites. One of these methods involved the use of the RSS consequence model.* Using the RSS consequence model, the staff performed analyses of the differences between Perryman and other alternative sites from the standpoint of accident risks. Population and other data from the several identified alternate sites in the Perryman application were used for this purpose.

The results of this effort are summarized in Enclosure D which also discusses the current limitations in use of the analyses. The RSS consequence model was developed to estimate aggregate societal risks and not to estimate site specific features. Its applicability to a specific site has not been fully assessed and some specific concerns have been raised as to its applicability for such purposes.** For this reason, it should be emphasized that the results should be viewed cautiously and no significance should be drawn from small calculated differences (e.g., factors of two or so) between sites.

* The possible uses of the RSS methods to help decision-making in areas such as this was discussed in the memorandum from Lee V. Gossick to Commissioner Kennedy of March 2, 1977.

** The Commission's Risk Assessment Review Group (the "Lewis Committee") has been established for the purpose of reviewing peer-group comments on the final RSS report and the developments in risk assessment methodology that have occurred since the report was published (see SECY-77-350).

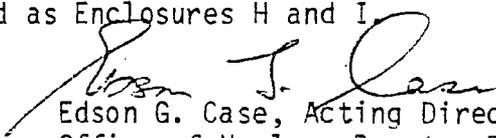
In spite of these limitations, we believe that this type of analysis is useful in the sense of correctly interrelating the important factors. We do believe that the results can be used to assist in the evaluation of relative differences between sites. However, the Commission should be aware that some litigants may argue that such an analysis in these special cases is inconsistent with several Commission adjudicatory decisions. We believe that the Commission should consider the appropriateness of issuing some clarifying statement that consequences of Class 9 accidents can be considered in special cases.

We had intended to include Enclosure D as part of the overall report on the staff's alternative site review portion of the Perryman application (which was issued on December 1, 1977), and to perform similar assessments in any future application where the proposed site has a population density greater than that in the guidelines of Enclosures B and C. This action was precluded by the need to resolve some reservations by the Office of Nuclear Regulatory Research (Enclosure D, if published, would require some modifications to accommodate the RES concerns). Their memorandum on this subject is provided as Enclosure E and a discussion of the memorandum is provided as Enclosure F.

The Office of Nuclear Regulatory Research is organizing a meeting in early 1978 of experts on such consequence modeling in order to develop a greater consensus on the degree of applicability of the RSS consequence model to evaluations of specific sites. We would also note that generic siting studies are part of the development plan for our reassessment of siting policy (see SECY-76-286A). These activities should ultimately provide improved bases for comparing alternative sites. On an interim basis, we recommend that assessments similar to those summarized in Enclosure D be performed in any future application where the proposed site has a population density greater than that in the guidelines of Enclosures B and C.

- Recommendation: 1) Pending completion of the Commission's review of its reactor siting policy, that the Staff perform quantitative assessments of the relative differences in Class 9 accident consequences and risks in the review of alternative sites where the proposed site exceeds the general population guidelines of Regulatory Guide 4.7. The results of such assessments of the relative differences between sites, from this standpoint, would be included in any reports on such reviews.
- 2) That the Commission consider the appropriateness of issuing some clarifying statement to the effect that the proposed Annex to 10 CFR Part 50 Appendix D applies to land-based LWRs of the type licensed during the last decade or so and that more detailed consideration of Class 9 accidents may be warranted for other types of sites or designs. (Note, as stated on page 5, that the staff has performed limited analyses of Class 9 risks in the Clinch River and Floating Nuclear Power Plant reviews; both involve conceptual departures from a typical LWR.) A statement clarifying the annex should also include the Commission's current views on the possible value of such assessments in the evaluation of alternatives to sites with high population densities.

Coordination: OELD has provided the legal analysis for this paper. RES has reviewed the information and concurs. SD concurs. OGC and OPE comments responded to at Enclosure G. Their comment letters are included as Enclosures H and I.


Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:
See attached

NOTE: Commission comments should be provided directly to the Office of the Secretary by close of business Friday, March 17, 1978.

Commission staff office comments, if any, should be submitted to the Commissioners NLT March 14, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

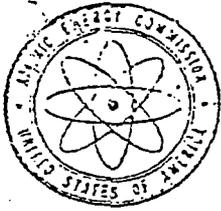
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Secretariat

Enclosures:

- A. Letter, L. Manning Muntzing, Director of Regulation to Robert L. Smith, President, Public Service Electric and Gas of New Jersey, October 5, 1973.
- B. Memorandum, John F. O'Leary, A Giambusso and J. M. Hendrie, "Population Density Consideration in Acceptance Review of Nuclear Power Plant Applications," November 28, 1973.
- C. Regulatory Guide 4.7, "General Site Suitability Criteria for Nuclear Power Stations," Revision 1, November 1975 (pp. 4.7-4, 4.7-9, 4.7-16).
- D. "Evaluation and Comparison of Relative Risks Associated with Large Accidental Releases at Alternate Sites;" Appendix C to a draft staff report, "Evaluation of Alternative Sites - Perryman Early Site Review."
- E. Memorandum, S. Levine to E. Case, November 23, 1977.
- F. NRR Comments on Enclosure E.
- G. NRR Response to OGC and OPE Comments.
- H. Memorandum, James L. Kelley to Thomas A. Rehm, January 31, 1978.
- I. Memorandum, Ken Pedersen to Tom Rehm, February 1, 1978.

ENCLOSURE A
LTR, L. MANNING MUNTZING, DIR OF REGULATION TO
ROBERT L. SMITH, PRESIDENT, PUBLIC SERVICE ELEC. AND GAS OF NEW JERSEY,
OCTOBER 5, 1973



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

October 5, 1973

Mr. Robert L. Smith
President
Public Service Electric and Gas of New Jersey
80 Park Place
Newark, New Jersey 07101

Dear Mr. Smith:

The Regulatory staff is now in the process of completing a Final Environmental Statement for the Newbold Island Nuclear Power plants.

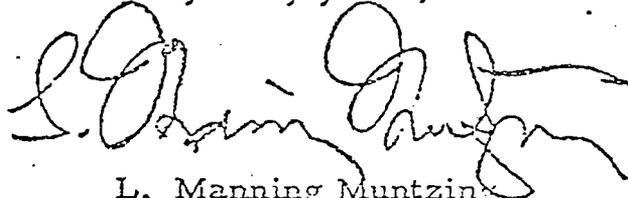
An important requirement in the preparation of an environmental impact statement for a nuclear power plant is, of course, a consideration of alternative sites. On the basis of balancing all the various factors which must be considered at this location, including, particularly, population distribution, the staff concludes that the alternative location of these facilities at Artificial Island, adjacent to Salem Units 1 and 2, which are presently under construction, is a more desirable alternative from an environmental standpoint. This conclusion will be incorporated in the Final Environmental Statement for the Newbold Island nuclear power plants.

The principal factor leading to this conclusion is the fact that the population density at the Newbold site is significantly larger than at the Salem location. For instance, our projections for 1980 show that within five miles' distance, the Salem location will have a population of about 4,700 persons, and the Newbold Island site will have approximately 125,000 persons. Within a 30-mile radius in 1980, Salem will have about 1,000,000 persons whereas Newbold Island will have over 4,500,000.

We are informing you of this conclusion prior to the issuance of a Final Environmental Statement so that if you should decide to accept the staff's position, an amendment to the application to change the

plant location can be prepared as soon as possible. In the event you should decide to amend the application to use the Salem site, the staff would be prepared to be ready for a hearing within four months after receiving the amendment. This is possible because of the Final Environmental Statement issued for Salem 1 and 2 on April 4, 1973, as well as the fact that the Newbold plant has been subjected to a safety review. A change in the design of the Newbold plant, however, would require additional time for our review. If you elect to continue to pursue the Newbold location, please let us know promptly so that we can then complete the Final Environmental Statement and proceed to a hearing on it.

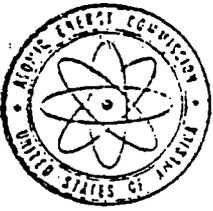
Very truly yours,

A handwritten signature in black ink, appearing to read "L. Manning Muntzing". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

L. Manning Muntzing
Director of Regulation

ENCLOSURE B

MEMORANDUM, JOHN F. O'LEARY, A GIAMBUSSO AND J. M. HENDRIE,
"POPULATION DENSITY CONSIDERATION IN ACCEPTANCE REVIEW OF NUCLEAR POWER PLANT
APPLICATIONS," NOVEMBER 28, 1973



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

NOV 28 1973

Enclosure B

A. Giambusso, Deputy Director for Reactor Projects, L
J. M. Hendrie, Deputy Director for Technical Review, L

POPULATION DENSITY CONSIDERATION IN ACCEPTANCE REVIEWS OF NUCLEAR POWER PLANT APPLICATIONS

In the course of a construction permit acceptance review, the projected cumulative population densities to a distance of 30 miles from the proposed site should be determined. If the population density projected at the time of initial plant operation exceeds 500 persons per square mile averaged over any radial distance (cumulative population at a distance divided by the area at that distance), or the projected population density over the lifetime of the facility exceeds 1,000 persons per square mile, special attention should be given by the staff to the consideration of alternative sites.

In these circumstances, the applicant should be requested to provide sufficient information on alternative sites to permit a preliminary balancing by the staff of significant environmental, economic, and other aspects of the alternative sites, including population distribution. If this preliminary balancing results in a determination that an alternative site with a significantly lower population density offers significant advantages from overall environmental impact and safety points of view, Regulatory management should be informed of this preliminary conclusion. For cases which just exceed or fall below these guidelines, an examination of the particular population distribution may be required in determining whether to implement these procedures.

This memorandum is not meant to imply that the above guideline values on population density are upper limits of acceptability. Rather, when either of these values are reached, these special procedures for reviewing alternative sites should be implemented. Management should be kept informed during all phases of the review of these cases.

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John F. O'Leary
Director of Licensing

cc: L. Manning Muntzing
L. Rogers
E. Case
TR Asst. Directors
RP Asst. Directors

ENCLOSURE C

REGULATORY GUIDE 4.7, "GENERAL SITE SUITABILITY CRITERIA
FOR NUCLEAR POWER STATIONS," REVISION 1, NOVEMBER 1975 (pp. 4.7-4, 4.7-9, 4.7-16)

REGULATORY GUIDE

Enclosure C

OFFICE OF STANDARDS DEVELOPMENT

REGULATORY GUIDE 4.7*

GENERAL SITE SUITABILITY CRITERIA FOR NUCLEAR POWER STATIONS

*This guide was initially published as a draft in September 1974.

USNRC REGULATORY GUIDES

Regulatory Guides are issued to describe and make available to the public methods acceptable to the NRC staff of implementing specific parts of the Commission's regulations, to delineate techniques used by the staff in evaluating specific problems or postulated accidents, or to provide guidance to applicants. Regulatory Guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions different from those set out in the guides will be acceptable if they provide a basis for the findings requisite to the issuance or continuance of a permit or license by the Commission.

Comments and suggestions for improvements in these guides are encouraged at all times, and guides will be revised, as appropriate, to accommodate comments and to reflect new information or experience. This guide was revised as a result of substantive comments received from the public and additional staff review.

Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section.

The guides are issued in the following ten broad divisions:

- | | |
|-----------------------------------|------------------------|
| 1. Power Reactors | 6. Products |
| 2. Research and Test Reactors | 7. Transportation |
| 3. Fuels and Materials Facilities | 8. Occupational Health |
| 4. Environmental and Siting | 9. Antitrust Review |
| 5. Materials and Plant Protection | 10. General |

Copies of published guides may be obtained by written request indicating the divisions desired to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Office of Standards Development.

the suitability of a site, but they could result in special cooling system design requirements or in the need for a larger site to confine the effects of drift within the site boundary. The environmental effects of salt drift are most severe where saline water or water with high mineral content is used for condenser cooling.

Cooling towers produce cloudlike plumes which vary in size and altitude depending on the atmospheric conditions. The plumes are often a few miles in length before becoming dissipated, but the plumes themselves or their shadows could have aesthetic impacts. Visible plumes emitted from cooling towers in the vicinity of airports could cause a hazard to aviation.

3. Population Considerations

A reactor licensee is required by 10 CFR Part 100 to designate an exclusion area and to have authority to determine all activities within that area, including removal of personnel and property. In selecting a site for a nuclear power station, it is necessary to provide for an exclusion area in which the applicant has such authority. The exclusion area must be of such size that doses to individuals at any point on its boundary for 2 hours immediately following the onset of a postulated fission product release are less than certain prescribed values. Transportation corridors, such as highways, railroads, and waterways, are permitted to traverse the exclusion area provided (1) these are not so close to the facility as to interfere with normal operation of the facility and (2) appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway in the case of emergency to protect the public health and safety.

As set forth in 10 CFR Part 100, a nuclear power station site must have a low population zone (LPZ) immediately surrounding the exclusion area in which the population is (a) sufficiently limited in number and (b) distributed in such a way that there is a reasonable probability that appropriate measures could be taken in their behalf in the event of a serious accident. A proposed site will also have a "population center distance," defined as the distance from the nuclear reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents. The population center distance must be at least one and one-third times the distance to the outer boundary of the LPZ. However, 10 CFR Part 100 requires that the LPZ boundary be sufficiently remote that a release of fission products (calculated as a consequence of a postulated accident) will not result in radiation doses to individuals on the outer boundary of the LPZ greater than certain specified values.

WASH-1235, "The Site Population Factor, A Technique for Consideration of Population in Site Comparison," October 1974, discusses a methodology that is

useful in comparing population distributions at alternative sites.

4. Hydrology

4.1 Flooding

Criteria for evaluation of seismically induced floods are provided in Appendix A to 10 CFR Part 100. Regulatory Guide 1.59 describes an acceptable method of determining the design basis floods for sites along streams or rivers and discusses the phenomena producing comparable design basis floods for coastal, estuary, and Great Lakes sites. The effects of a probable maximum flood (as defined in Regulatory Guide 1.59), seiche, surge, or seismically induced flood such as might be caused by dam failures or tsunami on station safety functions can generally be controlled by engineering design or protection of the safety-related structures, systems, and components which are identified in Regulatory Guide 1.29, "Seismic Design Classification." For some river valleys, flood plains, or areas along coastlines, there may not be sufficient information to make the evaluations needed to satisfy the criteria for seismically induced flooding. In such cases, study of the potential for dam failure, river blockage, or diversion in the river system or distantly and locally generated sea waves may be needed to determine the suitability of a site. In lieu of detailed investigations, Regulatory Guide 1.59 and Section 2.4 of Regulatory Guide 1.70 present acceptable analytical techniques for evaluating seismically induced flooding.

4.2 Water Availability

Nuclear power stations require reliable sources of water for steam condensation, service water, emergency core cooling system, and other functions. In regions where water is in short supply, the recirculation of the hot cooling water through cooling towers, artificial ponds, or impoundments has been practiced.

Essential water requirements for nuclear power plants are that sufficient water be available for cooling during plant operation and normal shutdown, for the ultimate heat sink,^a and for fire protection. The limitations imposed by existing laws or allocation policies govern the use and consumption of cooling water at potential sites^b for normal operation. Regulatory Guide 1.27

^aRegulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants," provides guidance on water supply for the ultimate heat sink.

^bTo the extent that site selection is dependent on water diversions for consumptive use, allocation of water supply is a function of state statutory and administrative procedures.

A discussion of the establishment of state regulation of water use is provided in "Industrial Developments and the Environment, Legal Reforms to Improve the Decision-Making Process in Industrial Site Selection," Special Committee on Environmental Law of the American Bar Association, August 1973.

Sites with competent bedrock for foundations generally have suitable foundation conditions. In regions where there are few or no such sites, it is prudent to select sites in areas with competent and stable solid soils, such as dense sands and glacial tills. Other materials may also provide satisfactory foundation conditions, but in any case, a detailed geologic and geotechnical investigation will be required to determine static and dynamic engineering properties of the material underlying the site in accordance with Sections IV(a)(4) and V(d) of Appendix A to 10 CFR Part 100.

2. Atmospheric Extremes and Dispersion

As noted in Section B.2 of this guide, site atmospheric conditions are site suitability characteristics principally with respect to the calculation of radiation doses resulting from the release of fission products as a consequence of a postulated accident and the establishment of exclusion area boundary, low population zone boundary, and distance to a population center. Accordingly, the regulatory position on atmospheric dispersion of radiological effluents is incorporated into the following section, "Population Considerations."

Nonradiological atmospheric considerations such as local fogging and icing, cooling tower drift, cooling tower plume lengths and plume interactions between cooling tower plumes, and plumes from nearby industrial facilities should be considered in evaluating the suitability of potential sites.

3. Population Considerations

Areas of low population density are preferred for nuclear power station sites. High population densities projected for any time during the lifetime of a station are considered during both the NRC staff review and the public hearing phases of the licensing process. If the population density at the proposed site is not acceptably low, then the applicant will be required to give special attention to alternative sites with lower population densities.

If the population density, including weighted transient population, projected at the time of initial operation of a nuclear power station exceeds 500 persons per square mile averaged over any radial distance out to 30 miles (cumulative population at a distance divided by the area at that distance), or the projected population density over the lifetime of the facility exceeds 1,000 persons per square mile averaged over any radial distance out to 30 miles, special attention should be given to the consideration of alternative sites with lower population densities.

Transient population should be included for those sites where a significant number of people (other than

those just passing through the area) work, reside part-time, or engage in recreational activities and are not permanent residents of the area. The transient population should be taken into account by weighting the transient population according to the fraction of time the transients are in the area.

Based on past experience, the NRC staff has found that a minimum exclusion distance of 0.4 mile, even with unfavorable design basis atmospheric dispersion characteristics, usually provides assurance that engineered safety features can be designed to bring the calculated dose from a postulated accident within the guidelines of 10 CFR Part 100. If the minimum exclusion distance is less than 0.4 mile, it may be necessary to place special conditions on the station design (e.g., added engineered safety features) before the requirements of 10 CFR Part 100 are met. Also, based on past experience, the staff has found that a distance of 3 miles to the outer boundary of the low population zone is usually adequate.

4. Hydrology

4.1 Flooding

To evaluate sites located in river valleys, on flood plains, or along coastlines where there is a potential for flooding, the site suitability studies described in Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants," should be made.

4.2 Water Availability

A highly dependable system of water supply sources must be shown to be available under postulated occurrences of natural and site-related accidental phenomena or combinations of such phenomena as discussed in Regulatory Guide 1.59.

To evaluate the suitability of sites, there should be reasonable assurance that permits for consumptive use of water in the quantities needed for a nuclear power plant of the stated approximate capacity and type of cooling system can be obtained by the applicant from the appropriate State, local, or regional bodies.

4.3 Water Quality

The potential impacts of nuclear power stations on water quality are likely to be acceptable if effluent limitations, water quality criteria for receiving waters, and other requirements promulgated pursuant to the Federal Water Pollution Control Act are applicable and satisfied.

The criteria provided in 10 CFR Parts 20 and 50 will be used by the NRC staff for determining permissible

Considerations	Relevant Regulations and Regulatory Guides	Regulatory Experience and Position
<p>A.3 Population Considerations</p> <p>In the event of a serious accident at a nuclear power station, effective action must be taken to minimize exposure of individuals outside the station to any radioactive materials which may be released during the accident. To ensure that exposure to populations will be minimized in the event of an accident, the nuclear power station should not be located in a densely populated area.</p>	<p>10 CFR Part 100, "Reactor Site Criteria," requires the following:</p> <ul style="list-style-type: none"> • An "exclusion area" surrounding the reactor in which the reactor licensee has the authority to determine all activities, including exclusion or removal of personnel and property; • A "low population zone" (LPZ) which immediately surrounds the exclusion area in which the population number and distribution is such that "there is a reasonable probability that appropriate measures could be taken in their behalf in the event of a serious accident;" • At any point on the exclusion area boundary and on the outer boundary of the LPZ the exposure of individuals to a postulated release of fission products (as a consequence of an accident) be less than certain prescribed values, • That the "population center distance," defined as the distance from the nuclear reactor to the nearest boundary of a densely populated center having more than 25,000 residents, be at least one and one-third the distance from the reactor to the outer boundary of the LPZ. <p>Regulatory Guides 1.3, 1.4, 1.5, 1.24, and 1.25 give calculational methods (see A.2 of this appendix.)</p>	<p>If the population density, including weighted transient population, projected at the time of initial operation of a nuclear power station exceeds 500 persons per square mile averaged over any radial distance out to 30 miles (cumulative population at a distance divided by the area at that distance), or the projected population density over the lifetime of the facility exceeds 1,000 persons per square mile averaged over any radial distance out to 30 miles, special attention should be given to the consideration of alternative sites with the lower population densities.</p> <p>Transient population should be included for those sites where a significant number of people (other than those just passing through the area) work, reside part-time, or engage in recreational activities, and are not permanent residents of the area. The transient population should be taken into account by weighting the transient population according to the fraction of time the transients are in the area.</p> <p>Based on past experience, the NRC staff has found that a minimum exclusion distance of 0.4 mile,^a even with the most unfavorable design basis atmospheric dispersion characteristics, provides assurance that engineered safety features can be added that will bring the calculated doses from a postulated accident within the guidelines of 10 CFR Part 100. If the minimum exclusion distance is less than 0.4 mile, it may be necessary to place special conditions on station design (e.g., added engineered safety features) before the site can be considered acceptable. Also based on past experience, the NRC staff has found that a distance of 3 miles to the outer boundary of the LPZ is usually adequate.^a</p>

^aThe guidelines numbers for exclusion area and LPZ are based on historical siting experience of light-water-cooled reactors. In certain instances different dimensions have been established for high temperature gas-cooled reactors.

ENCLOSURE D

"EVALUATION AND COMPARISON OF RELATIVE RISKS ASSOCIATED WITH
LARGE ACCIDENTAL RELEASES AT ALTERNATE SITES;" APPENDIX C TO A DRAFT STAFF
REPORT, "EVALUATION OF ALTERNATIVE SITES - PERRYMAN EARLY SITE REVIEW"

APPENDIX C

EVALUATION AND COMPARISON OF RELATIVE RISKS ASSOCIATED WITH
LARGE ACCIDENTAL RELEASES AT ALTERNATE SITESINTRODUCTION

Under the provisions of the Atomic Energy Act of 1954, as amended, the U.S. Nuclear Regulatory Commission regulates nuclear power reactors to minimize their potential danger to life and property. The NRC permits the construction and operation of a power reactor only when it determines that the facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

Events which may be anticipated to occur one or more times during the lifetime of a facility are required to be controlled such that no significant radioactivity is released to the environment. Incidents and accidents can be prevented through the proper design, construction, and operation of the facility to assure that this goal is achieved. No design or mode of operation, however, is entirely risk free. Despite the efforts to prevent significant accidental releases from occurring, the possibility exists, however unlikely, that significant accidental releases may occur. NRC requires, therefore, that each application for a construction permit or operating license be accompanied by a detailed assessment of such postulated accidents.

The NRC staff has categorized postulated accidents into four major groups as follows:

1. Anticipated accidents with a moderate probability of occurrence, which lead to no significant radioactive releases.
2. Accidents with a low probability of occurrence, which lead to small radioactive releases.
3. Design basis accidents with a very low probability of occurrence, which lead to large radioactive releases. These accidents are postulated to evaluate the acceptability of the reactor site and to establish performance standards for the reactor's engineered safety features.
4. Accidents with an extremely low probability of occurrence, which involve failures beyond those considered in the design of the plant's engineered safety features. These are typically represented by some combination of failures which leads to core melting and containment vessel failure. These events are accounted for in the regulatory process by assuring that their probability of occurrence is acceptably low. As a result, consequences of events in this group are not specifically analyzed in most applications.

The Commission has a long-standing policy of encouraging the location of reactors in relatively isolated areas, a policy clearly stemming from a consideration of the potential consequences of accidental releases. As a result of this policy it is important to review alternative sites with regard to their population differences.

DISCUSSION

There appear to be substantial differences in the number and distribution of people surrounding the applicant's alternative sites. There are also differences in other factors which affect the consequences of accidental releases (e.g., meteorology). Each of these differences was reviewed for the Perryman site and for the applicant's selected alternatives. Some differences were judged significant and these findings were included as part of the overall assessment of the alternative sites discussed in the main body of this report.

However, most of the comparisons of differences and similarities among the alternative sites were qualitative in nature. In an attempt to quantify the comparisons, the staff evaluated the alternative sites using the consequence model developed for the "Reactor Safety Study" (WASH 1400).^{*} This model has the unique capability of being able to organize information on site characteristics and accident releases and then generate estimates of the consequences of accidents that reflect an integration of these widely varying but inter-related factors. While the model contains many simplifying assumptions and limitations the staff believes that its use can provide additional potentially valuable insights to the present alternative site evaluation.

The consequence model used in WASH-1400 (CRAC) considered three general types of effects resulting from large accidental releases. These are (1) acute injuries, such as illness or death, (2) longer term effects, such as increased risks of latent cancers, genetic disorders or thyroid nodules, and (3) economic costs, such as costs of land decontamination or relocation of people from contaminated areas.^{**}

Whether any of these effects will be significant depends on the size of the accidental release and on such factors as speed of evacuation of potentially exposed individuals and meteorological conditions existing at the time of the release. Thus there is no single effect that represents the potential consequences of an

^{*} For the purpose of this evaluation, only releases to the atmosphere were considered.

^{**} Section 5.5 of WASH-1400, "Risks from Accidental Releases," provides a summary discussion of these factors.

accidental release. One of the key features of the CRAC model is that it combines various related and unrelated situations so as to estimate the probability of a given consequence. The results generally take the form summarized in Section 5.5 of WASH-1400.

The results in Section 5.5 of WASH-1400 are not site specific, they are based on an amalgam or composite of demographic and meteorological conditions at 68 sites. While this process may have been useful for the purposes of the "Reactor Safety Study," it makes any evaluation of site-to-site variations difficult. While the CRAC code can be used to generate site-specific consequence assessments, its utility for site specific calculations have not been fully assessed. There have been specific concerns expressed regarding its application to site specific assessments, principally arising from some of the simplified assumptions in the consequence model. There is an ongoing review of the final report of the Reactor Safety Study and comments by involved and interested parties on the study. However, as noted above, the CRAC code does permit integrated assessments, which if used judiciously, can provide improved insight as to the significance of variations in site characteristics amongst alternative sites.

For purposes of comparing the candidate sites, a 4100 Mwt reactor was assumed (WASH-1400 assumed a 3200 Mwt reactor). No variations in design or site characteristics were presumed to affect the probability of an accidental release. Since the principal objective was to examine the relative characteristics of the alternative sites, the accident categories used in WASH-1400 (Table 5-1) were not changed. The key assumptions taken from WASH-1400 in this regard were the PWR release categories and their relative probability. For example, it was assumed for purposes of this review that a release equivalent in magnitude to a PWR-9 in WASH-1400 was 50 times more likely than a release equivalent to a PWR-2. In this way comparisons among the alternative sites could be drawn without regard to the specific value of the probability of a major accident.

Since site specific meteorological information was available for Calvert Cliffs and Perryman, this data was used in the analysis for both sites. The data from these sites were considered to be reasonably representative of the other candidate sites for the purposes of this study. The data for these two sites were modified to reflect estimated differences in directional wind frequencies, and then applied to the other sites. Site specific estimates of population distribution and habitable land (land use) were also included as input to the calculations. Some factors that are likely to be site specific were assumed to be constant; for example, a constant set of evacuation speeds was used at all sites (e.g. 1.2 mph).

RESULTS

The results of performing site specific assessments using WASH-1400 consequences model are summarized in Table C.1. As expected the calculations indicate site-to-site variations in the impacts of a major accidental release. For example, the economic costs associated with evacuation were computed to be about 10 times higher at Perryman than at Calvert Cliffs. The calculated mean acute fatalities at Fairhaven were about three times those at Perryman. The differences in both cases can be directly attributed to the number and location of people residing in the vicinity of each site.

TABLE C.1

RATIO OF MEAN VALUES OF CONSEQUENCES AT THE ALTERNATE SITES
TO THOSE AT THE PERRYMAN SITE

<u>Consequence*</u>	<u>Ratio of alternate sites to Perryman</u>				
	<u>Perryman</u>	<u>Bainbridge</u>	<u>Carpenter Pt</u>	<u>Calvert Cliffs</u>	<u>Fairhaven</u>
. Acute Fatalities	1.0	0.76	0.74	0.45	2.78
. Acute Injuries	1.0	1.5	1.45	0.75	2.33
. Latent Effects from Early and Chronic Exposure	1.0	1.12	1.11	0.55	1.10
. Evacuation Cost	1.0	0.30	0.34	0.10	0.80
. Total Cost w/ decontamination	1.0	0.78	0.79	0.38	0.98
. Total Man-rem	1.0	1.12	1.12	0.60	0.86

The consequences do not include the health effects to the transient population working in facilities such as offices, institutions, etc., located relatively close to the reactor but not related to nuclear stations operation, nor do they include costs associated with contamination of these facilities as a result of a large accidental release.

TABLE C.2

ACUTE FATALITIES FOR VARIOUS PROBABILITIES FOR ONE
REACTOR AT ALTERNATE SITES

<u>Chance per</u> <u>Reactor year</u>	<u>No. of early fatalities</u>				
	<u>Perryman</u>	<u>Bainbridge</u>	<u>Carpenter Pt.</u>	<u>Calvert Cliffs</u>	<u>Fairhaven</u>
one in 2000	<1	<1	<1	<1	<1
one in 1,000,000	<1	30	10	<1	40
one in 10,000,000	2100	980	1250	600	1800
one in 100,000,000	5700	3200	2900	2800	38,000
one in 1,000,000,000	11,000	7600	21,000	23,000	>100,000

Other indices show the same trend, namely that Calvert Cliffs generally ranked lowest in computed consequences, Fairhaven ranked the highest, with Perryman somewhere in between. The total range was generally less than a factor of 5. The distribution of values from the mean was also examined. These results showed similar trends.

In an attempt to gain some additional perspective on the risks (as opposed to expected consequences) associated with large accidental releases, the distribution of a particular risk, namely the acute fatality, for each candidate site is summarized in Table C.2 (using for this purpose the numerical probability estimates of WASH-1400 for various PWR release categories). Other risks calculated by the CRAC Code can be developed as in Table C.2.

Finally, rough estimates were made of risks associated with large accidental releases from a power reactor at the 5 alternate sites, expressed as dollar costs per reactor year. The results are shown in Table C.3. For the purpose of these estimates, the various health effects (excluding acute fatalities) were assumed to have a cost measured by \$1000 per man-rem, after the fashion of Appendix I to 10 CFR Part 50. The "cost" of acute fatalities was taken as \$1,000,000. The results are therefore a measure of site differences in population distribution and to a lesser extent meteorological characteristics. The \$1000/man-rem value is used in Part 50, Appendix I as the cost/benefit index to determine if radwaste treatment augmentation is cost effective. It represents a conservative estimate of dollar costs associated with somatic health effects from low-level radiation arising from normal plant operation (probability of occurrence = 1.). For this evaluation, the cost of a man-rem should be appreciably lower. For example the BEIR Report cites a range of \$12 to \$120 per man-rem for genetically related health effects. It is unlikely that the separate costs of somatic effects would be substantially above this range, although as noted above, a value of \$1000/man-rem has been used for purposes of 10 CFR 50 Appendix I. However, intangibles involved in monetizing health effects warrant the use of a higher value for this analysis.

Quantitatively, the estimated annual public "risks," which might result from these very low probability events, ranged from \$350,000 at Calvert Cliffs to \$700,000 at the more densely populated sites. Perryman was somewhat less than twice that of Calvert Cliffs. These results do not reflect all differences in site characteristics which could have a significant effect on the total risk. For example, the possibility of high evacuation speeds at Calvert Cliffs was noted but has not been considered in the estimates of acute exposure at that site in comparison to the others. Also, the costs for property damage, with and without decontamination, were based on assumptions that land-use characteristics were similar for the 5 sites. By rough estimate, the average cost of land surrounding Perryman and Calvert Cliffs is \$3000 per acre, even though the land at each site is put to different uses (i.e., Perryman with the nearby military complex and Calvert Cliffs with extensive agriculture). A more detailed estimate could well indicate that the costs of interdicting large portions of the Aberdeen Proving Ground and Edgewood Arsenal near Perryman for a period of years (including the possible loss of employment of the 12,000 workers) would be significantly higher than the cost of interdicting the predominantly agricultural lands surrounding Calvert Cliffs.

TABLE C.3

Comparison of Alternate Sites Using Normalized Annual Dollar Costs

Consequence	P	Annual Occurrence Rate				\$ Cost per Case	P	\$ Annual Risk ^{3,4}			
		CC	CP	B	FH			CC	CP	B	FH
Acute Fatalities	7×10^{-4}	3×10^{-4}	5×10^{-4}	5×10^{-4}	2×10^{-3}	\$1,000,000 ¹	700	300	500	500	2,000
Man-rem	565	336	635	635	487	\$1000/man-rem ²	565,000	336,000	635,000	635,000	487,000
Property damage	5×10^{-4}	all cases				as determined by calculation	35,000	10,000	25,000	25,000	30,000
Total							\$600,000	346,000	660,000	660,000	519,000

1. This value has been arbitrarily selected. A value of \$200,000 per fatality was reported in "Risk Management Guide", ERDA 76-45/11 (June 1977). However, other estimates have been developed which are somewhat higher. This value, as well as other values in this table, should be regarded as illustrative only. A wide range in estimated societal costs of fatalities has been reported. The value used in this table may be on the low side, since it does not include the costs that might be associated with a medical treatment and care of individuals following a major exposure to radiation. However, the results from this table would indicate that the total monetized annual risk is not sensitive to the dollar value assumed for acute fatalities.
2. The \$1000 per man-rem is an arbitrary value, selected as illustrative of the societal costs associated with the longer-term health effects that might result from an accidental release. The specific value is that reported in 10 CFR 50 Appendix I, although it is recognized that the considerations that led to the Appendix I value are not directly comparable to this example. As discussed in the text, this estimate may be on the high side.
3. The computed results do not reflect site to site variations in speed or ease of evacuation of the surrounding population. As discussed in the text there is a reason to believe that Calvert Cliffs may be somewhat better than Perryman in this respect. If true (a detailed evaluation would be required to confirm or deny this speculation), the differences between Perryman and Calvert Cliffs would be greater (for all three categories of consequences) than presented.
4. Monetized annual risks associated with low probability, potentially severe consequences events could be estimated in a variety of ways. One alternative would be to estimate costs associated with each of the several types of health effects in Table C.1. The staff is of the opinion that such an approach would not result in estimates significantly above the values estimated here, and could be significantly lower. A different approach would be to adjust these estimates to reflect perceived societal tolerance to (or alternatively, perceived aversion to) very improbable, potentially severe consequence events. Finally, adjustments could be made in the monetized risks to reflect different event probabilities for the various release categories in WASH-1400. Nonetheless, the values cited are regarded as reasonable and are illustrative of the site-to-site variations.

CONCLUSIONS

The simplifying assumptions and limitations of the present analyses serve to emphasize that results obtained from this use of the CRAC code must be viewed with caution; their principal value in this alternative site review is to indicate trends and to assist in an evaluation of the relative magnitude of site-to-site differences. It should be emphasized that the calculations using the CRAC code would not generally be conducted in the review of alternative sites. As discussed in the main body of this report, the Perryman site has a surrounding population which is, or will be, considerably in excess of the benchmarks of 500 and 1000 people per square mile. Given this circumstance, a special, more detailed assessment was in order.

In applying these results, it is also important to keep in mind that the comparison of health effects from low probability accidents uses site location as the only variable. Health effects from alternative sources of electrical generation at the various sites were not considered.*

Nonetheless, the staff has determined that there are consistent differences among the sites from the standpoint of accident risks, but that in all cases the risks are low. Taking all factors into account, the CRAC analysis supports the conclusion that Calvert Cliffs is superior to Perryman from the standpoint of accidental releases.

* This topic is addressed in a generic sense in NUREG-0332.

ENCLOSURE E

MEMORANDUM, S. LEVINE TO E. CASE, NOVEMBER 23, 1977



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Enclosure E

November 23, 1977

MEMORANDUM FOR: Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

FROM: Saul Levine, Director
Office of Nuclear Regulatory Research

SUBJECT: USE OF RSS CONSEQUENCE MODEL IN EVALUATIONS OF
ALTERNATIVES TO SITES WITH HIGH POPULATION DENSITIES

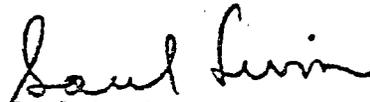
We have reviewed the proposed information paper on the subject topic and have the following comments:

1. We support the statement made on page C-8 of Enclosure D of the proposed paper that "...results obtained from this use of the CRAC code must be viewed with caution..." As noted in the Reactor Safety Study, the calculated cdfs for consequences have approximate uncertainties ranging from factors of 2 to 6 on the predicted consequence magnitudes as well as factors of 1/5 and 5 on probabilities. Considering these uncertainties, the differences between most of the values presented in Tables C.1 and C.2 are not statistically significant and using these differences to draw inferences regarding the relative acceptability of one proposed site over another is questionable.
2. The RSS consequence model was developed to estimate aggregate societal risks and not to estimate site specific features. As stated in the proposed paper, the applicability of the model to a specific site has not been fully assessed. Thus, the values for the various alternative sites calculated using CRAC may not adequately represent the actual risks.
3. Apart from comments 1 and 2, lacking some quantified level of acceptable risk, it is unclear why any of the sites would be acceptable or unacceptable. Before decisions regarding the acceptability of alternative sites can be based in part on calculations with the CRAC code, such a criterion must be developed.

November 23, 1977

4. Table C.2 of Enclosure D extends the analysis to consideration of accidents having a probability of 10^{-9} /reactor-year. It is not clear that licensing actions should be based on consideration of events having such a low probability. Using a higher cut-off probability could result in a different decision regarding acceptability.
5. The paper recommends that the Commission "...consider the appropriateness of issuing some clarifying statement that consequences of Class 9 accidents...be considered in special cases." We question the validity and utility of the use of such calculations in the licensing process. It would seem to be more appropriate to use risk assessment techniques in generic studies to develop deterministic criteria regarding combinations of population distribution, meteorological parameters, and those factors affecting evacuation and decontamination to be used in siting nuclear power plants.

On the basis of the comments listed above, we cannot concur in the proposed memorandum. We suggested that efforts be redirected to use the CRAC code in conjunction with other analyses to help develop improved deterministic site suitability criteria.



Saul Levine, Director
Office of Nuclear Regulatory Research

ENCLOSURE F

NRR COMMENTS ON ENCLOSURE E

RES Comment 1:

We support the statement made on page C-8 of Enclosure D of the proposed paper that "...results obtained from this use of the CRAC code must be viewed with caution..." As noted in the Reactor Safety Study, the calculated ccdfs for consequences have approximate uncertainties ranging from factors of 2 to 6 on the predicted consequence magnitudes as well as factors of 1/5 and 5 on the probabilities. Considering these uncertainties, the differences between most of the values presented in Tables C.1 and C.2 are not statistically significant and using these differences to draw inferences regarding the relative acceptability of one proposed site over another is questionable.

Response:

Some of the assumptions used in the analyses are very simplified (such as the assumed straight line trajectory of any released radioactivity). The staff considered the distortions these simplifications were likely to introduce. Whether or not the calculated differences between sites are statistically significant is arguable but we agree with RES that no significance should be attributed to calculated small differences between sites (e.g., factors of two or so). What is important is that the RSS consequence model permits a better assessment of site-to-site comparisons than the usual rules of thumb, such as population density or population density times wind direction frequency.

As an example, among the candidate sites there is more than an order of magnitude variation in the size of the surrounding population. The applicant (BG&E) has pointed out that, at Perryman, the predominant wind directions are not towards the sectors with the highest resident population. This fact was used to support an argument that even though the population density exceeded the guideline values, the Perryman site was still a "good" site. Through use of the RSS consequence model, the staff was able to consider the applicant's arguments. The analyses in Enclosure D do indicate that site-to-site variations are not as great as would be inferred just from population density or several other rough rules of thumb, such as the Site Population Factor (SPF) mentioned in Enclosure E (page 4.7-4).

In summary, the RSS consequence model permits a better insight of the interaction of the many site-related parameters than more simplified methods, such as population density. The analyses in

Enclosure D were not used to judge site acceptability. If anything they helped temper the conclusions that might have been drawn using more simplified methods. In any event, as stated in Enclosure D, the analyses were performed to provide a better insight as to significance of site-to-site variations, indicate trends and assist in the evaluation of the relative magnitude of site-to-site variations.

In this context we believe the analyses summarized in Enclosure D have been very useful.

RES Comment 2:

The RES consequence model was developed to estimate aggregate societal risks and not to estimate site specific features. As stated in the proposed paper, the applicability of the model to a specific site has not been fully assessed. Thus, the values for the various alternative sites calculated using CRAC may not adequately represent the actual risks.

Response:

We agree. However, we believe the text adequately characterized the limitations in the analyses.

RES Comment 3:

Apart from comments 1 and 2, lacking some quantified level of acceptable risk, it is unclear why any of the sites would be acceptable or unacceptable. Before decisions regarding the acceptability of alternative sites can be based in part on calculations with the CRAC code, such a criterion must be developed.

Response:

We have not attempted to determine what constitutes an "acceptable site" on the basis of Enclosure D. Without regard to a numerical value for acceptable risk, it is still possible and reasonable to draw comparisons between the proposed and alternative sites and to recommend that an alternative site be considered. As noted in Enclosures B and C, the whole process of reviewing alternative sites is founded on a different premise than selecting an acceptable site; rather it is one of determining whether the overall balancing of the various factors (environmental, economic and safety) has led to a site which is inferior to other available alternatives.

RES Comment 4:

Table C.2 of Enclosure extends the analysis to consideration of accidents having a probability of 10^{-9} /reactor year. It is not clear that licensing actions should be based on consideration of events having such a low probability. Using a higher cut-off probability could result in a different decision regarding acceptability.

Response:

The RES comment is well taken. The presentation of consequences to a computed value of 10^{-9} /reactor year was done simply because this was the same lower value as presented in WASH-1400. There was no intent to specify or imply any particular probability value for licensing purposes.

RES Comment 5:

The paper recommends that the Commission "...consider the appropriateness of issuing some clarifying statement that consequences of Class 9 accidents...be considered in special cases." We question the validity and utility of the use of such calculations in the licensing process. It would seem to be more appropriate to use risk assessment techniques in generic studies to develop deterministic criteria regarding combinations of population distribution, meteorological parameters, and those factors affecting evacuation and decontamination to be used in siting nuclear power plants.

Response:

Our response on the general subject of use of the RSS methodology was summarized in the memorandum from Lee V. Gossick to Commissioner Kennedy of March 2, 1977. The legal analysis regarding the consideration of the consequences of Class 9 accidents is summarized on Page 3 and 4 of this paper. We believe that where a model exists that can permit integrated assessments of site-to-site variations, and where special considerations exist that warrant a detailed review, such a model should be used. However, use of such a model to gain insight and to aid in the decision making process is not the same as total reliance on the model (which we have not done).

We agree that the WASH-1400 models may be of assistance in our generic siting studies. This has been a part of the development plan for our reassessment of siting policy (see SECY-76-286A). However, when decisions are needed on specific cases, such decisions cannot always await the conduct of longer-term generic studies.

ENCLOSURE G

NRR RESPONSE TO OGC AND OPE COMMENTS

Enclosure G

Responses to OPE/OGC Comments

OPE #1: Describe the status of, and interrelationships of this paper with PRM 100-2.

Response: The staff's paper on PRM 100-2 is in the process of office review for concurrence. The only bearing this paper has on PRM 100-2 is that Enclosure D includes one estimate of the relative significance (or lack of) of site-to-site variations in population density. As such, it can provide background material to aid in the review of PRM 100-2.

OPE #2: Describe the status of, and interrelationships with the staff's review of accident analyses for siting purposes.

Response: This paper cites certain policy objectives in our siting reviews. This subject will be more completely addressed in a paper on siting-related accident analyses.

OPE #3: How often would the issue addressed be germane?

Response: Indeterminate. Approximately 10% of the reactor sites have surrounding populations which approximate the guidelines of Enclosure B.

OPE #4: What are the main grounds for the staff's negative conclusion regarding Perryman? What role did the analyses play in reaching that conclusion?

Response: The staff's report on the Perryman alternative site review describes the bases for the staff's conclusions. The role of the analyses in Enclosure D is discussed in the response to RES Comment 1.

OPE #5: What are the most significant alternatives to the proposed approach? What are the pros and cons?

Response: As discussed in the paper, the staff could continue to review sites with relatively high population densities using simplistic and largely qualitative rules of thumb. Such methods do not permit the balancing of environmental, economic and safety issues called for in Enclosure B. More importantly, for some sites, the results of use of more simplistic models suggest misleading and inappropriate conclusions about the relative differences between sites.

OPE #6: In view of the WASH-1400 inference that Class 9 accidents dominate risks to the public (a) what justification is there for confining consideration of Class 9 accidents to sites in relatively densely populated areas and (b) not regarding Class 9 accidents as a safety issue.

Response: This matter is extensively discussed in the paper. The analyses in Enclosure D suggest that even at relatively densely populated sites, accident risks are very low. The point of doing such analyses is to examine a newly proposed site, in the light of all the important factors, so as to permit a reasoned balancing, as contemplated in Enclosure B.

OPE #7: In view of the apparent agreement that CRAC may not adequately represent risks at various alternative sites, what is the justification for a recommendation to codify use of the method in view of these serious doubts as to its validity.

Response: This question is addressed in both the paper (pp. 6-7) and in Enclosure F. Any model involves simplifications, the use of which raises questions. The models and assumptions used in CRAC are not dissimilar from those used in case reviews and NRR staff believe that the CRAC code can be used to advantage. There is no intent to "codify" CRAC, only to use it as a tool which may permit better insights than others currently available.

OPE #8: In using CRAC how are all possible differences in Class 9 accident probabilities between sites taken into account (e.g., Edgwood Arsenal).

Response: The CRAC code permits the user to provide, as an input, accident probabilities. However, in examination of population-related site differences, differences in other factors need not be assumed. The residual risks from Edgwood Arsenal was considered by the staff.

OPE #9: In concluding that the number of issues surrounding Class 9 accidents and siting criteria exist that require more staff effort, OPE recommends that the staff consider submitting the paper as an information paper.

Response: As noted in the paper, the staff has been performing quantitative analyses of Class 9 accidents in connection with several case reviews and generic issues. The paper also notes that certain board and court rulings can be interpreted as being at odds with recent staff practice. The purpose of the paper is to inform the Commission but, more importantly, to obtain the Commission's views on this subject before we go further.

OGC #1: We believe that the NRC regulations ought to specify the circumstances in which the Class 9 accident will be considered.

Response: The thrust of this paper is to identify one such circumstance. The staff has underway a program to decide on need for final action on Annex A to 10 CFR 50 Appendix D (a proposed regulation covering this subject).

OGC #2: We question whether changes ought to be made only in proposed Part 50 Appendix D at this time. By amending Part 100 as well, NRC can make clear the important role of population density and distribution around a reactor site.

Response: We are not proposing to amend the proposed Annex at this time (see Purpose). Clarification of the Commission's siting policy and revision to Part 100 is the subject of other staff papers.

OGC #3: Noting "a difference in position between NRR and Research" on the use of the CRAC code "... we believe that this technical problem can be mitigated by adoption of a regulation that would explicitly prohibit high density siting."

Response: See response to OPE #1. There is no substantive difference between NRR and RES on the use of the CRAC code. As noted in the paper (page 7), there are varying opinions amongst the technical staff as to the degree of applicability of the RSS consequence model. These differences do not have any bearing on existing or proposed siting criteria. As noted in the paper and Enclosure E, there is a general consensus that the code may assist the development of improved criteria.

ENCLOSURE H

MEMORANDUM, JAMES L. KELLEY TO THOMAS A. REHM, JANUARY 31, 1978



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 31, 1978

MEMORANDUM FOR: Thomas A. Rehm
Assistant to the EDO

FROM: *MCC
for JLR* James L. Kelley
Deputy General Counsel

SUBJECT: OGC COMMENT ON "ASSESSMENTS OF RELATIVE
DIFFERENCES IN CLASS 9 ACCIDENT RISKS IN
EVALUATIONS OF ALTERNATIVES TO SITES
WITH HIGH POPULATION DENSITIES"

As a matter of general policy, we support this effort to provide for special consideration of alternative sites when an applicant's proposed site has a relatively high population density. We believe that this proposed paper is consistent with the policy thrust of the Commission (see SECY-76-286A). At this time, we would like to make several specific comments on the paper and the analysis contained in it.

As a legal matter, the Commission practice of not specifically evaluating consequences from a hypothetical Class 9 accident has indeed been upheld by the courts analyzing the situation under NEPA, Carolina Environmental Study Group v. U.S., 510 F.2d 796 (D.C. Cir. 1975), and under Part 100 site evaluations, Porter County Chapter of the Izaak Walton League v. AEC, opinion on remand, 533 F.2d 1011 (7th Cir. 1976). While this practice should find continued judicial support, we conclude that nothing in our present statute or regulations precludes consideration of Class 9 accidents as proposed for exceptional cases. We do not believe that a court would bar that consideration in a case where the staff believes that assessment important to protect the public health and safety. As the court stated in Porter County, supra at 1016:

Contact:
Mark E. Chopko, OGC
634-8017

January 31, 1978

The question comes down to whether the possibility of such an accident is sufficiently real that reactors should be located only in unpopulated areas. Under the law, this must be decided by the expert body empowered by Congress to make such decisions.

At the same time however, this regulatory position is not now explicitly articulated. Therefore, to avoid any confusion resulting from this ambiguity, we believe that the NRC regulations ought to specify the circumstances in which the Class 9 accident will be considered.

We note that the proposed changes would only occur under Part 50 in proposed Appendix D, for a NEPA analysis. Since the policy being relied on for the change is found in Part 100, Reactor Site Criteria, we question whether changes ought to be made only in proposed Part 50, Appendix D, at this time. By amending Part 100 as well, NRC can make clear the important role of population density and distribution around a reactor site. It also would indicate that population is not only a factor to be considered in a NEPA analysis, but also in a safety analysis and it would more clearly reflect the policy of Part 100.

The paper notes that there is a difference in position between NRR and Research over the efficiency of using particular computer modeling techniques to provide useful results in alternative site analysis. We view this difference as one where NRR is stating that a technique can be used to distinguish among sites, while Research believes there are significant limitations to the method. We lack the technical expertise to comment fully on this difference. But because the alternative site analysis for a Class 9 scenario would only occur when a proposed site had a population density approaching or exceeding the values in Regulatory Guide 4.7, we believe that this technical problem can be mitigated by adoption of a regulation that would explicitly prohibit high density siting. While we realize that such a regulation would limit the discretion now available to the staff, it appears wholly consistent with Commission policy and practice as demonstrated in the draft Commission paper

yes ✓
no

January 31, 1978

and is consistent with the policy of using conservative estimates and judgment in making regulatory decisions. We note in passing that this is the subject of a PIRG petition for rulemaking (PRM-100-2). Without attempting to judge the merits of the PIRG proposal, perhaps this paper can provide some coordination with the analysis of the PIRG petition.

Finally, two procedural points. When the paper is sent to the Commission, we expect that it will contain the proposed amendment as an enclosure so that the Commission can see exactly what is being proposed. In addition, we suggest that this paper be placed into the context of the Commission's comprehensive policy review in order to understand the connection between this limited change and the precise policy being examined more fully. We may wish to comment further when the paper is sent to the Commission.

cc: Howard K. Shapar, ELD
Kenneth Pedersen, OPE (2)

ENCLOSURE I

MEMORANDUM, KEN PEDERSEN TO TOM REHM, FEBRUARY 1, 1978



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Enclosure I

February 1, 1978

MEMORANDUM FOR: Tom Rehm
FROM: Ken Pedersen 
SUBJECT: COMMENTS ON "ASSESSMENT OF RELATIVE DIFFERENCES IN
CLASS 9 ACCIDENT RISKS IN EVALUATIONS OF ALTERNATIVES
TO SITES WITH HIGH POPULATION DENSITIES"

I believe that Commission consideration of the recommendations in this paper would be assisted by information concerning the following questions:

- ° What is the status of the development of a proposed response to the PIRG petition for rulemaking on the role of population density in site evaluation? To what extent would the recommendation in this paper be consistent with the proposed disposition of the PIRG petition, based on present staff thinking concerning the petition?
- ° What is the status of the staff analyses of current and alternative accident evaluation practices in relation to siting? What comments can be made concerning consistency of the recommendations in this paper with current and emerging staff thinking in relation to those broader analyses?
- ° Based on past and projected siting actions, how often would the issue addressed be germane (i.e., how often is the "trigger" level of 500 present or 1000 projected people/square mile expected to be exceeded)? Are there siting actions now pending or projected for the near term that involve the issue? If so, what can be said about the number and estimated timing of the actions in question?
- ° What were the main grounds for the staff's negative conclusion about the Perryman site? What role, if any, did the analysis enclosed with the paper play in reaching that conclusion?

In connection with the supporting rationale, I believe some discussion of the following would be particularly helpful to the Commission:

- ° What are the most significant alternatives to the proposed approach? What are the pros and cons of those alternatives and what are the main reasons for preferring the proposed approach? (This may include comparative discussion of the WASH-1400-type analysis applied to specific cases vs. simple numerical population-density limits, such

CONTACT:
George Sege (OPE)
634-1643

as proposed by PTRG; numerical population-density limits qualified by other factors, e.g., the site-population-factor approach, or some other formula; etc.)

- ° In view of the WASH-1400 inference that Class 9 accidents dominate risk to the public, what justification is there for:
 - Confining consideration of Class 9 accidents to sites in relatively densely populated areas?
 - Not regarding Class 9 accident risks as a safety issue?
- ° RES commented--and NRR agreed--that use of the WASH-1400 (CRAC) method to estimate risks (a method developed for a different purpose) may not adequately represent risks of various alternative sites. What is the justification for a recommendation to codify use of the method in view of these serious doubts as to its validity?
 - In using the CRAC method, how, if at all, are possible differences in Class 9 accident probabilities between sites taken into account? (For example, in the Perryman analysis, what consideration was given to the possible bearing of the proximity of Edgewood Arsenal on Class 9 accident probabilities?)

I realize that it may take a considerable amount of time before the staff will be in a position to answer these questions. At this stage I would recommend that the staff consider submitting the paper as an information paper (without request for a Commission decision at this time), filling only such of the information gaps as can fairly quickly and meaningfully be filled based on present work status.

OPE would be pleased to discuss these comments--and other comments of a more specific nature--with the authors and others involved, if desired.

File

April 3, 1978

UNITED STATES
NUCLEAR REGULATORY COMMISSION · SECY-78-182
WASHINGTON, D. C. 20545

INFORMATION REPORT

For: The Commissioners
FROM: Edson G. Case, Acting Director, Office of Nuclear Reactor Regulation
THRU: *st* Executive Director for Operations *C. J. Andrews*
SUBJECT: DOE LICENSING REFORM BILL

This memorandum summarizes the effect of the DOE Licensing Reform Bill on the NRC reactor licensing process and identifies the estimated times required to implement the various provisions of the Bill.

The following information is enclosed:

1. Comparative milestones and times to process reactor licensing applications using present procedures and DOE Bill procedures:
 - Custom plant, custom site - present procedures
 - Custom plant, custom site - DOE Bill procedures
 - Standard plant, preapproved site - present procedures
 - Standard plant, preapproved site - DOE Bill procedures assuming (1) separate CP and OL approvals and (2) combined CP and OL approvals.
2. Milestones and times to implement standardized design effort
 - Preliminary Design Approval, (PDA)
 - Standard Design Approval (SDA),
3. Milestones and times to implement a program for all or part of the environmental review to be performed by states, and
4. A summary of experience with state siting and environmental reviews.

*L-41 Prop. Rules
B-10*

Contact:
D. R. Muller
492-7017

SECY NOTE: An identical, advance copy of this paper was issued to the Commissioners on April 3, 1978.

Based on the enclosures we make the following observations:

- In evaluating the effect of the DOE Bill on the licensing process we assumed no compromise of quality of the reviews.
- It will take at least four years to obtain full benefits toward quicker reviews from the DOE Bill (time to obtain PDA); but this consideration may be of minimal importance in view of the scarcity of forthcoming CP applications.
- For the standard plant - preapproved site tracks, the fabrication time for the pressure vessel is on the critical path. Some time savings may be achievable by modifying our regulations in 10 CFR Part 55a regarding timing to implement the requirements of the ASME Boiler and Pressure Vessel Code.
- The approach for approving the first states to take over NEPA responsibility assumes an ad hoc approach, later to be followed by a more systematic approach for the approval of subsequent states. This approach minimizes the time required to qualify the first states (about 15 months).
- We currently have five Early Site Reviews in various stages of completion; but none, as yet, has had a hearing.
- Our experience to date with states has been variable, in some instances there is room for improvement. States that are potentially active from a plant construction standpoint, e.g., New York and California, require elaborate processes that preclude prompt approval of a licensing action. Other states have had less protracted environmental processes but in general they have done relatively little independent environmental reviews and often have relied on NRC reviews.
- The time saving that is most immediate and under NRC control results from the applicant being able to start construction immediately upon applying for a CP when there is a preapproved site. Additional potential time savings may result from applicant's and vendor's response to a more stable process.

OELD participated in the preparation of the memorandum and concurs.

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Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

NUCLEAR POWER PLANT LICENSING SCHEDULES

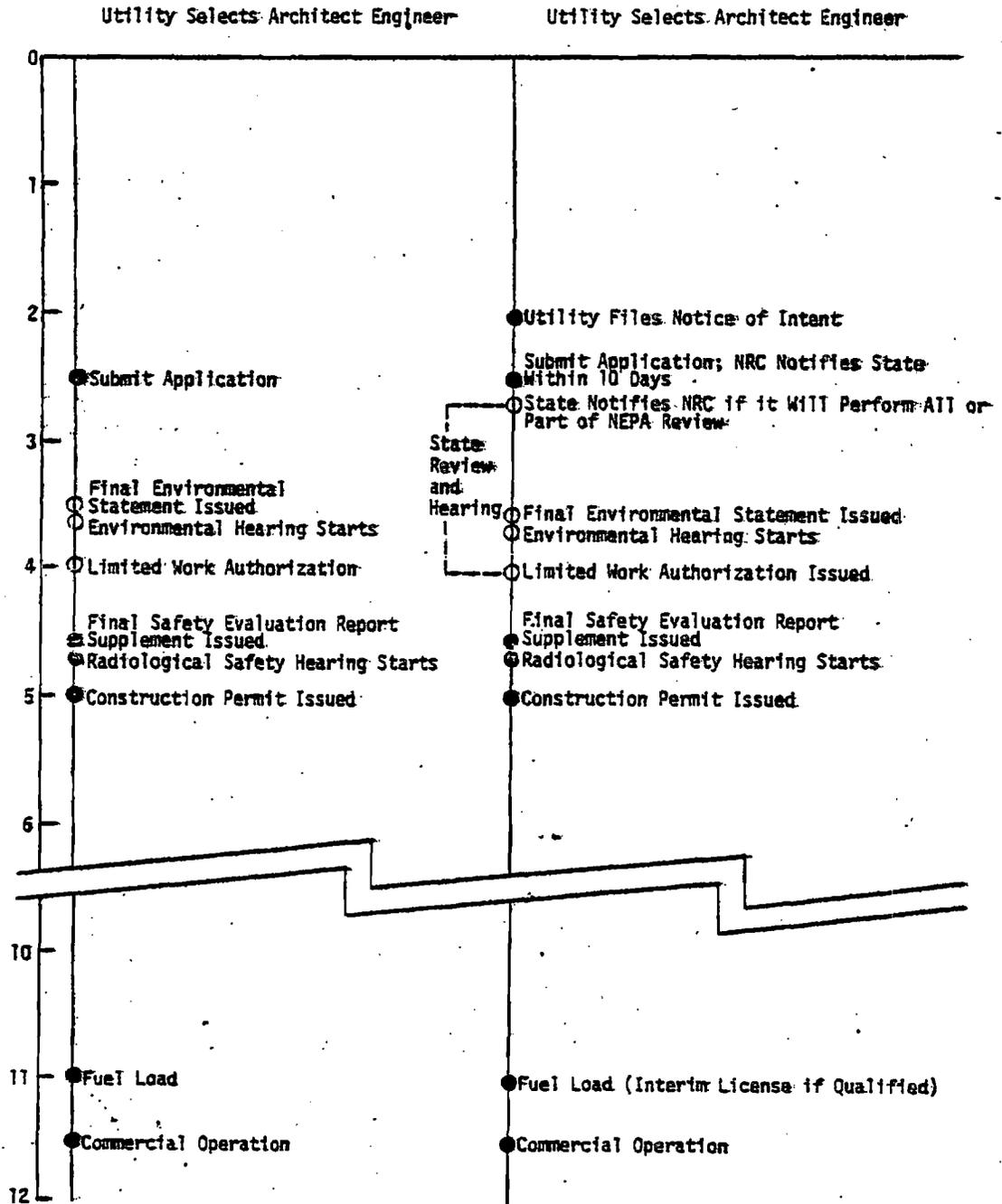
Figures 1 and 2 provide a comparison of the schedules for nuclear power plant planning, licensing, and construction for four cases selected to be illustrative of the effect of the Bill on the licensing process. The assumptions used in developing these schedules are provided in Table 1. Each milestone considered to be of interest is provided in Figures 1 and 2. Cases 1 and 2 on Figure 1 illustrate the schedule for a nuclear power plant application utilizing custom plant and a new site under the present licensing system and under the system that would exist if the proposed DOE Bill were implemented. There is no difference in the schedule given the assumption that the state environmental review does not exceed the current NRC review times. Cases 3 and 4 on Figure 2 illustrate the schedule for a nuclear power plant application utilizing a preapproved preliminary plant design and preapproved site under the present licensing system and under the system that would exist if the proposed DOE Bill were implemented. The principal difference in the two schedules results from an assumed shorter fabrication schedule for the reactor pressure vessel under the DOE Bill assumptions. Vessel fabrication is the critical path item on each case. The shorter fabrication schedule is assumed because the additional level of approval for the preliminary design under the DOE Bill is assumed to provide further assurance of a stable licensing process and thus provides vendors an incentive to order long lead time components of the pressure vessel in advance of a firm contract. Case 4 also illustrates the schedule for the combined construction permit and operating license which is a feature of the DOE Bill. The schedule for the two are the same since the operating license is not on the critical path.

ENCLOSURE 1

FIGURE 1

CASE 1
EXISTING SYSTEM
CUSTOM PLANT
NEW SITE

CASE 2
DOE BILL
CUSTOM PLANT
NEW SITE

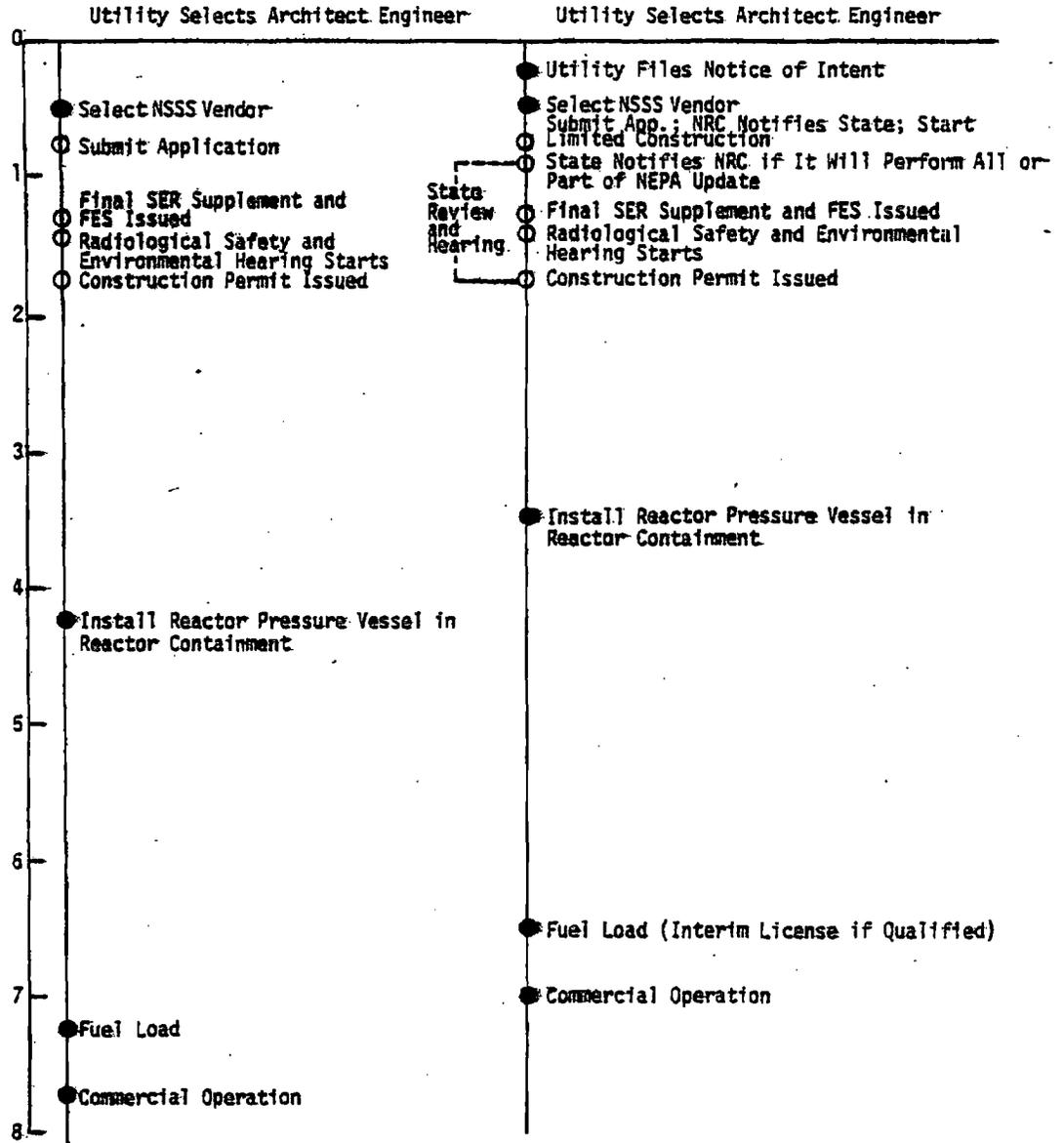


Note: ● designates critical path milestone

FIGURE 2

CASE 3
EXISTING SYSTEM
STAFF-APPROVED PRELIMINARY DESIGN
PRE-APPROVED SITE

CASE 4
DOE BILL
COMMISSION-APPROVED DESIGN
PRE-APPROVED SITE



Note: ● designates critical path milestone

TABLE 1
ASSUMPTIONS USED IN THE
DEVELOPMENT OF NUCLEAR POWER PLANT LICENSING SCHEDULES

GENERAL

- All hearings are contested. The schedules are based on standard assumptions, i.e., four months from start of hearing to ASLB decision.
- Construction schedules are based on industry estimates provided by the Atomic Industrial Forum.
- Utility planning has progressed to the point where it has elected the nuclear option and has identified the site.
- No unusual construction delays occur.
- Issuance of the operating license is not on the critical path.

CASE 1

- The application is for a construction permit.
- The plant preliminary design is custom.
- The site has been identified but no significant site investigation activities have been accomplished.
- The environmental report and preliminary safety analysis report are submitted simultaneously.
- The schedules for the issuance of the limited work authorization and the construction permit are based on recent performance.

CASE 2

- The application is for a construction permit.
- The plant preliminary design is custom.
- The site has been identified but no significant site investigation activities have been accomplished.
- The environmental report and preliminary safety analysis report are submitted simultaneously.
- The schedules for the issuance of the limited work authorization and the construction permit are based on recent performance.
- The state review of NEPA matters is done on the same schedule as the NRC NEPA review, with no delays incurred by requirements for NRC notice to state and state reply.

Table 1

- 2 -

CASE 3

- The application is for a construction permit.
- The plant preliminary design has been previously approved by the staff.
- The site has been approved in accordance with current NRC rules, including ASLB hearing and Partial Initial Decision.
- The need for power is contested.
- The staff and ACRS review of utility-related matters, i.e., quality assurance, emergency planning, financial qualifications, etc., is completed in seven months.
- One or more of the utility-related matters is contested.
- The time required between selection of the NSSS vendor and installation of the reactor pressure vessel in the containment is 45 months, as estimated by AIF.

CASE 4

- The application is for a construction permit or combined construction permit and operating license.
- The plant preliminary design or final design has been previously approved by the Commission.
- The site has been approved under rules implementing the proposed DOE legislation of March 1978.
- The staff and ACRS review of utility-related matters, is completed in seven months.
- One or more of the utility-related matters is contested.
- The time required between selection of the NSSS vendor and installation of the reactor pressure vessel in the containment is 36 months. This is based on industry projections which indicate that for stabilized licensing requirements and a viable market, certain long lead reactor pressure vessel components such as forgings can be ordered in advance. This procedure could effect as much as a nine month reduction in reactor pressure vessel fabrication schedules. This will require a change in Section 50.55a of 10 CFR Part 50 which requires that the reactor pressure vessel meet the requirements for Class I components set forth in Section III of the ASME Boiler and Pressure Vessel Code and Addendum in effect on the date of order of the pressure vessel or 18 months prior to the formal docket date of the application for the construction permit, whichever is later.

Table 1

- 3 -

-The state review of NEPA matters is done on the same schedule as the NRC NEPA review, with no delays incurred by requirements for NRC notice to state and state reply.

SCHEDULES TO IMPLEMENT STANDARD

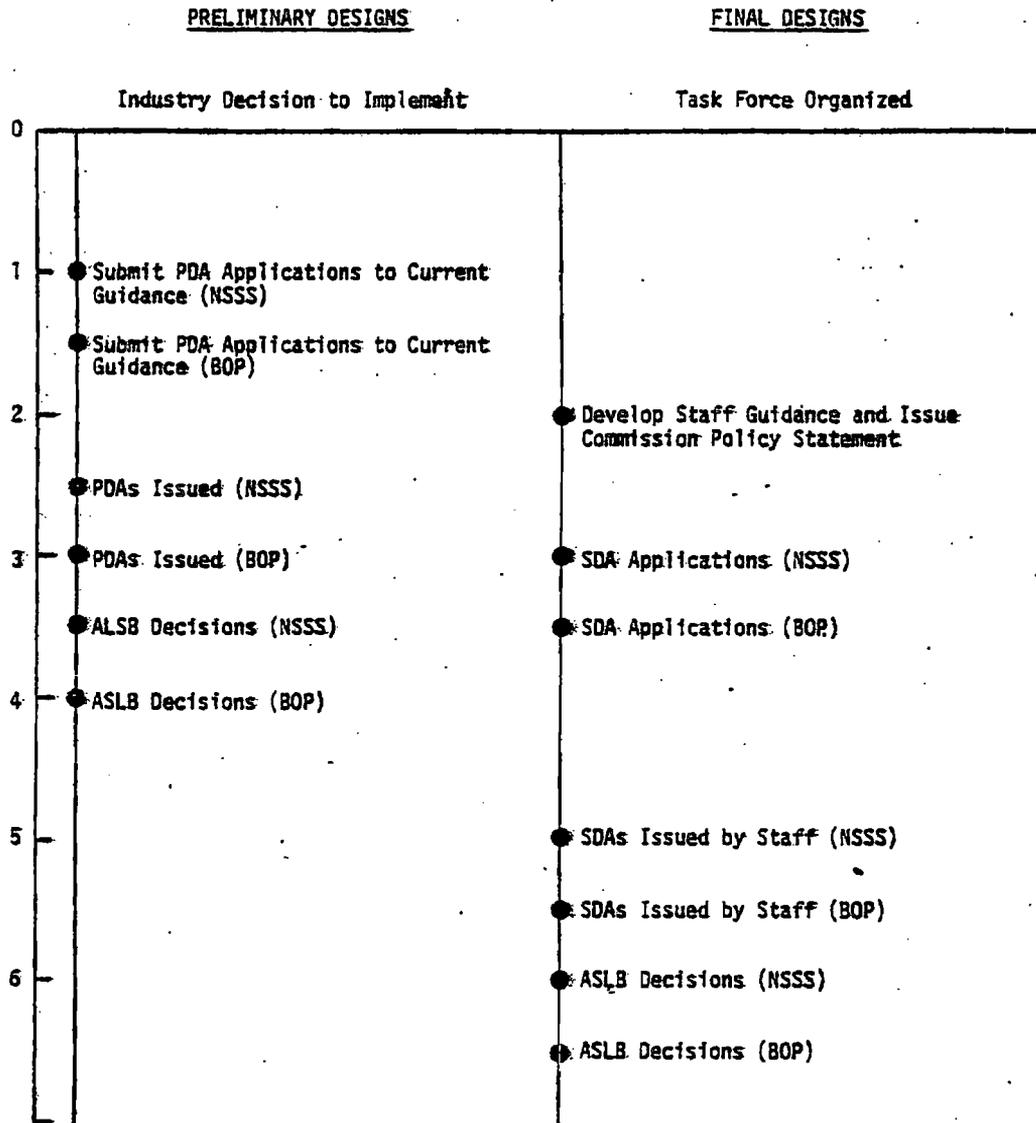
DESIGN FEATURES OF THE DOE BILL

Figure 3 is provided to illustrate the schedule for those design approval activities that need to be performed in order to get to that point where full utilization by utilities of the benefits of the DOE Bill is possible. There are two types of design approvals. The first, Preliminary Design Approval (PDA), is needed to develop that body of designs which can be referenced by utilities for construction permits (Case 4 of Figure 2). In order to proceed to hearings, the preliminary designs must be reviewed to current staff criteria. This means that designs that have been previously approved by the staff would have to be resubmitted and reviewed by the staff to current criteria to qualify for a five-year approval period. Figure 3 illustrates why it will take approximately four years to have a full complement of Commission approved preliminary designs.

The second type of design approval the Standard Design Approval (SDA) is for final designs and is needed to develop that body of designs which can be referenced by utilities for combined construction permits and operating licenses also shown in Case 4 of Figure 2. The staff has not developed guidance for SDA's and must do so before industry can submit such applications. It is estimated that it will take approximately six and one-half years to have a full complement of Commission approved standard designs which would support the issuance of a combined construction permit and operating license.

FIGURE 3

SCHEDULE OF ACTIVITIES REQUIRED TO OBTAIN COMMISSION APPROVED STANDARD DESIGNS



Notes: PDA - Preliminary Design Approval
SDA - Standard Design Approval
NSSS - Nuclear Steam Supply System
BOP - Balance of Plant
ASLB - Atomic Safety and Licensing Board

TABLE 2

ASSUMPTIONS USED IN SCHEDULES

TO IMPLEMENT STANDARD DESIGN FEATURES OF THE DOE BILL

Preliminary Design Approvals (PDA)

The utilization by industry of the PDA process is well established at the staff approval level. Four distinct concepts are now being utilized by industry, i.e., reference system, manufacturing license, duplicate plant, and replicate plant. Only a manufacturing license has now proceeded to the point in the licensing process that hearings have started. For the other concepts, no applicant has yet requested a hearing.

In order to proceed to the point at which there is a full complement of Commission approved PDA's suitable for referencing by utilities for the purpose of obtaining a construction permit the activities shown on Figure 3 must be performed. The following assumptions were used in the development of Figure 3.

- The older staff approved preliminary designs would have to be resubmitted in accordance with current staff criteria to justify a new five year term. The preliminary designs currently in review could proceed to hearings after staff approval is obtained.
- The first group of the older applications could be submitted within one year. The nuclear steam supply system (NSSS) applications must be submitted in advance of the corresponding balance of plant applications because of the need for the balance of plant design to satisfy interface requirements of the nuclear steam supply system. A six month interval is required for this purpose.
- An 18 month schedule is assumed for staff approval of preliminary designs. This is somewhat shorter than present schedules but should be adequate since the designs will be similar to those previously reviewed and approved by the staff.
- The hearings are expected to be longer than current assumptions due to the funding of the intervenors and the opportunity for a more widespread intervention as opposed to a proceeding on an individual facility. In addition, there is no experience on this type of proceeding. A year was assumed as the duration which represents a factor of about three increase over individual facility proceedings.

Standard Design Approvals (SDA)

The SDA is an alternative to the final design approval recently proposed by the staff to the Commission as requiring further study. The need for an alternative to the Final Design Approval (FDA) is to provide a mechanism

for the licensing of combined construction permits and operating licenses for plants utilizing standard designs. The architect-engineers have advised the staff that they could not apply for an FDA because of potential antitrust concerns and, even absent that concern, there are serious conflicts with their normal methods of doing business with utilities. It is the staff's view that the SDA alternative is required if joint construction permit - operating licensing is to become a reality for utilities using preapproved designs. As envisioned by the staff a SDA will involve significantly more information than a PDA but somewhat less than a FDA.

In order to proceed to the point at which there is a full complement of Commission approved designs suitable for referencing by utilities for the purpose of obtaining a combined construction permit and operating license, the activities shown on Figure 3 must be performed. The following assumptions were used in the development of Figure 3.

- The staff cannot accept applications under the SDA concept until such time as guidelines are developed for the conduct of such reviews. Such guidelines are essential in order to determine the practicality of the concept. These guidelines are assumed to be in place within 24 months.
- The nuclear steam supply system applications could be submitted about a year after guidelines are issued. The balance of plant applications must be submitted later for the reasons discussed earlier in the discussion of PDA's.
- A two year schedule for staff approval. This schedule is slightly longer than our current performance for PDA's.
- The hearings are expected to be of the same duration or for those associated with PDA's based on the same considerations.

ENVIRONMENTAL REVIEWS BY STATES

In order to initiate environmental reviews by states in the minimum time after passage of the Bill an ad hoc approach would probably be taken for the first few states. A parallel effort would be appropriate to develop a more systematized approach for approval of the environmental programs of later states. Figure 1 shows that using an ad hoc approach, the initial state environmental programs could be approved in about 15 months after passage of the Bill (3 months after the state environmental review provisions of the Bill become effective). The time required for the state to pass enabling legislation is out of NRC's control and the eight months shown on Figure 4 may be optimistic. Experience in agreement state programs would indicate a much longer time for states to pass enabling legislation.

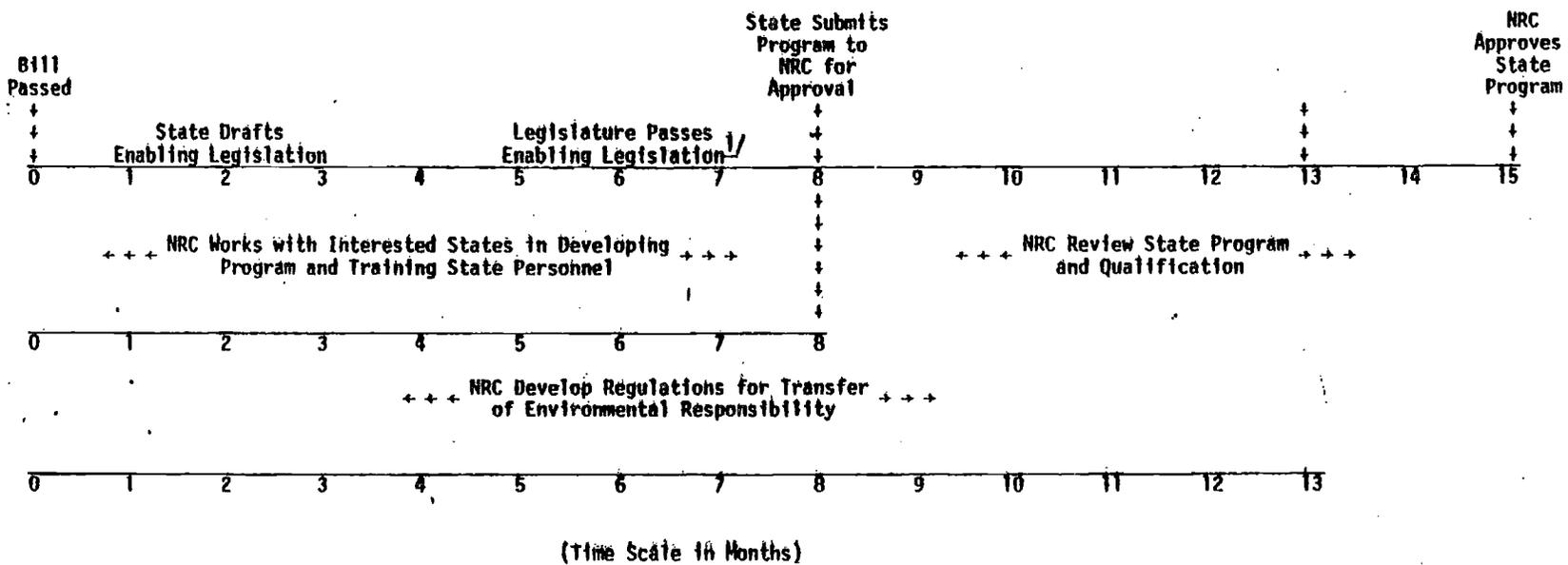
Several parallel efforts would be appropriate to develop a systematic approach for later states. Some of these are:

- Develop NRC acceptance criteria for state environmental programs.
- Develop training programs for state environmental personnel.
- Establish funding levels for state environmental programs.
- Develop procedures for utilizing input from states having no approved program in NRC environmental statements.

In addition to the above tasks, consideration should be given to NRC cooperation with some association of state officials in the development of model state enabling legislation. This could encourage involvement of more states in the environmental review.

Figure 4

ENVIRONMENTAL REVIEW BY STATES



^{1/} This is an ideal case where the Legislature happens to be in session at the time the draft enabling legislation is ready for introduction.

EXPERIENCE WITH STATE SITING AND ENVIRONMENTAL REVIEWS

- One-half of states have siting laws (see Table S-1 from NUREG-0195).
- State reviews vary in scope, timing, and procedure, for instance:
 - Arizona took about 2 months to review Palo Verde 1-3 and did so in much less depth than NRC for non-radiological issues.
 - California does detailed reviews, currently lasting 40-50 months for Sundesert.
 - New York does detailed reviews during the public hearings: Experience indicates the process takes two to four years. (Jamesport, Sterling, Greene County).
 - Rhode Island is doing a special ad hoc review of New England 1 & 2, comparable in timing and scope to NRC's non-radiological review.
 - Wisconsin does reviews comparable to NRC's non-radiological review, but short staff has caused delays in review of Wood, Haven, and Koshkonong.
- States with reviews somewhat comparable to NRC's non-radiological review include Maryland, Massachusetts, New Hampshire, Washington, Oregon, Rhode Island, Minnesota, and Wisconsin.

from NUREG-0195

TABLE 3-1
State Siting Laws

State	Lead Agency PSC*Ind>**Env:***	Forecasting Plans Required**** Util. State	Legislation Adopted Orig. Amend.	Title of Legislation or Agency Created
Arizona	X	10	71	Power Plant Siting Committee
Arkansas	X	2	73	Utility Facility Environmental Protection Act (2 step)
California	X	5-10- 20	74	Energy Resources Conservation & Development Commission
Connecticut	X	10	71 73	Public Utilities Environmental Standards Act (Power Facility Evaluation Council)
Florida	X	10	73 75	Electric Power Plant Siting Act (1973)
Iowa	X	None	76	State Commerce Commission
Kansas	X	None	76	Corporation Commission
Kentucky	X	None	74	Power Plant Siting Act
Maryland	X	10	71	Power Plant Siting Act
Massachusetts	X	10	73 75	Energy Facilities & Siting Council (1975)
Minnesota	X	15	73	Power Plant Siting Act
Montana	X	10	73	Utility Siting Act
Nevada	X	None	71	Public Service Commission
New Hampshire	X	10-15	71	Electric Power Plant Siting Act
New Jersey	X	4	73	Coastal Area Facility Review Act
New Mexico	X	None	71	Public Utilities Commission

Table 3-1 - State Siting Laws (Continued)

State	Lead Agency PSC*Ind**Env***	Forecasting Plans Required****		Legislation Adopted		Title of Legislation or Agency Created
		Util.	State	Orig.	Amend.	
New York	X		15	72	75	Board of Electric Generation, Siting and the Environment (1975)
North Dakota	X		10	75		Energy Conversion and Transmis- sion Facilities Siting Act
Ohio	X		10	72		Power Siting Commission
Oregon	X		10	71	75	Energy Facility Siting Council (1975)
South Carolina	X		10	71		Public Service Commission
Vermont	X		None	75		Public Service Board
Washington	X		10	70	76	Energy Facility Site Evaluation Council (1976)
Wisconsin	X		10	75		Public Service Commission (2 step)
Wyoming	X		5	75		Industrial Development and Siting Act

* Public Service Commission

** Independent

*** Environmental

**** Indicates the period of time which utility or state prepared forecasts must cover
(e.g., Arizona utilities are required to submit a 10 year forecast)

Source: Siting and Licensing Working Group of the Energy Resources Council (Subcommittee on Electricity) "Issues in Power Plant Siting," March 1977. Available at NRC Public Document Room (PDR), 1717 H Street NW, Washington, DC 20555, for inspection and copying for a fee.

Central File

September 21, 1978

UNITED STATES
NUCLEAR REGULATORY COMMISSION

SECY-78-511

INFORMATION REPORT

FOR: The Commissioners

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

THRU: Executive Director of Operations *[Signature]*

SUBJECT: IMPLEMENTATION OF RECOMMENDATION NO. 2 OF NUREG-0292

PURPOSE: To inform the Commission of the results of the staff's study to determine whether the quality of applications could be improved by eliminating unnecessary information.

DISCUSSION: NUREG-0292, "Nuclear Power Plant Licensing: Opportunities for Improvement", contained eleven recommendations for possible improvements in the licensing process. Recommendation No. 2 of NUREG-0292 stated "The Study Group recommends that NRC perform a value/impact study to determine the desirability of undertaking a periodic review and evaluation of Safety Analysis Reports and Environmental Reports to identify information that is either redundant or unnecessary, or that could be summarized with significant reduction in text material, and to document such findings in the Standard Format guide." On October 28, 1977 NRR was advised that the Commission requested implementation of the proposed Action Plan for Recommendation No. 2.

A Task Force was formed, composed of senior-level representatives from each of the NRR divisions and from OELD, SD and MPA. The Task Force has now submitted its

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*DPM-7
TASK FORCE on
Study of
Lic. Process
B-11*

report, Enclosure 1. After a review of Environmental Reports (ERs) and Safety Analysis Reports (SARs), the Task Force concluded that potential for significant improvement existed only in the area of environmental data:

1. The Task Force was advised that a current NRR effort to prepare Environmental Standard Review Plans (ESRPs) is addressing the elimination of unnecessary information from ERs. The ESRPs, which will be used to direct the staff's environmental review process, will identify the environmental data to be supplied by applicants in their ERs. These data will then be used as the basis for a revised Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations". Having determined that the ESRP effort would lead to satisfaction of the requirements of Recommendation No. 2 of NUREG-0292 for environmental data, no further analysis of ERs was made by the Task Force. NRR agrees that the ESRPs now being prepared will lead to the elimination of unnecessary material from applicant's ERs. This should not be taken to imply that there will be a large reduction in the volume of ERs; rather, the emphasis of the ESRPs is to assure that only necessary information will be included.
2. The Task Force has determined that the data now submitted in SARs is generally necessary for the staff's safety evaluation. The Task Force believes that the unnecessary and/or redundant material in SARs is insufficient to recommend any further detailed review to identify and delete or consolidate it. NRR concurs in this recommendation.
3. The Task Force identified a potential for volume reduction in ERs and SARs. It recommended that only one set of basic site-related data be used in support of both the ER and the SAR. This data would be submitted in a limited number of copies, with the ER and SAR containing only a summary of this data plus applicant analyses and conclusions. However, the Office of the Executive Legal Director has suggested that this recommendation could lead to functional and legal problems.

Cited as examples are the possibilities that (1) the basic site-related document would require such wide distribution to intervenors, State and local officials, and Boards that little if any volume reduction would be achieved, (2) this procedure of combining safety and environmental information could complicate any future delegation of NEPA responsibility to States, and (3) an amendment to 10 CFR Parts 50 and 51 would be required to include the ER as a formal part of the application. On balance, it appears that the cost of attempting to combine this information outweighs the benefits that might accrue. Accordingly, NRR does not endorse adoption of this Task Force recommendation. Nevertheless, the Division of Site Safety and Environmental Analysis continues to feel that there could be substantial benefits in implementing this recommendation and thus will continue to investigate ways of eliminating duplicate material from the SARs and ERs.

4. The Task Force also recommended that combining NUREG-75/094, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants", and NUREG-75/087, "Standard Review Plan", be considered as a means to delete unnecessary information in SARs. A request to examine this recommendation was forwarded to Standards Development. SD does not agree with this recommendation since the two documents are aimed at different audiences. Further, SD believes that efforts at combining the documents would require excessive manpower, and issuance of a combined document would entail high printing costs. SD does agree that the two documents must be consistent and will reference the Standard Review Plan in the forthcoming update of the Standard Format. In addition, the now nearly completed update of these two documents assures that they are internally consistent as to information to be submitted in SARs. NRR agrees and does not intend to pursue this recommendation any further.

The Task Force has concluded that current staff efforts to (1) develop ESRPs and subsequently to revise Regulatory Guide 4.2, and (2) to assure internal consistency

in the information requirements of the Standard Format and the Standard Review Plan, will achieve the objectives of Recommendation No. 2 of NUREG-0292. A formal value/impact analysis was not performed by the Task Force. As noted earlier, the Task Force believes that the limited amount of unnecessary and/or redundant material now included in SARs is insufficient to recommend any further detailed review to identify and delete or consolidate it. Thus, since it recommended no additional efforts, the Task Force saw no need for a value/impact study. NRR concurs that a value/impact study is not necessary. Thus, NRR recommends that these efforts be recognized as providing implementation of the proposed Action Plan for Recommendation No. 2.

The actions described above will not require any additional Commission resources. An analysis of applicant costs to prepare ERs on the basis of environmental data identified in the ESRPs is in progress, and will be submitted to the Commission when the final ESRPs are ready for publication.

COORDINATION: SD, MPA and the NRR divisions concur in this paper and OELD has no legal objection.



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
As Stated

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REPORT
OF THE
TASK FORCE
TO IMPLEMENT
RECOMMENDATION NO. 2
OF
NUREG-0292
JUNE 8, 1978

Background:

NUREG-0292, "Nuclear Power Plant Licensing: Opportunities for Improvement", contained eleven recommendations for possible improvements to the licensing process. Recommendation No. 2 of NUREG-0292 was that a Value/Impact study should be conducted to determine whether the quality of applications could be improved by eliminating unnecessary information. The Office of Nuclear Reactor Regulation submitted to the Commission (SECY-77-480) a proposed Action Plan for implementing the recommendations of NUREG-0292. This plan was considered at Policy Session 77-48 on October 25, 1977. On October 28, 1977, NRR was advised by the Secretariat of the Commission decisions on the proposed Action Plan. Among other things, the Commission requested implementation of the Action Plan for Recommendation No. 2. A copy of that Action Plan is enclosed as Enclosure 1.

Discussion:

A. Organization

As a first step in implementing the Action Plan for Recommendation No. 2, a Task Force was formed, composed of senior-level representatives from each of the NRR divisions and from OELD, SD and MPA. The Task Force members are:

- L. Crocker, DPM - Chairman
- W. Paton, OELD
- J. Clark, MPA
- G. Millman, SD
- W. Haass, DSS
- J. Carter, DOR
- F. Williams, LWRs, DPM
- A. Garland, QA&O, DPM
- E. Hawkins, Site Tech., DSE
- R. Froelich, Env. Projects, DSE
- C. Burke, Site Analysis, DSE
- J. Kline, Env. Technology, DSE

The basic premise of Recommendation No. 2 is that Safety Analysis Reports and Environmental Reports, as they have grown over the years, now contain information that is no longer necessary. The Study Group that prepared NUREG-0292 could not quantify the feeling that eliminating such information would correspondingly improve the quality of applications, but the Group did feel that a Value/Impact analysis should be conducted to determine if such information should be eliminated. The first goal of the Task Force in implementing the Action Plan for Recommendation No. 2 was to review a selected sample of current SARs and ERs to identify and categorize the information that could be deleted or condensed.

B. Task Force Efforts

The Task Force met a number of times during the period January through March of 1978. In addition, Task Force members worked individually on particular aspects of the Group efforts. As an early step in implementing the Task Action Plan, the Task Force selected the Yellow Creek and Erie applications for review. These applications were felt to be representative of the current vintage of applications. Task Force members each reviewed certain sections of the SARs for these applications.

The Task Force conducted a survey of the Licensing Project Managers in DPM to obtain their views as to information normally contained in SARs that appeared to them to be unnecessary or redundant.

In addition, the Task Force sought the views of each technical branch chief within DSS, DSE and DPM as to what information generally contained in SARs and ERs within their areas of review responsibility was unnecessary or redundant. Each branch chief was asked to identify information generally provided in SARs and ERs that is not needed for the staff review, and to identify redundant information that might be consolidated in these documents without adversely affecting staff review efforts. Regarding this matter, the Task Force felt that whether or not information is superfluous had to be determined by the users of the information, since information that might seem unnecessary to a casual observer could be quite important to the reviewer. Further, while information might seem to be redundant and able to be consolidated, it often is presented from a different perspective depending upon the subject of the specific SAR or ER section.

C. Potential Problem Areas:

Several problem areas or possible problem areas were identified which appear to account for unnecessary or redundant information in SARs and ERs.

- a) In the past, treatment of SARs and ERs has been such that each document was expected to be complete in its own right. One document could not recognize or reference information in the other document.
- b) For SARs, there have been conflicts between the information required by the Standard Format and Content Guide (NUREG-75/094) and that required for staff review as detailed in the Standard Review Plan (NUREG-75/087).
- c) Much of the information currently presented in Chapter 2 of both the SAR and the ER is basic data pertaining to geology, seismology, hydrology, meteorology and foundation engineering. In addition

to being presented in each document, much of this information is of such a nature that only specialists in these disciplines are really interested in the data.

- d) Much of the repetitive information in SARs is due to staff requirements to have appropriate information readily available for review in each of the SAR sections to which it applies.

D. Results:

During its first meeting, the Task Force was advised that a new draft Standard Format for ERs has been developed which, if approved, will considerably reduce the amount of information required to be in ERs. For example, the new format recognizes the existence of the SAR such that information in the SAR can be referenced instead of repeated in the ER. The Task Force did not examine this new format in detail, although several Task Force members had been involved in this effort. However, based on the information presented, it appears that the new format will largely solve the Recommendation No. 2 problem for ERs and on this basis the Task Force devoted most of its subsequent efforts to the SARs.

A view shared by a number of the Task Force members is that improvement in the handling of SARs may result from combining the Standard Review Plans and the Standard Format into a single document such that the information requested and the acceptance criteria by which the information is judged are combined. As matters now stand, the Standard Format is quite general as to the type and amount of information to be furnished, while the Standard Review Plans often are quite specific as to the details the staff really is interested in. Because of this general nature of the Standard Format, applicants could be providing more information than is actually used in the review process. On the other hand, since both documents are known to and are readily available to the industry, the magnitude of the problem is not clear. As a minimum, the Standard Review Plans should be referenced in the Standard Format such that an applicant would be directed to the SRP for information on the specifics of the staff review such that it could help guide the preparation of the SAR. A request has been forwarded from the Task Force to Standards Development to include such a reference in the updating of the Standard Format which now is under way. The Task Force considers that further study of this matter may be warranted.

A summary of the comments of the individual technical branch chiefs and the views of the Task Force members regarding unnecessary and redundant information in SARs is presented in Enclosure 2. With the exception of Chapter 2 information on site characteristics, and recognizing the changes that now are being made as part of the current

effort to update the Standard Review Plans, there is little readily identifiable information that can be considered unnecessary. While the branch chiefs recognize that there is some redundancy, they feel that the information as presented is necessary for the review.

For the site-related information, the basic data probably is of little use to persons other than the specialists in the particular disciplines involved, e.g., geology, seismology, hydrology, meteorology, foundation engineering. The general reader is more interested in the analyses made on the basis of these data and the conclusions drawn by the applicant. This problem has been compounded in the past by filing the same or essentially the same basic information in both the SAR and ER. However, as noted earlier, the proposed revision to the Standard Format for ERs could solve at least part of the problem.

The Task Force felt that much of the information presented in Chapters 3 and 4 of the SAR is relatively standard to the particular NSSS vendor and the Architect-Engineer involved in the application. As such, this information should be susceptible to presentation in topical reports such that it could merely be referenced rather than repeated in each SAR. However, the recent changes in the fee schedule seem to obviate this possibility. There would seem to be no incentive for the NSSS vendor or the A-E to supply the information in topical reports, at a fee for each, when it can readily be incorporated in the SAR under the umbrella of the fee charged to the utility applicant. As a result, the Task Force did not pursue this idea any further.

Conclusions:

As a result of its efforts, the Task Force has concluded that:

1. There is little to be gained by a detailed screening of the ERs and SARs in an attempt to identify unnecessary or redundant information. The information that is presented in these documents is generally felt to be necessary for the staff review. Further, each of the technical branches of the staff involved in the licensing reviews considers that it needs the information now provided in its review sections of these documents, even though that information may be redundant to similar information presented elsewhere in the documents.
2. The Standard Format and Content for SARs (NUREG-75/094) should, as a minimum, reference the Standard Review Plan (NUREG-75/087) for guidance on the details of the staff review, which should help the applicant prepare the SAR without including unnecessary information. A recommendation has been forwarded to Standards Development that this reference be accomplished during the current updating efforts of these two documents.

A study should be made to determine whether combining the Standard Format and the Standard Review Plan would result in reducing the amount of unnecessary information and whether such combination is feasible and desirable.

3. Much of the site specific information contained in both the ERs and the SARs is basic data which probably is of little interest to anyone other than a specialist in one of the site-related disciplines, e.g., geology, seismology, hydrology, meteorology, foundation engineering. This information could be submitted as part of the ER or SAR, but in a limited number of copies, thereby decreasing the bulkiness of these documents. The main documents would contain only a summary of the basic data and the applicants analyses and conclusions based upon these basic data.
4. An overall volume reduction could be achieved if the basic site-related data were submitted only once in support of both the ER and the SAR. This should be legally possible provided the data set was submitted at the time of filing of the earlier of two documents.

Recommendations:

The Task Force recommends that its original assigned goal, i.e., identifying unnecessary or redundant information in SARs and ERs and conducting a Value/Impact analysis to determine the desirability of deleting or consolidating this information, be terminated at this time. We have been unable to identify sufficient such information to make this a viable project. By inspection, the impact on the staff of making a detailed review would far outweigh any possible value of handling and reviewing any lesser volume of material that might result.

The Task Force further recommends that Standards Development examine the feasibility and desirability of combining the Standard Format (NUREG-75/094) and the Standard Review Plan (NUREG 75/087) into a single document as a means of avoiding the submittal of unnecessary information in SARs.

Finally, the Task Force recommends that DSE examine the possibilities of requiring only a single set of basic site-related data to be submitted in support of both the SAR and the ER, with this data set to be submitted, perhaps as appendices, in a limited number of copies suitable for reference and file purposes and for the use of those reviewers who need the basic data. The SAR and ER proper then would contain only a summary of the basic data together with the analyses and conclusions of the applicant.

RECOMMENDATION NO. 2IMPROVE THE QUALITY OF APPLICATIONSBY ELIMINATING UNNECESSARY INFORMATION

Goal - Implementation of Recommendation No. 1 will clarify the information needed by the staff and, therefore by difference, will identify much of the unnecessary information which can be eliminated from the applications. However, this doesn't assure that such unnecessary information actually will be eliminated. Most of this information is on computer tapes and applicants will continue to include it rather than make the necessary effort to eliminate it. A value/impact analysis will be made to determine the desirability of undertaking initial and periodic review of SAR's and ER's to: (1) identify specifically information that is either redundant or unnecessary and (2) take the necessary steps to assure that such information actually is deleted. The potential values are reduced costs to industry and government for preparation and handling of excess information and possible reduction in review time and effort.

Actions - 1. Establish a task force composed of senior-level representatives from each cognizant assistant directorship in NRR, as well as OELD, SD and PLA.

Responsibility: NRR

Target Date: October, 1977

2. The task force reviews a selected sample of current SAR's and ER's and identifies and categorizes information which could be deleted or condensed. This effort is coordinated with and takes account of the SRP and Standard Format changes being developed under Recommendation No. 1. Each task force member is responsible for input and coordination with the staff members of his own group and serves as spokesman for his group.

Responsibility: Task Force Chairman

Target Date: January, 1978.

3. The task force prepares a value/impact analysis of the proposed effort which addresses: (a) staff effort and cost required for the initial and periodic reviews for potential items to be eliminated, (b) estimated industry effort and

cost to implement the changes, (c) benefits with respect to the efficiency and effectiveness of the licensing review process, and (d) benefits to industry in the form of reduced preparation and handling costs. This will be coordinated with the ongoing paperwork reduction effort.

Responsibility: Task Force Chairman (including participation by OPA)

Target Date: March, 1978

4. Prepare a staff report containing specific recommendations for deletion or condensation of material, reasons therefore, value/impact analysis, responsibilities of staff and industry, and proposed methods and schedule for implementation.

Responsibility: Task Force Chairman

Target Date: May, 1978

5. Obtain necessary management and Commission approval of staff report.

Responsibility: Task Force Chairman

Target Date: June, 1978

6. Publish report and prepare Federal Register notice announcing the availability of the report and requesting industry comments.

Responsibility: ADM

Target Date: July, 1978

7. Evaluate industry comments, revise value/impact analysis as necessary and make a final decision regarding the effort to assure that applications are purged of unnecessary information.

Responsibility: Task Force Chairman

Target Date: November, 1978

SUMMARY OF COMMENTS
ON RECOMMENDATION NO. 2

<u>CHAPTER</u>	<u>COMMENTS</u>
2. Site Characteristics	<p>a) Task Force Member - (Ed Hawkins)</p> <ol style="list-style-type: none"> 1. Redundant information on natural phenomena. 2. Not all regional information requested in 2.3 and 2.4 needed. 3. Information on storms and related floods in 2.3 and 2.4 should be combined. 4. Meterology data common to SAR and ER could be combined and submitted with earliest report of the two. 5. Just a few sets of meterological data are needed. 6. Only a few representative summaries and magtape of data are needed. 7. Just a few sets of hydrology data are needed. 8. NRC should maintain a complete list of historical earthquakes. SARs should supplement an NRC list of historical earthquakes with additional data discovered by applicant. 13. Erie PSAR and ER - tables of wind persistence are unnecessary. <p>b) Branch Chief - (L. G. Hulman)</p> <ol style="list-style-type: none"> 1. There are three apparent ways to reduce the volume of SARs in the area of natural phenomena. The first area has to do with redundant information in different portions of SARs. There are

subsections of Chapters 2 and 3 which contain redundant requests for information with respect to specific natural phenomena; earthquakes, floods, hurricanes, tornados, etc. There is no need for the redundancy. Secondly, portions of subsections 2.3 and 2.4, meteorology and hydrology, respectively, contain requests for background regional information in both subject areas. Both subsections have been designed to cover all types of sites, and no clear directions have been provided to applicants informing them that all information is not required for all sites. A clarification to this effect could result in a reduction in material supplied by applicants.

2. Certain information supplied in the meteorology and hydrology subsections may also be combined with respect to historical storms and floods.

3. Design of Structures, Components, Equipment and Systems

a) Task Force Member - (G. Millman)

b) Branch Chief - (I. Sihweil)

No unnecessary or redundant information.

4. Reactor Systems

a) Task Force Member - (W. P. Haass)

No unnecessary or redundant information.

b) Branch Chief - (None).

5. Reactor Coolant System and Related Systems

a) Task Force Member - (John W. Clark)

No unnecessary or redundant information.

b) Branch Chief - (None).

6. Engineered Safety Features
 - a) Task Force Member - (F. J. Williams)
No unnecessary or redundant information.
 - b) Branch Chief - (Z. R. Rosztoczy)
No unnecessary or redundant information.

7. Instrumentation and Controls
 - a) Task Force Member - (M. Williams)
No unnecessary or redundant information.
 - b) Branch Chief - (None).

8. Electric Power
 - a) Task Force Member - (R. Froelich)
No unnecessary or redundant information.
 - b) Branch Chief - (F. Rosa)
No unnecessary or redundant information.

9. Auxiliary Systems
 - a) Task Force Member - (J. Carter)
No unnecessary or redundant information.
 - b) Branch Chief - (None).

10. Steam and Power Conversion System
 - a) Task Force Member - (J. Carter)
No unnecessary or redundant information.
 - b) Branch Chief - (None).

11. Radioactive Waste Management
 - a) Task Force Member - (W. C. Burke)
No unnecessary or redundant information.
Notes that information in Section 11.1 should appear in Section 12.
 - b) Branch Chief - (None).

12. Radiation Protection
 - a) Task Force Member (W. E. Kreger)
No unnecessary or redundant information.

b) Branch Chief - (None).

13. Conduct of Operations

13.1

a) Task Force Member - (A. Garland)

No unnecessary or redundant information.

13.2

No unnecessary or redundant information.

13.3

Emergency Planning - While there may be some information in any one SAR that is not needed in the review, the information is not common to all or even many applications. Therefore, we have found no material in Section 13.3 which should be deleted or condensed. However, the Erie PSAR is atypical in that extensive tables are included as backup to Figure 13.3-4 which identifies emergency evacuation routes. These tables (13.3-1, 13.3-2 and 13.3-3) consist of a total of 41 pages, which is probably more detail than is required.

13.4

Review and Audit - A review of this section shows that the information is not necessary until the FSAR stage. Delete the entire 13.4. QAB's proposed SRP conforms to this same recommendation.

13.5

No unnecessary or redundant information.

14. Initial Test Programs

a) Task Force Member - (A. Garland)

Initial Plant Test Programs - Review of Section 14.1 of the Yellow Creek and Erie PSARs disclosed that each had a total of 14 pages. This is about typical for most PSARs. Yellow Creek's application was very complete and, although wordy, (due to the fact the TVA owns) only contained approximately 1/2 page of non-essential material dealing with references listing typical preoperational and startup tests. The Erie PSAR contained 3 pages that also lists tests. Because we do not review these lists until FSAR submittal, this information

could be removed entirely without affecting anyone's (DSS, DPM) review.

Recommendation: Delete the list of tests and references of typical preoperational and startup tests.

b) Branch Chief - (None).

15. Accident Analysis

a) Task Force Member - (W. Patton)

Applicants cite a number of accidents that are not reviewed by the Accident Analysis Branch (AAB). Applicants submit "conservative" information and "realistic" information. AAB looks only at the "conservative" information. AAB does not know why the "realistic" information is supplied by the applicant.

The "realistic" information submitted by applicants in the PSAR is repeated by applicants in their ER for use in the environmental assessment. If it could be determined that no one else on the safety side uses the "realistic" information it could be eliminated from the PSAR.

b) Branch Chief - (None).

16. Technical Specification

Not Applicable.

17. Quality Assurance

a) Task Force Member - (A. Garland)

We find in some FSAR applications the inclusion of a QA program description of Design and Construction (Section 17.1) to describe the program used in modifications. Recommend that we delete any description of Design and Construction QA Program (Section 17.1) from an FSAR (Section 17.2) application.

b) Branch Chief - (None).

June 16, 1978

SECY-78-319

COMMISSIONER ACTION

For: The Commissioners

From: Edson G. Case, Acting Director, Office of Nuclear Reactor Regulation

Thru: *for* Lee V. Gossick, Executive Director for Operations *W. J. Duchs*

Subject: RESPONSE TO REQUEST FROM THE CALIFORNIA PUBLIC UTILITIES COMMISSION FOR A "DETERMINATION OF ACCEPTABILITY" OF SITING AN LNG TERMINAL WITHIN 5 MILES OF AN EXISTING NUCLEAR POWER PLANT

Purpose: Approval of a letter to Robert Batinovich, President of the California Public Utilities Commission (CPUC).

Background: In 1975 Western LNG Associates filed an application with the State of California and the Federal Power Commission (FPC) to construct a terminal for the receipt, storage, and handling of large quantities of liquefied natural gas. The review of that application has prompted a request by the State for input from the Commission, as discussed below.

The hazards of LNG are the subject of considerable debate. Responsibility for evaluation and regulation of LNG-related hazards are shared amongst several Federal Agencies. A recent interagency task force report has been prepared entitled "Draft Report of LNG Safety and Siting", which describes the division of authority amongst various government agencies, and outlines the histories of research into, and Congressional consideration of, LNG safety. It is included herein as Enclosure B.

By California law, the California Public Utility Commission (CPUC) must decide by July 31, 1978, whether or not to issue a permit for an LNG terminal at one of several candidate sites selected by the California Coastal Commission. Unless they can find that the decision would not be in the interests of public safety and welfare, they are further required to choose a site 4 miles south of San Onofre, or another 5 miles south of Diablo Canyon. At either of these sites, the proposed LNG traffic would result in frequent LNG tanker transits off-shore under circumstances in which a major shipping accident could be capable of engulfing the nuclear power plants in flammable gas.

b-12

Reviews of the risks of LNG-related activities close to licensed reactors have been conducted by the NRC staff in two instances:

- 1) In 1973 LNG importation proposals were made which would have led to LNG tanker traffic on the Delaware River, passing about 2 km from Hope Creek and Salem units. Although one LNG proposal has been withdrawn and the other is virtually assured of being disallowed, the Hope Creek issue is now in its second appeal.

- 2) An LNG facility (Cove Point) has been constructed approximately 4 km from the operating Calvert Cliffs facility. Natural barriers effectively protect Calvert Cliffs from accidents at the LNG facility, but the off-shore docking terminal is 5.6 km from the nearest Calvert Cliffs safety-related structure. We have negotiated with the Coast Guard to prevent closer approach by tanker traffic, and to assure constant tugboat assistance. NRR has issued a Safety Evaluation on the Calvert Cliffs LNG matter that concluded that the risk, given extensive Coast Guard controls, is acceptably low. However, a detailed LNG contingency plan will also be required to be developed over the next several months.

In addition to our licensing reviews of the LNG activities near Calvert Cliffs and Hope Creek/Salem, the staff has provided comments on FPC's (now FERC) environmental impact statements on various proposals to construct LNG terminals (including the Western LNG Associates Terminal application now being reviewed by the State of California). As is discussed at length in Enclosure B, the Federal responsibilities are not well defined, and the regulations governing LNG facilities and traffic are still in various stages of development.

Discussion:

The staff's contact with the State of California began several years ago (Enclosure C provides relevant correspondence). Throughout this period, staff and consultants for the State of California have contacted the NRC staff to advise us of the status of their reviews and to obtain pertinent background information regarding our reviews and interests.

The LNG Terminal Act of 1977 requires the California Coastal Commission to identify and evaluate remote onshore sites for an LNG terminal and submit a final site ranking to the Public Utilities Commission (PUC) by May 31, 1978. On January 31, the Coastal Commission voted to retain five proposed sites for study and ranking out of 82 which had been initially considered. Those five sites listed in geographical order from North to South are: (a) Rattlesnake Canyon, San Luis Obispo County; (b) Point Conception, Santa Barbara County; (c) Las Varas, Santa Barbara County; (d) Deer Canyon, Ventura County; (e) Horno Canyon, San Diego County. Under the Act, the Coastal Commission will base its ranking of these sites (and set appropriate conditions, if any, to apply to each site) based on the policies of the Coastal Act. The Coastal Commission has recently submitted its report to the PUC. The PUC must make a decision as to whether to issue such permit for an LNG terminal by July 31, 1978. If a permit is issued, it must be for the first-ranked site, Horno Canyon, unless the PUC determines that there is an immediate need for LNG which cannot be met by timely operation of the first-ranked site or that it is inconsistent with public health, safety and welfare. In that event, the PUC may then issue a permit for a lower-ranked site if such approval can insure timely importation, distribution, and utilization of LNG. The PUC must also accept the conditions recommended for each site by the Coastal Commission, subject to certain listed exceptions.

The LNG Terminal Act required the Coastal Commission to hold formal public hearings in each of the counties where a proposed site is located. These have been conducted. The purpose of these hearings was to receive testimony on how the Commission should rank the sites and on appropriate terms and conditions that might be imposed to mitigate adverse impacts on coastal resources. Testimony did not address the issue of whether or not an LNG terminal is needed or specific engineering requirements which should be imposed to enhance public safety, which are matters within the jurisdiction of the PUC in separate proceedings.

While the State's staff have been well aware of our concerns regarding LNG, the Coastal Commission's recommendation to the Public Utilities Commission ranked two sites ahead of the applicant's preferred Pt. Conception site. The first-ranked site, Horno Canyon, is roughly 4 miles south of the San Onofre site. The second-ranked site, Rattlesnake Canyon, is about 5 miles south of Diablo Canyon.

It is to be noted that none of the alternative sites for consideration by the CPUC possesses a natural harbor or protected waters, a requirement not mentioned in the California LNG Siting Act of 1977. The FERC is contesting the constitutionality of this Act, and believes the best site to be Oxnard, California, which is a port.

The Horno Canyon site is on federal land, and DOD staff have indicated that they will not agree to its proposed use (Enclosure D). The Rattlesnake Canyon site is by far in the most exposed waters, and would require immense off-shore construction to build the terminal. The LNG applicant is a corporation half of which is owned by PG&E; we understand that should Rattlesnake Canyon be issued a permit for an LNG terminal, PG&E may withdraw from the enterprise. In testimony at the Coastal Commission, San Luis Obispo, April 10, 1978 Western LNG Terminal Associates stated that Rattlesnake Canyon involves the most hazardous marine operations of any of the sites. It was stated "unlike the other sites, it is not certain that even the construction of a breakwater will reduce the risk of marine accidents to an acceptable level". In summary, regardless of the outcome of either the NRC or the CPUC consideration of this matter, construction of an LNG terminal at either of the first two sites is doubtful.

The letter from Mr. Batinovich, President of the CPUC (Enclosure C) requested:

"an NRC determination as to the acceptability of locating an LNG facility within 4-5 miles of an existing nuclear generating station. In the alternative, a clear set of specific NRC guidelines for the location of potentially hazardous facilities in proximity to nuclear reactors is sought."

The proposed response (Enclosure A), basically reiterates previous staff recommendations. Namely: (1) a preference for an LNG site which is more removed from nuclear facilities than either Horno Canyon or Rattlesnake Canyon (2) a suggestion that if either of the two sites is selected, that the conditions of the license be set so as to minimize the risk to nuclear facilities and (3) a recognition that an evaluation (whose outcome is unclear) of the acceptability of continued operation of the nuclear facility will be required if either of the two sites is selected.

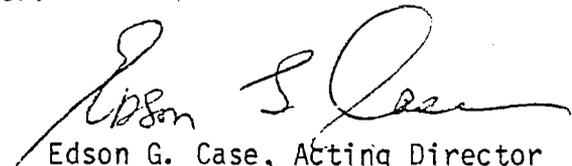
The staff believes that an LNG terminal within 4-5 miles of an existing nuclear generating station is acceptable. However, the ship traffic to and from the terminal may pose an unacceptable risk unless suitably controlled which (as noted earlier) is the issue on Calvert Cliffs, where actions to reduce the risk are inherently more feasible because of the protected waters and traffic restrictions of the bay.

The State of California has funded extensive studies of ship traffic risks and ways to reduce the risk. The NRC staff has received two reports on such studies which appear to indicate that LNG risks can be made very low if proper attention is given to various aspects of the activity.

The CPUC is empowered to set forth any necessary conditions, and the California - sponsored risk control studies are still underway.

Recommendation: In view of the foregoing the staff has prepared the draft letter in the form proposed and recommends it for the Chairman's signature.

Coordination: The Office of the Executive Legal Director has no legal objection to this paper.


Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:

- A. Proposed Letter, Chairman Hendrie to President Batinovich, CPUC.
- B. Draft Report of the Interagency Task Force on LNG Safety and Siting.
- C. Correspondence between NRC and California on LNG.
- D. Testimony of Camp Pendleton Officials.

Commissioners' comments should be provided directly to the Office of the Secretary by close of business Wednesday, June 28, 1978.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT June 22, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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Enclosure A

Proposed Letter, Chairman Hendrie to President Batinovich, CPUC

DRAFT

Mr. Robert Batinovich
President,
California Public Utilities Commission
Sacramento, California

Dear Mr. Batinovich:

Thank you for your telephone call and letter of June 6, 1978 advising me of the status of your review of the Western LNG Terminal Associates application. Your letter noted that the CPUC must decide on the siting question by July 31, 1978.

The NRC staff has been aware of and commented on this application over a number of years. They have repeatedly advanced the position that, as a matter of preference, LNG terminals and LNG shipping routes should be located some distance away from nuclear power reactor sites.

As you pointed out, the Coastal Commission has selected two sites, which are relatively close to nuclear reactors, as the most preferred. Since they are well aware of our concerns, their ranking implies a view on their part that the Horno Canyon and Rattlesnake Canyon sites are, or can be made acceptable - notwithstanding the presence of nearby nuclear facilities.

Your letter of June 6 stated:

"The CPUC requests an NRC determination as to the acceptability of locating an LNG facility within 4-5 miles of an existing nuclear generating station. In the alternative, a clear set of specific NRC guidelines for the location of potentially hazardous facilities in proximity to nuclear reactors is sought."

We have, in considering this request, reviewed Mr. Denton's responses to the California Coastal Commission staff, which were partially quoted in your letter, and find that we are in general agreement with those responses. We believe that the determination you request must be decided upon by consideration of the issue raised in Mr. Denton's letter of April 12, 1978:

"The nearby presence of an LNG terminal, even if that terminal were so designed and situated that it did not place a direct hazard to a nuclear plant, could bring with it the increased possibility of the close approach by LNG tankers or flammable gases released from these tankers. Such a possibility would have to be considered in deciding whether or not the nuclear power plant could be operated safely without undue risk to the public."

Our staff believes that, in principle, it is feasible to design an LNG storage and gasification facility such that a severe accident at that facility would not jeopardize the continued safety of a nuclear generating station four or five miles away. However, we believe that LNG tanker traffic to and from the facility may constitute an unacceptable risk to nearby nuclear generating stations.

We understand that the State of California has contracted for studies to identify measures to reduce risks of LNG tanker accidents during transit or docking. We would expect that these studies would also

identify measures that could, if implemented, result in reduced risks to a nuclear power plant in the general vicinity of LNG ship traffic. The development and implementation of measures which could be shown to reduce the risk to acceptably low levels would nevertheless result in a residual risk not present at other sites.

More importantly, our reviews of the LNG traffic associated with the Cove Point terminal and its potential impact on the Calvert Cliffs Nuclear Power Plant have shown that measures to limit the risk from LNG traffic, while feasible, are difficult to establish and constitute burdens to the Coast Guard, our licensees and the operators of the LNG traffic. We would anticipate very much greater difficulties in effecting appropriate safety measures in the open coastal waters of California, due to the larger volume of traffic and more hazardous maritime conditions, than in the Chesapeake Bay.

In the event either of the two highest ranked sites is selected by your Commission, it would be necessary to conduct an evaluation, whose outcome is unclear, of the acceptability of continued operation of the nuclear facility in question. The burden of demonstrating adequate safety of the nuclear generating station would lie with the NRC licensee, while the Coast Guard and the owners and operators of the LNG tankers could bear much of the burden of implementing the appropriate safety measures.

Mr. Robert Batinovich

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In summary, we believe that an LNG facility located within 4-5 miles of an existing nuclear generating station will pose an added threat to the health and safety of the public which must be mitigated and that such siting should not be permitted if there are other sites which are also favorable from an overall environmental, economic and safety standpoint. Should you decide to propose either Horno Canyon or Rattlesnake Canyon sites, we would urge that the permit include a condition that the permittee develop measures with appropriate Federal and State agencies and the licensee of existing nuclear stations to assure that the risk of an LNG accident will not jeopardize the continued safe operation of the existing nuclear station.

Joseph M. Hendrie
Chairman

Enclosure B

Draft Report of the Interagency Task Force on LNG Safety and Siting

DRAFT

LIQUEFIED NATURAL GAS (LNG)
FACILITY SAFETY & SITING

(Draft Report by the subgroup of the Federal
Interagency Task Force on LNG Imports.)

April 4, 1978

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LIQUEFIED NATURAL GAS (LNG)
FACILITY SAFETY AND SITING

Report by the Subgroup of the Federal Interagency
Task Force on LNG Imports

The task of this subgroup was to assess all aspects of safety relating to the transportation, storage and handling of LNG with the major thrust focusing on safety and siting of LNG facilities as they relate to LNG import projects. The results of this effort are to be used in the formulation of a National LNG Import policy.

The information contained in this report was assembled by representatives of the Department of Transportation (DOT) - Office of the Secretary (OST), Materials Transportation Bureau (MTB), United States Coast Guard (USCG); and the Department of Energy (DOE) - Office of the Secretary, Federal Energy Regulatory Commission (FERC), and the Economic Regulatory Administration (ERA). In addition, the services of two contractors were used in the development of information on LNG Safety and Siting. The Arthur D. Little report on LNG Safety, dated January 1977, is included as Appendix 1. The Ecology and Environment, Inc. (EEI) report on the Safety Aspects of LNG Importation is included as Appendix 2. The group also referred to reports and studies by the Office of Technology Assessment (OTA), several states, and information resulting from public hearings, and meetings with representatives of industry and the public.

During the past several years, "LNG Safety" has been of major concern to many governmental agencies, organizations, and individuals. The subject has been represented and publicized over the full range from being technically sound and adequate to one of horror and completely inadequate.

This review attempts to identify the basic issues on the broad scope of LNG operations and develop alternatives to assist in the establishment of not only a National LNG Import program, but a uniform national approach to dealing with LNG safety and siting.

Background

Within the last few years, liquefied natural gas (LNG) has become an essential commodity important to the overall energy needs of the nation. It has become indispensable in maintaining adequate supplies of natural gas in many urban areas during periods of peak demand.

LNG technology is proven and has a 18-year history of successful international baseload operations with deliveries to countries such as Japan, England, France and Italy. LNG technology in the U.S. for peakshaving and satellite operations has been successfully employed over the last 12 years. LNG peakshaving facilities were used extensively this past winter to help meet emergency needs.

LNG has a long history of safe operation with almost 20 years of international LNG trade involving approximately 3,000 deliveries since the LNG Tanker "Methane Pioneer" made the first trip in 1959. There have been 15 LNG ships in operation since 1967 logging half a million miles without a major accident or fatality. In the U.S. there are nearly 100 LNG baseload, peakshaving and satellite facilities which have more than 1 million hours of safe operation. Several additional large baseload terminals for the storage and handling of imported LNG are being constructed or planned on the East Coast. In addition, other terminals are being planned for the Gulf and West Coast.

Projecting the growth of both peakshaving and baseload facilities, as well as the satellite facilities, is difficult in light of uncertainties in worldwide energy economics today. However, a continuing growth is expected over the next 10 years with perhaps some 100 new facilities being constructed during this period.

A great deal of concern exists concerning safety and location of these LNG facilities. This is particularly true with regard to LNG installations in urban areas which have become a matter of major concern to special interest groups, regulatory authorities, and legislators.

LNG can be and is being transported, handled, and stored in a safe manner. It is hazardous material, but treated accordingly and handled in a responsible manner, can be safely imported into the U.S. in large quantities. Other more hazardous materials are being handled in the U.S. on a daily basis, in significant quantities in a safe manner.

There is currently a lack of uniformity in the existing criteria employed to assure an adequate level of safety at the large number of LNG facilities. The result is some confusion on the part of the industry and regulatory authorities concerning what safety measures and techniques should be employed at a particular facility and consequently, the public very often tends to make unreasonable demands regarding the location and construction of new facilities.

At the present time, the safety regulatory jurisdiction over LNG safety and siting of facilities can involve Federal, State and local agencies, depending on the particular location. The approval process for a facility can take over three years before construction can start.

Conclusions

The involvement of so many government agencies at all levels has created a lengthy approval process involving a wide range of regulations, permits and various other types of approvals.

Specific conclusions are as follows:

1. Federal responsibility for safety of LNG facilities is not clearly defined. The DOE (ERA and FERC) and DOT (MTB and CG) are each exercising authority for safety.
2. No Federal policy exists for the siting of LNG facilities with the Federal position to the States and local governments being unclear.
3. There are no standard or uniform guidelines for risk analysis in evaluating LNG facility site locations.
4. There has been no composite evaluation of research work (done by industry, government, and individuals) on safety or risk assessment to determine the best information applicable to a national policy.

Discussion

The Federal, State and local governments, the public, Congress and industry are all concerned and have each taken certain actions in their respective areas.

The primary Federal agencies, State and local governments and others that are involved in the safety and siting of LNG facilities are identified below with major activities in each area listed.

Federal Agencies

Department of Transportation

The Secretary has the overall safety regulatory responsibility over such facilities and has delegated this to two operational elements, Materials Transportation Bureau, and the United States Coast Guard.

The Office of Pipeline Safety Operations (OPSO) of the Materials Transportation Bureau issued an advance Notice of Proposed Rulemaking concerning safety of LNG facilities on April 21, 1977.

In order to eliminate the overlapping of, and conflicts between, the OPSO regulations and those proposed by the Coast Guard, and to assist the owners and operators of LNG facilities which would be subject to both Coast Guard and OPSO regulation, a Memorandum of Understanding (Appendix 3) has been negotiated and signed by the two agencies.

Under the Natural Gas Pipeline Safety Act of 1968, the Materials Transportation Bureau (MTB), through its Office of Pipeline^{Safety} Operations, administers safety regulations applicable to pipeline facilities used in the transportation, including storage, of LNG.

One exception to the authority of MTB precludes prescribing of the location of any LNG facility. However, the safety standards can be determinative of where an LNG facility can be located. For example, a standard requiring minimum distances between a facility and private or commercial residences or a standard requiring location of a facility on a stable land mass could effectively preclude the location of a facility in areas of high population density or seismic activity. In short, the MTB does have the authority to say where LNG facilities cannot be located. It remains the role of the Federal Energy Regulatory Commission and, in the case of purely intrastate LNG facilities, the appropriate state and local regulatory bodies to say where they can be located.

In the case of already existing LNG facilities, current statutory authority allows MTB to prescribe new operational and maintenance requirements, but is only allowed to impose physical plant modification requirements if found on a case-by-case basis that a facility "is hazardous to life or property."

The Office of Pipeline Safety Operations (OPSO) in MTB has issued safety standards for the storage, handling and transportation of LNG and related facilities in Part 192.12 of 49 CFR, referencing the National Fire Protection Association, NFPA 59A 1972.

In addition, OPSO published an advance Notice of Proposed Rulemaking, April 21, 1977, to prescribe new Federal safety standards for LNG facilities covering the design (including site selection), construction, operation and maintenance. (Appendix 4)

The notice focuses on what is seen as the three risks associated with an LNG spill. First, the risk of thermal radiation. Second, the risk of a natural gas cloud emanating from a spill. Third, the risk of a catastrophic spill of LNG which could impede or overwhelm the containment measures.

The notice specifically addresses the need for (1) better impoundment systems, (2) stronger site security, (3) diking around transfer lines, (4) separation distances between critical components, (5) protection against seismic and other environmental forces, (6) frequent plant inspections and monitoring, (7) procedures to qualify and train personnel, (8) procedures to construct and operate the facility, (9) plans for fire prevention and firefighting, and (10) improved storage tank design and testing.

The deadline for comments on the advance notice was December 1, 1977. The comments received have been detailed and extensive, and we are now evaluating the comments. DOT expects to issue a Notice of Proposed Rulemaking later this year.

The U.S. Coast Guard under the Magnuson Act (50 USC 191) and the Ports and Waterways Safety Act of 1972 (33 USC 1221-7) has the responsibility for port safety. This responsibility applies to any vessel, bridge or other structures or any land structure or shore area immediately adjacent to these waters. The Coast Guard is undertaking or has undertaken the following actions that can relate to LNG:

1. Controls LNG vessel traffic movements.
2. Regulates design and construction of LNG vessels.

3. Regulates, under Letter of Compliance Program, safety of foreign LNG vessels arriving in U.S. ports.
4. Studying the explosibility of large-unconfined vapor clouds for liquefied gases (including LNG).
5. Developing standardized techniques for assessment of hazards of cargo spills (including LNG). This is being performed by Arthur D. Little, Inc. under Coast Guard contract.
6. Studying LNG fire safety (e.g., fire control and extinguishment, structure, and personnel protection).
7. Studying "rollover" in liquefied gas tanks on vessels and ashore (including LNG).
8. Developing safety regulations for terminal and port facilities (including LNG).

It is the Coast Guard's position that the hazards associated with each hazardous material should be carefully evaluated and consistent regulatory action taken with due consideration to the risks associated with each hazardous material. Coast Guard report - Views & Practices (Appendix 4)

The regulating of LNG vessel movements, vessels and waterfront facilities as an integral part of the Coast Guard's ongoing hazardous materials regulatory program, issues a high level of safety of LNG marine transportation and facilities. There are many hazardous materials, such as gasoline, carried on our nation's waterways in much greater quantities than LNG and there are many hazardous materials, such as anhydrous ammonia, ethylene oxide, and chlorine, which are more dangerous than LNG and yet are being carried every day on vessels in the United States. In fact, a case could be made that liquefied petroleum gas (LPG), which is carried in far greater quantities than LNG, is more dangerous than LNG.

It is the Coast Guard's position that the hazards associated with the carriage of any hazardous material should be carefully evaluated and consistent regulatory action taken in consideration of specific and relative risks associated with each hazardous material.

As LNG imports increase, the Coast Guard has been adjusting and will continue realigning its resources to respond in an appropriate manner to the safety, security and environmental protection concerns.

Since 1972 the Coast Guard has been supervising the importation of LNG through Boston Harbor to the Distrigas facility in Everett, Massachusetts. Currently, the Coast Guard is preparing for the imminent start of operations at major LNG facilities at Cove Point, Maryland, on Chesapeake Bay and on Elba Island in Savannah, Georgia. Future LNG facilities are planned for the Gulf and Pacific Coasts.

With respect to the movement of vessels, it is Coast Guard policy that specific direction and control should be exercised by local Coast Guard officials acting in accordance with general guidelines issued by the Commandant. It is believed that local Coast Guard officials, having detailed knowledge of local port and waterway configurations, hazards, vessel traffic characteristics, cargo patterns, marine practices and customs, and environmental and economic matters, are in the best position to determine what specific vessel traffic management actions are appropriate.

Coast Guard District Commanders and Captains of the Port regulate LNG vessel movements and other traffic under the authority of the Ports and Waterways Safety Act of 1972 (33 USC 1121-7). Under 33 CFR Part 160, these local Coast Guard officials have been delegated authority to direct vessel movements to prevent damage and to control vessel traffic in areas determined to be especially hazardous, or under conditions of reduced visibility, adverse weather, vessel congestion, or other hazardous circumstances.

Using this authority, Coast Guard District Commanders and Captains of the Port have issued and are continuing to issue orders and directions regulating the movement of vessels carrying LNG, LPG and other hazardous materials. When these orders and directions are issued on a continuing basis they are issued only after there has been consultation with state and local governments and the representatives of marine industry, port and harbor authorities, environmental groups and other interested or affected parties.

Among the possible actions which local Coast Guard officials might take is the establishment of water or waterfront safety or security zones around or near the vessel or facility. This authority has been delegated to Coast Guard District Commanders and Captains of the Port under 33 CFR Parts 165 and 127.

Other steps which these Coast Guard officials may take to enhance the safety of LNG or LPG vessel movements could include, among others, requiring the vessel to be escorted; specifying tug assistance; restricting transits to periods of good visibility; and restricting other traffic during the movement of LNG vessels.

In addition to regulating the vessel traffic associated with the movement of LNG, the Coast Guard regulates the LNG vessels themselves. Acting under its Tanker Act authority (46 USC 391a) and its Dangerous Cargo Act authority (46 USC 170) the Coast Guard has established a Letter of Compliance (LOC) program regulations governing the design, construction, inspection and operation of LNG carriers.

The LOC program (46 CFR Part 154) requires that the owner of any foreign flag vessel transporting certain hazardous materials in bulk, including LNG and LPG, into or out of United States ports must obtain authorization from the Coast Guard prior to issuing the Letter of Compliance, the Coast Guard reviews the vessel plans by using criteria equivalent to those used in the review of a similar design for U.S. registry.

Plan review is considered complete after plans, specifications, and inspection and test reports have been found satisfactory and evidence has been received that the vessel has been constructed in accordance with approved plans and meets all other international standards. Following plan review, the vessel owner is notified that the plan review has been completed and that the vessel will be examined at its first U.S. port of call.

Upon arrival at the first port of call in the United States, representatives of the Captain of the Port and Officer in Charge, Marine Inspection will board the vessel. The boarding party examines the vessel's arrangement and cargo system, including tanks, piping, machinery, and alarms. In addition, the boarding party observes the material condition of the vessel, vessel operation, cargo handling operations, firefighting capability, and personnel performance.

Following satisfactory examinations, a Letter of Compliance will be issued. For subsequent vessel arrivals, the COTP, in conjunction with the OCMI, will make such reexamination as he considers necessary to insure that the vessel has been maintained as initially examined. This will be in addition to the regular biennial reexamination required for LOC renewal.

The basic Coast Guard regulatory requirements for the design, construction and testing of liquefied gas ships are contained in Subchapter D, Rules and Regulations for Tank Vessels (specifically 46 CFR Part 38 for liquefied flammable gases) and the various other Subchapters under 46 CFR addressing marine safety. These regulations cover certification of U.S. vessels carrying liquefied gases and are the basis for review of foreign flag vessels prior to issuing Letters of Compliance. By utilizing the same set of requirements for U.S. flag and foreign flag vessels for the cargo containment and transfer systems and related safety features, a consistent level of safety is achieved.

The Coast Guard has assured and will continue to assure the safest possible operation of LNG-carrying vessels in U.S. waters. To date there have been several hundred shipments of LNG from Kenai, Alaska to Japan and several from Lake Charles, Louisiana, to Britain; there have been many deliveries to Boston and New York, plus a few barge trips from Boston to New York. All were carried out successfully. During calendar year 1976, Coast Guard COTP's reported 1,723 marine transfer operations involving 2,388,000 tons of LPG and 46 marine transfer operations involving 1,335,000 tons of LNG without incident.

Department of Energy

The Federal Energy Regulatory Commission (FERC), formerly the Federal Power Commission (FPC), has the responsibility under the Natural Gas Act to approve applications for interstate Natural Gas facilities including LNG, and the issuance of a certificate of public convenience and necessity (economic). Under the National Environmental Policy Act the FERC is also responsible for the preparation of an environmental statement for each new interstate facility proposed.

With the passage of the Department of Energy (DOE) Organization Act of 1977, the Federal Power Commission (FPC) had jurisdiction over the site selection of LNG import facilities. Under various sections of the Natural Gas Act (Sections 3 and 7) the FPC evaluated the proposed import facilities to ascertain whether they met the general standard of being in the public interest. The FPC adopted as a minimum the various Department of Transportation (DOT) regulations associated with the design construction and operation of these facilities, including the shipping, and where it deemed appropriate, imposed additional safety requirements. Under the National Environmental Policy Act (NEPA) an Environmental Impact Statement (EIS) is required for any major federal action which could significantly affect the environment. Since the approval of these projects were deemed to be a major federal action, each project has had an EIS prepared. These EIS's include an assessment of the safety characteristics. The DOE organization Act transferred the decision-making authority for all imports and exports of natural gas to the Secretary of Energy. The Secretary had delegated this authority to the Administrator of the Economic Regulatory Administration (ERA). This entire approach to site selection has been criticized since it was perceived to limit the safety and siting review to only those locations considered by the project sponsors, and their selection of potential sites were influenced primarily by economic considerations.

SUMMARY OF FERC AND ERA DECISIONS ON SAFETY

There have been four LNG import cases decided by the FERC and ERA. These cases include Distrigas Corporation, Trunkline LNG Company, Pacific Indonesia LNG Company, and El Paso Algeria Company (El Paso I). The following information summarizes the safety decisions for each of these cases.

The safety decisions set down by the DOE for Distrigas Corporation are as follows:

1. A system of low temperature detectors will be installed in appropriate locations along the cryogenic transfer line to supplement existing transfer line surveillance.
2. The program to study LNG storage tank vibration will be continued. As a result of this study, a comprehensive report on the status, extent of the tests, and analysis of the remedies will be submitted to the Federal Energy Regulatory Commission staff together with follow-up reports.
3. Any significant changes in the design, construction, or operation procedures at the Everett Terminal will be submitted to the Commission on a timely basis.
4. The applicant will provide sufficient notification to the Commission concerning the nearing to completion of facility modifications. Moreover, before the new facility begins operation, the Commission staff will (1) have a final site inspection conducted by the National Bureau of Standards and (2) hold a technical conference with representatives of the applicant.

The Trunkline LNG decision enumerated a series of safeguards that would be implemented in the design, construction, and operation of the facility. These conditions include:

1. Trunkline shall increase the proposed deliverability of the five water ferry systems in order that both the fire hydrant loops system and the individual tank deluge system would be able to operate at maximum capacity in the event of an emergency.
2. Trunkline will provide a means of fire-fighting a potential LNG fire at the storage tank, dikes, and dumps.

3. Output of the emergency generator will be increased so that all electric-powered detector devices, alarms, and fire fighting equipment at the terminal should remain operative in the event of a power failure.

4. Applicant will outline procedures to be used to evacuate nearby areas and suspend local highway and shipping traffic necessitated by a major accident. These procedures will include immediately notifying nearby inhabitants of any potentially dangerous situation that can arise and mobilizing emergency personnel such as Civil Service, hospitals, police, and fire departments.

5. Use of an interlocking safety system, similar to the one proposed for Consolidated Aluminum Corporation, will be provided for all other industries which may locate in the vicinity of the LNG plant and marine terminal.

6. Provide means to contain an LNG spill at the unloading dock to insure that a rupture of an unloading arm on line will not spill into the water. Detailed drawings of the LNG spill containment system will use known technology and will be provided to the Commission prior to the operation of the terminal.

7. After approval for operation, it was recommended that the Commission require semiannual operational reports within 45 days after each period ending December 31 and June 30 describing facility operations for the period covered particularly noting any abnormal operating experience or behavior. Abnormalities include rollover, geysering, cold spots on the tank, fires, equipment and piping failure, nonscheduled maintenance or repair, rapid vaporizations, vapor liquid releases, negative pressures within the storage tank, and higher than predicted boil-off rates. The technical information supplied by the applicant should provide sufficient detail to allow a complete understanding of these events. In the event that an abnormality endangers the facility, the operating personnel, or nearby residences or industries, the Commission should be notified immediately.

8. The capacity of the dike surrounding the proposed spoil disposal area for the dredging of the berthing area should be adequate to contain all spoils that are deposited.

9. Steps should be taken to avoid the spilling of fuels, lubricants, pipe coating agents, and the harmful substances during construction and operation of the facility.

10. Any significant changes in facility design, construction, or operating philosophy should be reported to the FERC on a timely basis.

11. Trunkline should coordinate with the U.S. Coast Guard prior to the operation of the terminal to investigate and establish further vessel traffic safety procedures to be implemented during LNG tanker transit.

The Pac Indonesia case had the following safety stipulations assigned to it:

1. An inspection and review system should be established modelled after the California Public Utility Commission proposal. This system mandates that 90 days after approval of an application, the applicants must present detailed procedures and schedules for a "Final Safety Analysis Report." The intervenors will be given 45 days to comment on this submission and can file their own safety proposal contemporaneously with the applicant's filing.

2. The inspection and review system will also provide for an ongoing review of the design of the facility as well as its construction by an inspector and should include extensive quality control efforts. The functions of an inspector could be performed by a governmental or private organization with the costs borne by the applicants. This system would also include a means whereby interested parties can bring the risk of potential hazards to the attention of an inspector. Conflict between an inspector and the applicants will be resolved by the Department of Energy.

3. A further requirement of this decision included the use of underground storage tanks unless the applicant could make a showing that the original tank design was more advantageous.

4. Regarding undersea piping facilities, the applicants must show that the placement of these pipes will not be more beneficial than the design for which approval was requested.

5. The safety system must include fire control water to all water sprays and high expansion foam units for a continuous 24-hour period after a maximum credible earthquake.

6. Storage tanks must be lighted and well marked for air traffic.

In the El Paso Eastern Company decision the FERC set down the following conditions:

1. El Paso should file all significant changes in facility designs, construction, operations, or operating philosophy with the Commission. When final design plans are near completion and before hardware construction begins for the plant and terminal facilities, the Commission will be given sufficient advance notice so that a technical conference may be held.

2. El Paso will file semiannual operational reports within 45 days after December 31 and June 30 for each year with the Commission. These reports will describe facility operations noting any abnormal operating experiences or behavior. Abnormalities will include rollover, cold spots, equipment failures, non-scheduled maintenance, rapid vaporization and "geysering," vapor or liquid releases, negative pressures within the tanks, and higher-than-predicted boil-off rates. In the event that any abnormality is of sufficient magnitude to indicate the possibility of damage to the facility or injury to operating personnel, the Commission would be notified immediately.

3. El Paso will establish procedures to be utilized in the event of an accident with the Coast Guard, Civil Defense, hospitals, police and fire departments. These procedures will include immediate notification of nearby inhabitants of any potentially dangerous situation, the mobilization of local emergency personnel, the evacuation of nearby areas, and the suspension of local highway and shipping traffic. Moreover, routes to be used by emergency personnel to reach the LNG terminal, and evacuation routes, should be planned and test driven. All these procedures will be filed with the Commission, and El Paso should train appropriate operating personnel to carry out these procedures.

Council on Environmental Quality (CEQ)

The CEQ has responsibility under the National Environmental Policy Act to review for adequacy the environmental impact statements prepared by other Federal agencies. (FPC in the case of LNG projects) In the LNG safety area, CEQ is primarily concerned with the lack of sound criteria for siting LNG facilities. CEQ issued guidelines for the development and issuance of environmental impact statement. It has also proposed an interagency study of LNG safety with the objectives of defining and assessing the risks associated with the LNG import program. This study would also provide a basis for sound decision-making regarding terminal site selection and other questions relating to terminals as well as LNG ship and barge operations. The CEQ proposed that those agencies with an interest in LNG provide funds for this study, however, most agencies including OPSO and USCG declined. A special request was then made by CEQ to OST in a letter dated March 19, 1975. This request was also declined for lack of funds. The proposal for the study was eventually dropped.

Maritime Administration (MARAD)

MARAD administers programs to aid in the development, promotion, and operation of the U. S. merchant marine, including conducting research and development activities to improve the efficiency and economy of the merchant marine.

The MARAD contracted with the National Bureau of Standards (NBS) for a study of LNG insulating materials.

Environmental Protection Agency (EPA)

EPA endeavors to abate and control pollution systematically, by integration of research, monitoring, standard setting, and enforcement activities. EPA has completed a study of risk assessment of storage and transportation of LNG and liquid petroleum gases.

General Accounting Office (GAO)

The GAO is looking into the LNG safety question to determine if the safety issue has been adequately addressed. GAO feels that LNG will be the subject of Congressional hearings and legislation this year and wants to be in a position to provide information and assistance to Congress in these efforts. In December 1976, a study was initiated to cover LNG baseload, peakshaving and satellite facilities as well as

Liquid Petroleum Gas (LPG), and naphtha. It is understood that the primary emphasis will be in the area of sabotage and natural disasters. The study is completed and the draft report is currently under review.

State and Local Government

State and municipal governments have drawn up their own safety codes and ordinances, imposing additional safety features for specific facilities under their jurisdictions.

To date, Massachusetts, New Jersey, New York and Rhode Island have adopted state safety standards for LNG facilities. Rhode Island has also adopted standards for siting. In New York City, LNG facilities also require the approvals of several agencies including the Board of Standards and Appeals, the Department of Ports and Terminals, and the New York Fire Department. Massachusetts, New Jersey, and California have proposed standards for siting. California has also proposed standards for safety.

Public Concern

A great deal of public concern with LNG safety has been expressed through the actions of both elected and appointed public officials. By participation in officially sponsored meetings of their own, public interest groups, both local and national, have influenced the news media. To date, public concern for LNG facilities has been expressed almost exclusively by or on behalf of local opposition groups whose members live close to proposed LNG sites. Major areas of concern are overall LNG safety, LNG safety as a political issue, the credibility of the LNG industry, and the importance of safety relevant to other issues such as property values and insurance rates.

Congressional Interests

The Congress has shown a strong interest in the safety and siting of LNG facilities. In November 1976 the Senate Committee on Commerce prepared a "staff working paper" on legislation for the siting and operation of LNG facilities and for LNG accident liability. The purpose of this working paper was to develop legislation to be considered by the 95th Congress. To date, no legislation has been introduced in the Senate.

Senators Magnuson and Hollings of the Senate Commerce Committee have requested the Office of Technology Assessment (OTA) to do a "state of the science" study of LNG safety.

Senator Stevens has offered an amendment to S. 682 (Tanker Safety Act of 1977) to include LNG ships in the provisions governing oil tanker safety standards.

On May 3, 1977, Congressman Dingell introduced in the House H.R. 6844, "Liquefied Natural Gas Facility Safety Act", a bill to regulate the siting, design, construction, and operation of facilities to be used for the transportation, storage, and conversion of liquefied natural gas. He has also introduced two additional bills on the same subject (H.R. 11586 dated March 15, 1978, and H.R. 11622 dated March 15, 1978).

Industry Activities

The gas industry has recognized the special characteristics of LNG by making use of the substantial cryogenic technology developed as part of the U. S. space program and employing the knowledge of experienced and qualified engineers and contractors. The industry, through the American Gas Association (A.G.A.), has funded and sponsored LNG safety research since 1963 and currently, through the Gas Research Institute. Since that year almost 40 programs involving several million dollars have been sponsored by the industry. In addition, other industry associations have sponsored substantial amounts of research into the potential hazards of LNG and required safety features as well as the development of codes and standards through code making organizations. The National Fire Protection Association (NFPA) has emerged as the leader in the development of standards for LNG safety. As stated earlier in this report, the Federal Government (DOT) has adopted the NFPA standards in the Federal Regulations as an interim standard until a review of LNG safety can be made and comprehensive standards can be developed.

LNG Safety Research

The safety of LNG transportation and storage has recently received a lot of public attention. Within the last two months Congressional hearings have been held, the CBS television program "60 Minutes" has looked at the issues, and a number of provocative articles have appeared in national publications. Accidents such as the LPG spill in Waverly, Tennessee and the break-up of the oil tanker Amoco Cadiz off the coast of France have raised further questions about the safety of transportation of large quantities of dangerous materials such as LNG.

In spite of the fact that the first (and only) major LNG spill occurred thirty years ago, very little is known with certainty about the hazards posed

by the substance. In the decades since, there has been much speculation and a good deal of research, but the behavior of a large unconfined release is still not well understood.

There are two primary reasons for the lack of a conclusive data base. First, research has been undertaken for different purposes by the gas industry, the Federal Government, and academia. No common set of assumptions or predetermined baseline has been used in most cases. Consequently, a number of mathematical models exist, each providing differing predictions about what will happen in the case of a spill. Second, almost all of the work to date has been theoretical. The instrumentation and specialized testing facilities needed for scale effects experiments have been limited. While there is abundant speculation about what might happen in the case of a spill, almost no hard evidence exists to substantiate any of the theories. As a result, substantial uncertainty remains about: (1) LNG fires and thermal radiation, (2) vapor cloud development, propagation, and ignition, and (3) detonation potential.

Today, the U. S. is in the process of making a considerable commitment to the importation of LNG. Many of the most significant decisions have already been made or will be made in the next couple of years as the major import terminals are approved and constructed. Thus, as the Congressional Office of Technology Assessment recently pointed out, ". . . it is unlikely that the United States can afford the time and money to conduct enough research to resolve the differences (about the conflicting predictions of LNG dynamics) and come to firm decisions about the safety and behavior of LNG." Yet, it is vital that adequate standards of safety be determined and adopted. This requires the immediate start of a coordinated and well focused research effort. The objective should be to provide useful information to support current decision making. This means that answers are needed in terms of months rather than years.

The highest priority of the research program should be to identify potentially dangerous elements in the overall system and to describe operational and structural specifications that will minimize and mitigate the hazard. This can be done now despite the limited understanding of LNG. As a matter of fact, over a year ago in a study of LNG safety, the Arthur D. Little Company (Appendix 1), found, ". . . none of these uncertainties is sufficient to prevent a reasonable and adequate assessment of the safety of LNG facilities and operations from presently being made." At a minimum, consideration should be given to: (1) water and land transportation systems and operations, (2) major terminal and smaller storage facilities design and operation, (3) possibilities for human error, (4) the ability of natural phenomena such as storms, floods, or seismic events to disrupt transportation, unloading, and storage, and (5) the ability of facilities to withstand externally-caused events such as projectiles

aircraft crashes, and adjacent explosion or fires. Mitigation measures that would prevent, limit, and control possible accidents should be examined.

Once the preliminary intensive effort to design safe systems has been concluded, a second stage of research focusing more on the behavior of LNG may be desirable. The type of research to be conducted should be determined by the decisions that have already been made about safety and siting. For example, large scale experimentation may or may not be necessary depending on how much LNG activity is occurring in or near population centers. Whatever the scope of further research, the prime determinant should be the prospects for generating additional information that can and will be used by LNG regulators and operators.

Specific organizations that have been involved in or developed plans for research are:

Department of Transportation - The Bureau's OPSO has sponsored three studies of LNG technology. A 1974 study provided state-of-the-art information relating to design, location, construction, operation, and maintenance of LNG facilities. It also provided a review of codes and practices along with an evaluation of trends in LNG safety considerations. A separate supplement gave information on major research work. Topics covered include: Vaporization and Cloud Dispersion; Spills on Water; Superheat Explosions, Stratification and Rollover; Thermal Radiation; Detonation and Deflagration; and Fire Control.

OPSO has also participated with the Coast Guard, the Energy Research and Development Administration, and the American Gas Association in funding experiments at China Lake to examine the characteristics of burning LNG on the surface of water and of an ignited LNG cloud.

OPSO sees a need for large scale testing to validate predictive modeling. There is need for more work to advance the state-of-the-art for measures and procedures (e. g., diking; impoundment insulation, diffusion techniques, plant personnel protection) to control or mitigate known risks. Research currently in progress for earthquakes design should certainly be continued and possibly expanded.

In addition, the Coast Guard has been deeply engaged in LNG research for many years. Recognizing the novel nature of LNG, the Coast Guard initiated an active research program to describe the potential hazards which could result from an accidental release. The first effort was begun in 1968 to evaluate the effects of spilling LNG onto water. This program has progressed from laboratory size tests up to 1500 gallon spills.

The current program is being conducted at Naval Weapons Center, China Lake, California to study pool spreading phenomena; flame size; thermal radiation; and flame speed through vapor clouds. Tests have been run which show that ignition of a vapor cloud formed from the accidental release of LNG will burn, but it will not detonate. The China Lake effort is currently being jointly sponsored by the Coast Guard, the Department of Energy, the American Gas Association, and the Materials Transportation Bureau.

In addition to the studies of spill phenomena, the Coast Guard has sponsored three major research projects directly relating to LNG safety, including cargo tank design criteria, fire protection system requirements, and personnel qualification requirements. Approximately twenty other broader research projects are directly applicable to LNG.

A detailed listing of the Coast Guard's LNG research efforts is shown on pages 21 - 24 of this report.

FEDERAL FUNDING OF SAFETY RESEARCH

TABLE III - COAST GUARD, DOT, RESEARCH AND DEVELOPMENT RELATING TO LNG, LPG, AND NAUGHTIA

REPORT TITLE OR PROJECT DESCRIPTION	REPORT DATE (STATUS)	TYPE OF RESEARCH	CONTRACT COST (DOLLARS)	CONTRACTOR	SUMMARY
"Hazards of LNG Spillage in Marine Transportation" (NTIS-AD-705078)	Feb. 1970	Basic	25,000	Bureau of Mines	Provides a basic understanding of LNG behavior on water, including boil off rates, spill spread rates and vapor dispersion. Bo for formed and the energy input to the cloud was drawn almost exclusively from the gas/air mixing. Dense cloud layering persisted until below its lower flammable limit.
"Hazards of Spillage of LNG into Water" (NTIS-AD-754498)	Sept. 1977	Basic	75,000	Bureau of Mines	Continued above work in flameless explosions and vapor cloud burning. Concensus that the explosion phenomenon is hydrocarbon concentration sensitive and that the vapor cloud burning evidences a flashback to source.
Vapor Cloud Explosion Study					
Phase I "Explosion Hazards with Spills of Large Quantities of Hazardous Materials" (NTIS-AD-A001242)	Oct. 1974	Basic	C.G. 667,000 ERDA 100,000 OPSO 50,000 ACA 75,000	U.S. Naval Weapons Center at China Lake, California	<i>Developed a theoretical model</i> Phase I - Quantify the explosion hazards associated with large spills of hazardous materials, i.e., LNG, LPG, and other flammable gases - ideal explosions and calculated the dispersion of a large LNG spill. Large hemispheric tests of flame propagation through unconfined vapor clouds of propane were run, and a preliminary plan for the future was prepared.
Phase II	In Draft Final Nov. 1977	Basic	Incl. in Phase I Costs	"	Phase II - Hemispheric tests of various gases were conducted. Explosive booster used in attempt to detonate free methane. No detonations observed. Tube investigations also conducted to determine run-up distances to detonation.
Phase III	In Progress	Basic	Incl. in Phase I Costs	"	Phase III - Determine the fire hazards of an ignited spreading pool of LNG on water and from the ignition of the vapors of an already spread out vapor cloud. Also included were additional methane and methane/propane detonation tests.
Phase IV	In Progress	Basic	100,000	"	Phase IV - Eight spills of 1500 gallons of LPG onto water were made in August, 1977. Four spills had immediate ignition with varying spill rates, and four spills had delayed ignition with varying spill rates.
Phase V	In Progress	Basic	ACA 100,000 NASA 50,000 C.G. 125,000	"	Phase V - Four tasks (a) Development of rapid responsive methane sensor (b) Determination of solid explosive booster necessary to cause a steady state detonation in unconfined methane (c) Determination of thermal radiation from the maximum pool fire possible at WIC facility, and (d) Verification of wind-tunnel techniques by conducting vapor dispersion spill tests.
<i>Probability of LNG Dispersion from Aircraft</i>	<i>April 1977</i>	<i>Applied</i>	<i>50,000</i>	<i>In-house</i>	<i>Analysis of six models of LNG vapor dispersion conducted and the Smiley Application - Log. (SAL) model has been established as being superior to the</i>

TABLE XIII-1 COAST GUARD, DOT, RESEARCH AND DEVELOPMENT

REPORT TITLE OR PROJECT DESCRIPTION	REPORT DATE (STATUS)	TYPE OF RESEARCH	CONTRACT COST (DOLLARS)	CONTRACTOR	SUMMARY
"Prediction of Lifetime Extreme Accelerations for Design of LNG Cargo Tanks" (NTIS-AD-779635)	March 1974	Applied	260,000	Naval Ship Research and Development Center	Development of a model to predict the extreme accelerations needed for the design of the cargo tanks in LNG vessels. Predicted extremes were compared to the Chemical Transport Industry Advisory Committee (CTIAC) proposed rates.
"Tanker Structural Analysis for Minor Collisions" (NTIS-AD-A031031)	Dec. 1975	Applied	183,000	H. Rosenblatt and Son, Inc.	Evaluated the phenomena that contribute to the ability of a longitudinally framed ship, particularly a tanker, to withstand a minor collision (cargo tanks remain intact).
"Recommendations for Qualifications of LNG Cargo Personnel" Three Volumes (NTIS-AD-A026108), <i>Ag. 4-1975. Available</i>	April 1976	Applied	95,000	Operations Research, Inc.	Recommended standards for the training and other qualifications of personnel of LNG ships and barges.
"Chemical Hazard Response Information System" (CHRIS) and "Hazard Assessment Computer System" (HACS) Nine Vols.	March 1976 Sept. 1976	Applied	2,000,000	A.D. Little Inc.	Provides information essential for timely decision making during emergencies involving the water transport of hazardous chemicals. Consequent damage to people and property were not assessed.
"Fire Safety Aboard Vessels" (NTIS-AD-A030619) and "Small Scale Tests on Control Methods for Some LNG Hazards" (NTIS-AD-A033522)	Jan. 1976 May 1976	Hazard Analysis	249,000	University Engineers, Inc.	Analytical examination of cargo spill and fire hazard potential associated with the marine handling of LNG. (Emphasis on handling operations.) The maximum controllable fire was defined. Tested the effectiveness of water spray on vapor dispersion and pool fire radiation and of dry chemicals on pool fires and obstructed pool fires.
"A Survey of the Effectiveness of Control Methods for Fires in Some Hazardous Chemical Cargoes" (NTIS-AD-A026300)	March 1976	Hazard Analysis	39,000	University Engineers, Inc.	Assessment of fire safety of marine bulk chemical carriers was hampered by lack of data and the inability to confidently scale-up small scale tests of fire extinguishment.
"Vulnerability Model - A Simulation System for Assessing Damage Resulting from Marine Spills" (NTIS-AD-A015245) and "Vulnerability Model User's Guide"	On Going May 1975	Hazard Analysis	495,000	Enviro Control, Inc.	Simulation model to predict results of marine spill; i.e., toxic cloud or thermal radiation from a burning pool, and estimates injuries, deaths and property losses for a specific location. Based on CHRIS and HACS models.
TOTAL CONTRACT FUNDING			5,168,000		

<u>Project Title or Project Description</u>	<u>Report Date</u>	<u>Type of Research</u>	<u>Contractor</u>	<u>Cost</u>	<u>Summary</u>
Evaluation of Liquid Dynamic Loads in Slack Cargo Tanks	Ongoing	Applied	Southwest Research Institute	\$50,000	A continuation of the previous study. Topics include a review of current tank sloshing model followed by experiments to provide more sloshing data and to establish the response of LNG tank membrane structures under such forces. New models will then be prepared.
Ship Structures Committee Thermoelastic Model Studies of Cryogenic Tanker Structures (NTIS AD-771217)	1973	Applied	Sanders Associates, Inc.	\$30,000	Prepared a method for calculating the temperature and stresses of the hull metal after failure of an LNG tank. Calculations showed fair agreement with scale model tests.
A Study to Obtain Verification of Liquefied Natural Gas (LNG) Tank Loading Criteria (NTIS AD-A025716)	April 1976	Applied	Southwest Research Institute	\$50,000	Investigated the forces exerted by LNG in cargo tanks specifically whether those forces experienced due to tank loading were compatible with the requirements imposed by some eight public and private regulatory organizations.

FUTURE R&D PROJECTS

Project Title or Project Description	Report Date	Type of Research	Contractor	Cost	Summary
Review and Analysis of Liquefied Natural Gas Research Program	Late 1978		National Academy of Science	\$97,000	<p>Subcommittee of the NAS Maritime Hazardous Materials Committee shall:</p> <ol style="list-style-type: none"> 1. Analyze the safety issues associated with LNG transportation handling and stowage which need to be addressed through research. 2. Analyze the LNG safety research which has been completed, projected or planned 3. Determine if LNG research is sufficient to adequately provide answers to questions relating to LNG safety. 4. Determine what questions, if any, concerning LNG safety need to be addressed.
Continuation of "An Assessment of Predictability of LNG Vapor Dispersion from Catastrophic Spills on Water".	July 1978	Applied	Dr. Havens Univ. of Arkansas	\$19,089	Do a detail analysis of Science Applications Inc. vapor dispersion model.
Phase VI		Basic	U. S. Naval Weapons Center at China Lake, California	\$100,000	<ol style="list-style-type: none"> 1. Continue to study detonation potential of unconfined methane. Attempt to detonate using plane wave generated from explosion in pipe. 2. Study formation from large spill. Ice could lower vapor rate.

Department of Energy - The DOE has developed a comprehensive five-year plan (Publication DOE/EV-0002) as the result of an assessment of LNG safety and environmental issues.

Industry - The natural gas industry, through the American Gas Association and the Gas Research Institute, has done and is planning to do extensive research into the safety of LNG. Many individual companies have also done research in this area.

However, to date, LNG research efforts have been largely uncoordinated.

The Use of Population Criteria
for Siting LNG Facilities

Increased useage of LNG poses some ^{POTENTIAL} ~~serious~~ safety problems. A large spill could result in a major fire with lethal thermal radiation, in a detonation causing a destructive blast wave, or in a vapor plume that drifts some distance before igniting or exploding. There is a general agreement that the probability of an accident is low. Yet there is also little dispute that the consequences could be disasterous.

One option for minimizing the risk of unacceptable damage to human life and personal property is to isolate as much as possible the transportation and storage of LNG from significant population centers. This would not necessarily lower the chance of a mishap, but would help to ensure that any adverse impact is mitigated.

Determination of what population exclusion or density criteria should be used in LNG siting decisions is a difficult task. The behavioral properties of a large, unconfined LNG spill are not well understood. For example, a preliminary proposal by DOT's Office of Pipeline Safety Operation would establish a thermal radiation protection exclusion distance from an LNG terminal equal to, in the case of parks and playgrounds, 3.6 times the square root of the area contained by the diking system. This would amount to exclusion distances up to a couple of thousand feet, and would, according to the analysis, provide sufficient time for exposed humans to seek shelter. An analysis by the consulting firm Ecology and Environment, Inc. suggests a larger thermal radiation protection zone may be desirable. The State of California has found that skin burn radiation damage can occur up to a distance of four miles. Similar uncertainty exists with respect to how far an LNG vapor plume might travel. Estimates range from a few hundred yards up to 50 miles for a 25,000 M³ spill. Furthermore, nobody has been able to demonstrate that a vapor cloud can be detonated or determine the circumstance in which such a reaction is likely or possible.

The lack of a solid technical base about LNG dynamics means that danger zones around an accident cannot be predicted with confidence. Consequently, the establishment of population criteria is highly subjective and fundamentally political.

California is the first and only jurisdiction to make such a judgment. A law has been passed which limits population density to less than 10 people per square mile within one mile of the facility, and less than 50 people per square mile within four miles. This precludes any significant population center from being within what the State has determined to be the thermal radiation damage zone of a large LNG fire.

ALTHOUGH A DIRECT COMPARISON CANNOT BE MADE BETWEEN LNG AND NUCLEAR FACILITIES, A somewhat different way to limiting population exposure to a potential hazard is used by the Nuclear Regulatory Commission. Three safety zones are established around each nuclear power plant. The size of each zone is determined on a case-by-case basis taking into consideration plant engineering design and local geography and land utilization.

The first zone, generally six to eight hundred yards wide, is an exclusion area. Residence in this band is normally prohibited and most other activities are severely restricted. A low population zone, usually at least two miles in width, surrounds the exclusion area. The people allowed in this band must be of such a total number and density that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident. The final zone, the outer boundary of which must be at least one and one-third times the distance from the reactor to the outer boundary of the low population zone, excludes population centers of more than about 25,000.

Both the California and NRC standards result in approximately a four mile buffer around the facility. The NRC approach provides somewhat more flexibility because the controlling factor in the low population zone is capable to take protective actions, not rigid density standards. This permits some tradeoffs to be made between plant design and population i.e., the more safeguards at the facility the greater the adjacent population can probably be.

If the new California standards had been applied to facilities now in operation or under construction, these terminals could not have been built. Of locations now being seriously considered, only Point Conception, California and Matagorda Bay, Texas (if the transient tourist population is excluded) meet the density requirements. FERC has had conducted preliminary alternative site investigations for the Northeast Coast, the Gulf Coast, and the West Coast. These studies identified preferable locations for terminals based on an extensive list of criteria including oceanographic, navigational, economic, land use, and safety considerations. The purpose of the effort was not to select specific sites that would be mandated.

by the Federal Government, rather to get some idea of how many feasible locations there are. The criteria used precluded location near major urban areas. The sites that were identified as being most desirable from an overall standpoint generally had population densities (around either the terminal site or the transportation corridor leading to it) in excess of the California standards.

Options

- 1) Establish specific population density standards that all pending and future projects must meet.

This would be a highly volatile and essentially political issue. If it is the desired option Congress should be asked to set standards. In fact, this is already under consideration by the House Subcommittee on Energy and Power. Subsequent to recent hearings on HR 6844 to establish an LNG siting and project design policy, amendments are being considered that would establish specific population density limits.

One of the problems with setting rigid standards is what to do as population increases. It is possible that as this occurs our understanding of LNG safety and control will improve sufficiently to alleviate concern. Otherwise strict control either through zoning or through some type eminent domain authority would have to be legislated and implemented.

- 2) Establish a total exclusion area up to some distance from the facility surrounded by a low population zone (no specific density standard).

Under this alternative the operator would have to maintain an unused area around the facility of, for example, two thousand feet. This total exclusion area would be surrounded by a low population zone wide enough to preclude some level of thermal radiation exposure, for example, $0.2 \text{ cal/cm}^2\text{sec}$. The operation would be obligated to ensure that either the population in this zone does not increase (e.g., by buying the property) or for ensuring an adequate level of protection (e.g., better engineering safeguards or adequate evacuation plans). This option provides more flexibility for the operator over the lifetime of the project without increasing the consequences of an accident. The distances for the exclusion area and low population zone will have to be set. This could be a controversial process.

- 3) Establish a Federal Siting Committee that would identify the sites to be used for LNG terminals.

This option need not be adopted to ensure population density limitations. As this can be accomplished through option 1 or 2. The advantages of this alternative are that it would allow for wiser land use planning for the nations's coastal areas and it would help minimize the time required to decide on the suitability of a site for each new LNG import application since appropriate sites would be predetermined. The disadvantages are that it could conflict with other Agencies regulatory authority (e.g., Dept. of Commerce Coastal Zone Management Oversight), and could be viewed as unwarranted Federal interference in State and local land use decision-making.

- 4) Continue current case-by-case review of terminal siting.

Although few additional major LNG import terminals are anticipated, the costs and time involved in each siting decision have been and will probably continue to be prohibitive. Establishing basic groundrules, such as population density, for locating a facility would make the job easier for both applicant and reviewer.

Population Information Tables

The information presented in the following tables is in very rough form and useful only to provide a general idea of populations adjacent to possible terminal sites. In many cases the estimates are based on 1970 census data and may be significantly out of date. The sources of the figures were primarily impact statements and site ~~evaluation~~ studies prepared by consultants for FERC. The information is, unfortunately, often in terms that makes comparison difficult.

Population of Areas Surrounding LNG
Terminal and Transportation Corridors

Facilities Under Construction

Cove Pt., MD

Elba Island, GA

Lake Charles, LA

Potential Sites <u>Gulf Coast</u>		Number of People	
		<u>Adjacent to Terminal</u>	<u>Adjacent to Transportation Corridor</u>
Port Isabel, TX	Within		
	1000 ft	None	few hundred
	1 mile	None	few thousand
	3 miles	2,500	(up to 60,000 seasonal (tourists)
	5 miles	3,600 permanent 60,000 summer seasonal	
Harbor Island, TX	Within		
	1000 ft	50 workers	undetermined
	1 mile	50 workers	1,300
	3 miles	1,300	1,300
	5 miles	1,300	1,300
Pascagoula Bay, LA	Within		
	1000 ft	480 workers	
	1 mile	480 workers	Not available
	3 miles	16,000	
	5 miles	27,000	

Matagorda Bay, TX The city of Port O'Conner is just over 4 miles from the site. It has a permanent population of 840 and a peak daytime summer population of 4,850.

Potential Sites
West Coast

Population Density
(persons/mi²)

	Within 1 mile	Within 4 miles
Oxnard, CA	1,849	3,229
Pt. Conception, CA	3	<60
San Onofre, CA	Not available	Approximately 400

Results of Site Evaluation

(North of Point)

Impact Area/Criteria	Alternative Sites				
	Prudence Island (A)	Quonset Point-Davisville (B)	Sears Island (C)	Cross Island (D)	St. John (Tiner Point) Bay of Fundy, New Brunswick, Canada
3. Presence of Factors Affecting Safety					
A. Shipping Accidents					
a. Length of approach channel	Approximately 7.5 nautical mile approach inside Narragansett Bay, includes 1 mile of dredged channel to open southwest of island. 11.5 nautical mile traffic separation scheme required in all other approaches to Narragansett Bay, total distance 19 nautical miles.	Approximately 12 nautical mile approach inside Narragansett Bay includes 4.5 nautical mile dredged channel to Davisville, 11.5 nautical mile offshore traffic separation scheme, total distance 23.5 nautical miles.	Approximately 22 nautical mile approach up East Penobscot Bay from Rockland, Maine, plus 20 miles to Matineus Rock for a total of 42 miles.	4 nautical miles from the Libby Island Light to open sea to the berth.	Approximately 8 miles from established shipping lanes.
b. Channel and berth depth	Berth is 43-49 ft, channel 28-60 ft. Dredging not essential, but preferable to allow use of berth on southern or southwestern part of island (0.4-2.0 million cubic yards). Soft bottom feasible to dredge to 40- or 42 ft depth.	Berth is 27-5 ft, channel 27-6+ ft. Dredging required of 27- to 38 ft depths for 500 ft width along 4.5 mile approach channel to 40- to 42 ft depth (5-7.2 million cubic yards). Soft bottom feasible to dredge to 40- or 42 ft depth.	Berth is 39 ft, channel 42-100+ ft. Dredging not essential, but preferable to deepen existing basin (0.1 million cubic yards total). Blasting of 0.267 million cubic yards of ledge also potentially desirable to remove ledge at 25 ft depth 0.5 nautical miles south-southeast of island.	Dredging not required. Berthing site at Northwest Harbor on Cross Island has depths of 45-55 ft, 0.25 mile from shore. Channel depth is 150 ft.	Channel is 40-300 ft, berth greater than 38 ft.
c. Channel width	3,000 ft wide East Passage. Possible 500 ft wide dredged channel.	See Prudence Island.	1.5 mile wide East Penobscot Bay serves as natural channel.	0.75 mile wide clear, existing channel to the southwest.	Approach channel width not limited.
d. Bottom conditions	Variable bottom characteristics, mostly soft. Could utilize surplus Navy anchorage.	See Prudence Island.	Soft bottom and good holding characteristics.	Hard bottom with ledge, mud, and sand in the ship anchorage and maneuvering area.	Transition zone having pebbles and rocks near berth.
e. Configuration of approach channel	Shallow "S" configuration requires four turns at Bay entrance, one 20° turn from 010° to 030° T. All turns are in 3,000-ft-wide East Passage of Narragansett Bay.	Shallow "S" configuration requires four turns at Bay entrance, one 40° turn from 010° to 330° T, one 47° turn from 330° to 283° T, one 77° turn from 283° to 000° T, one 60° turn from 000° to 300° T. Last four turns are in 500 ft wide dredged channel.	"S" configuration, two 30° turns at Matineus Island entrance, one 63° turn at Owl's Head from 337° to 40°, one 18° turn from 040° to 022°, one 40° turn from 022° to 342°. All turns are in 1.5- to 3.0-mile wide Penobscot Bay.	90° turn from the northeast approach heading southeast to the berth. No hazards or obstructions.	Direct route from established shipping lanes.
f. Adequacy of charting	Scale of navigation charts 1:20,000. All navigation charts updated annually. U.S. Coast Pilot updated annually. "Notice to Mariners" published weekly.	Scale of navigation charts 1:20,000. (See Prudence Island notes.)	Scale of navigation charts 1:40,000 and 1:20,000. (See Prudence Island notes.)	Scale of navigation charts 1:40,000. (See Prudence Island notes.)	1:50,000 scale charts available.
g. Presence of hazards or obstructions	No hazards or obstructions. New 7,500 ft channel access to berth site possibly needed with dredging to 40- to 42 ft depth. Newport Bridge has 213 ft clearance.	No hazards or obstructions. Existing 26,100 ft channel to Davisville needs deepening to 40- to 42 ft depth. Newport Bridge has 213 ft clearance.	No hazards or obstructions. 267,000 cubic yards of ledge could be removed to lessen hazard of accidental grounding 0.5 mile south-southeast of berth.	No hazards or obstructions, no dredging required.	None identified in approach channel.
h. Ship traffic volume near berth, turning basin, and anchorage	Berth on southwest shore of island. Navy anchorage X-1 and attendant restricted area located adjacent to west side of main ship channel to Providence (average 36 vessels per month over 550 ft).	Davisville berth located at head of Quonset channel. (See Prudence Island for anchorage.)	Berth on southeast shore of island located 2 miles northeast of Searsport Station approach channel. Anchorage at head of East Penobscot Bay 3 miles east of Searsport channel (average 4.7 vessels per month over 650 ft).	Berth at Northwest Harbor on Cross Island. Anchorage northwest of Cross Island. Little or no shipping traffic.	No other traffic in vicinity of berth.

LNG Liability
(Subsection of Safety and Siting)

Summary

- ° The adequacy of insurance to cover the injuries and damages that could be expected from a major LNG accident is an integral part of the assessment of safety and siting issues. Despite all precautions, an LNG accident could occur and LNG tankers and liquefaction or terminal facilities destroyed. Serious accidents could cause loss of life and damages to nearby communities. Estimates of potential damage and, in turn, requisite insurance coverage vary widely depending on conclusions as to the safety of LNG.
- ° The law governing liability is extremely complex and far from clear. Federal maritime law is often inconsistent or incomplete, causing uncertainties as to legal remedies available in the event of a LNG accident. Confusion can result in instances where both maritime and non-maritime laws come into play. In addition, uncertainties are raised whether numerous state laws apply either separately or concurrently with Federal law.
- ° Some industry sources maintain that existing insurance arrangements are adequate to provide coverage in the event of a major LNG accident. They point out that LNG is an excellent risk in the insurance market and that insurance in excess of the value of the vessel could be easily obtained. They argue that terminals carry adequate insurance -- generally \$50-\$200 million -- and point to the strong financial position of LNG operators.
- ° A number of studies conclude that a LNG accident could leave injured parties with little or inadequate compensation. They point to the limited liability under existing corporate structures whereby LNG operators are capitalized separately, placing the assets of the parent company out of reach. Likewise, each LNG tanker is a separate corporate entity in

order to take advantage of statutory limitations on liability. Furthermore, accidents caused by force majeure or a third party with little insurance could result in avoidance of liability.

- New mechanisms to assure adequate compensation in the event of a major LNG accident could emerge. These could be patterned after similar mechanisms designed to cover other hazardous materials, such as nuclear power plants and major maritime accidents with potential for considerable damage and loss of life. These mechanisms could involve comprehensive insurance funds funded by all LNG operators, strict liability standards and minimum levels of protection, or a combination of private financial protection and government indemnity to fully cover claims arising from an accident.
- The Federal Government should give top priority to LNG liability issues. Concerned agencies should begin a thorough study of the adequacy of existing insurance arrangements and possible alternatives to provide adequate compensation in the event of a major accident. These should be analyzed from the standpoint of costs versus benefits, impact on the commercial insurance market, and experience with insurance arrangements for other hazardous materials. In cooperation with efforts underway in the Congress, the Administration should work toward legislation to eliminate both Federal and State legal uncertainties, simplify claims procedures, and establish strict liability. Alternatively, study would be made whether LNG, major oil spills, nuclear facilities, noxious gases and other hazardous materials should be regulated as a class, with major reform of the insurance structure initiated.

Maritime Law

The Limitations of Liability Act of 1951 is one of the most important statutes in maritime liability law. The Act limits the liability of the owner of the vessel for accidents occurring without his knowledge or privity to the value of the owner's interest in the vessel and "her freight then pending." An exception is made for loss of life or bodily injury in which case liability is limited to \$60 per ton of the vessel. If a vessel is totally destroyed and its cargo discharged, the claimant can receive nothing unless a Federal statute supersedes the term of the Act.

With respect to LNG, an important legal question is raised in the event a major accident originates onboard an LNG ship and spreads to the terminal and nearby areas. Legislation and court rulings somewhat clarify that the vessel is totally liable for all damages, but its limits of liability are circumscribed by the 1951 Act and patterns of vessel ownership.

The concurrence of State-Federal maritime jurisdiction and attendant legal problems can confuse the liability issue. Certain states have promulgated statutes calling for strict State liability limits for oil tankers. To date, no state has enacted liability standards although a New York LNG bill could be interrupted as providing for strict liability for LNG owners for any accident occurring in port.

Injured parties may be unable to recover damages if the accident were due to an act of God, an act of war, or negligence since these cases are excluded under liability laws. The law is incomplete if fault rests with another vessel or third party carrying little insurance. ~~No~~ compensation is likely. In the event the accident occurs at the terminal site, State law is applicable, although it is unclear whether a showing of negligence would be required or if there is strict liability.

No international law governing LNG liability provisions exists. The International Maritime Consultative Organization (IMCO) issued a code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, but the organization has not addressed LNG liability provisions. The IMCO has been heavily involved with mixed results in liability and compensation damages from oil pollution by tankers. The International Convention on Civil Liability for Oil Pollution was issued in 1969 but it was soon rendered obsolete by tanker sizes. As a result, a Convention on the Establishment of an International Fund for Compensation for Oil Pollution damages was proposed to raise the limits of liability coverage and provide for full and adequate compensation. For the International Fund to become effective, inter alia, eight nations must have agreed to be bound by the International Fund Convention and in each signatory nation a total quantity of at least 750 million tons of oil must have been received by cargo owners liable for contribution to the Fund. The Convention has not come into force and the U.S. has signed but not ratified it.

Although the IMCO is perhaps the international organization with the most expertise to address LNG liability, it is unlikely to undertake the issue in the near future due to its experience with oil pollution compensation and liability. The U.S. could push for IMCO involvement, but it would be unsupported by other maritime nations with LNG fleets. In the meantime domestic law, which could serve as a precedent for other nations, will have to fill gaps and eliminate ambivalence in liability provisions.

Other Problems Affecting Compensation

Intricate corporate ownership patterns of LNG vessels and terminals result in a complicated financial situation leaving the corporate assets unreachable for compensation purposes. It is characteristic in the shipping industry that each vessel is set up as a separate corporation in order to isolate the assets of the parent corporation. Thus liability laws become theoretical since in practice there is no recourse to the assets of the party at fault when a ship and its cargo are destroyed.

Similarly, the LNG terminal is a wholly-owned, separately capitalized subsidiary of larger natural gas companies. The natural gas importer/terminal operator purchases insurance that presumably could cover loss of terminal facilities, estimated at some \$200-\$300 million and second and third party damages. However, this insurance, known as protection and indemnity, (p and i) in many instances would do little more than compensate for the loss of terminal facilities, assuming they would have to be reconstructed at a higher cost due to inflation. In some instances, the vessel owner waives the right to sue the terminal operator if fault rests with the latter. The net effect is a reduced amount of coverage carried by the terminal. As part of its LNG report, GAO surveyed the liability insurance coverage per incident of LNG terminals and found amounts such as "to the fullest extent possible," \$50-100 million for third parties in excess of liability coverage; \$140 million with no provisions for third parties, etc. However, some private sources estimate damage could reach \$500 million based on damages resulting from incidents involving other hazardous materials.

Under existing practices, no federal agency assumes responsibility for assuring compensation of victims. Claimants face a time consuming and expensive process in order to receive compensation. Fault must be established, the extent of damages assessed, and the parent company's liability litigated.

Possible Solutions to LNG Liability Problems

There is a growing concern for the need to shift the economic burden of LNG risks from nearby residents and property owners to the shipowners and terminal operators. Assuming costs are passed through the end-use consumer will bear any added insurance costs.

Solutions include setting of minimum limits of coverage, provisions for strict liability regardless of fault, and expedited litigation procedures. LNG could be viewed in the context of other hazardous substances, such as noxious gases, major oil spills, or nuclear facilities and comprehensive insurance schemes enacted to cover all hazardous materials as a class. This approach calls for a combination of private insurance financing and government indemnity. Funding could be based on risk and damage potential. Alternatively, a mandatory LNG insurance compensation fund, financed by an excess tax on imported quantities of LNG could be imposed. There is some precedent for this type of fund.

The Trans-Alaska Pipeline Authority Act (PL 93-153) modifies the Limits of Liability Act under certain conditions, and establishes a \$100 million Trans-Alaska Liability Fund, funded by a 5-cent-per barrel fee levied upon the oil owner. The Act establishes strict liability without regard to fault. The shipowner and operator are liable for the first \$14 million of claims and the Liability Fund covers the balance up to the established limit of \$100 million.

The Deepwater Port Act of 1974 also incorporates the fund concept and establishes a \$100 million Deepwater Port Liability Fund. Each barrel of oil loaded or unloaded at a deepwater port is assessed 2 cents which is contributed to the Fund. The Fund sets legislative precedent by inter alia permitting the United States Government to initiate a class action suit on behalf of damaged citizens in order to lessen an injured party's costs of litigation and streamline remedy procedures.

Legislation is pending in several congressional committees that establishes LNG Damages or Compensation Fund, funded by a fee (cents/mcf) on natural gas received at the terminal. The Fund is to be used to pay for claims which exceed the liability limit set forth in the bills. In the case of vessels, this amount is \$75 million or \$1,000 per ton, whichever is less, and in the case of terminals, the upper limit is \$100 million. The bills generally provide for strict liability and expedited litigation procedures.

MEMORANDUM OF UNDERSTANDING
BETWEEN THE UNITED STATES COAST GUARD
AND THE MATERIALS TRANSPORTATION BUREAU
FOR REGULATION OF
WATERFRONT LIQUEFIED NATURAL GAS FACILITIES

I. INTRODUCTION

Within the Department of Transportation (DOT), the United States Coast Guard (USCG) and the Materials Transportation Bureau (MTB) exercise separate and overlapping safety regulatory authority affecting the siting, design, construction, maintenance, and operation of waterfront liquefied natural gas (LNG) facilities adjoining the navigable waters of the United States. The USCG derives its authority over such facilities from the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 33 U.S.C. 1221-1227) and the Magnuson Act (50 U.S.C. 191). The regulatory authority of the MTB over these same facilities (as well as non-waterfront LNG facilities) is derived from the Natural Gas Pipeline Safety Act of 1968 (Pub. L. 90-481, 49 U.S.C. 1671 et seq.) and the Hazardous Materials Transportation Act (Pub. L. 93-633, 49 U.S.C. 1801 et seq.).

In recognition of each of the parties' respective regulatory responsibilities, the USCG and the MTB agree that a memorandum of understanding is needed to avoid duplication of regulatory efforts regarding waterfront LNG facilities and to maximize the exchange of relevant information.

II. RESPONSIBILITIES OF THE PARTIES

For the foregoing reasons, the USCG and the MTB agree to the following division of regulatory responsibilities with respect to waterfront LNG facilities and cooperation in carrying out those responsibilities:

USCG RESPONSIBILITIES

The USCG is responsible for establishing regulatory requirements for--

- (1) Facility site selection as it relates to management of vessel traffic in and around a facility;

- (2) Fire prevention and fire protection equipment, systems, and methods for use at a facility;
- (3) Security of a facility; and
- (4) All other matters pertaining to the facility between the vessel and the last manifold (or valve) immediately before the receiving tank(s).

MTB RESPONSIBILITIES

The MTB is responsible for establishing regulatory requirements for--

- (1) Facility site selection except as provided by paragraph (1) of the "USCG Responsibilities" set forth in this Memorandum; and
- (2) All other matters pertaining to the facility beyond (and including) the last manifold (or valve) immediately before the receiving tank(s) except as provided by paragraphs (2) and (3) of the "USCG Responsibilities" set forth in this Memorandum.

JOINT RESPONSIBILITIES

- (1) The USCG and the MTB will cooperate and assist each other in carrying out their respective waterfront LNG facility regulatory enforcement activities; and
- (2) The USCG and the MTB, in an effort to avoid inconsistent regulation of similar safety matters (including as between waterfront and non-waterfront LNG facilities), will consult with each other before issuing each Advance Notice of Proposed Rulemaking, Notice of Proposed Rulemaking, and final regulation affecting waterfront LNG facilities.

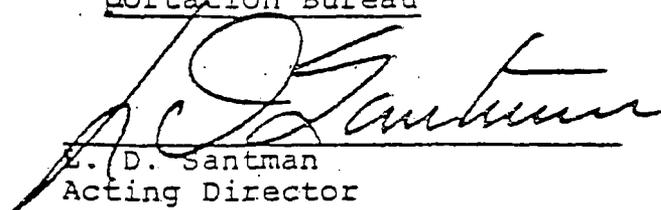
For the United States
Coast Guard



ADM Owen W. Siler
Commandant

Date 7 FEB 1978

For the Materials Trans-
portation Bureau



E. D. Santman
Acting Director

Date FEB 1 1978

Enclosure C

Correspondence between NRC and California on LNG

C O P Y

San Francisco, California

PUBLIC UTILITIES COMMISSION

State of California

File No. 004-3

June 6, 1978

Honorable Joseph M. Hendrie
1717 H. Street, N.W.
U. S. Nuclear Regulatory Commission
Washington, DC, 20555

Dear Chairman Hendrie:

On September 16, 1977, California's Governor Brown signed Senate Bill 1081, the Liquefied Natural Gas Terminal Act of 1977. (LNG Terminal Act) This act grants the California Public Utilities Commission (CPUC) exclusive power to issue a permit for the construction and operation of a liquefied natural gas (LNG) terminal in California. On October 14, 1977, Western LNG Terminal Associates filed an application with the CPUC for a permit to construct and operate an LNG terminal at Point Conception, California. The LNG Terminal Act requires the CPUC to issue a decision on the application no later than July 31, 1978.

Further, the act provides that not later than May 31, 1978, the California Coastal Commission must submit to the CPUC the Coastal Commission's final report evaluating and ranking the sites which qualify for an LNG terminal. The Coastal Commission's report is deemed a recommendation to the CPUC, and the CPUC is required to issue a permit for construction and operation at the site designated as the highest-ranked site by the Coastal Commission. However, the CPUC may select a lower-ranked site if it determines with respect to each higher-ranked site that location of an LNG terminal at such site is not consistent with interests of public health, safety and welfare, or if it determines that it is not feasible to complete construction and commence operation of the terminal at such higher-ranked site in sufficient time to prevent significant curtailment of high-priority requirements for natural gas and also finds that approval of the lower-ranked site will significantly reduce such curtailment.

On May 31, 1978, the Coastal Commission issued its final report evaluating and ranking suitable sites for an LNG terminal as follows:

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Honorable Joseph M. Hendrie
June 6, 1978
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- (1) Camp Pendleton-Horno Canyon (San Diego County)
- (2) Rattlesnake Canyon (San Luis Obispo County)
- (3) Point Conception (Santa Barbara County)
- (4) Deer Canyon (Ventura County)

Camp Pendleton, the highest-ranked site, is located five miles south of Southern California Edison's San Onofre Nuclear Generating Station while the second recommendation, Rattlesnake Canyon, is situated 3.6 miles south of the Pacific Gas and Electric Diablo Canyon Nuclear Generating Station.

In evaluating the pending application to construct and operate an LNG terminal at Point Conception, the CPUC must determine, on or before July 31, 1978, whether the highest-ranked sites, Camp Pendleton and Rattlesnake Canyon, are acceptable in terms of both public safety and timely delivery of gas supplies. To facilitate the resolution of this difficult question, the CPUC seeks guidance from the NRC with respect to its policy for locating nuclear generating facilities in the area of a potentially hazardous LNG facility or vice versa.

By letter dated April 12, 1978, Harold Denton, Director of the Division of Site Safety and Environmental Analysis at the NRC, informed Pat Weinstein of the Coastal Commission staff that:

"Part 100 of Title 10 of the Code of Federal Regulations permits two or more nuclear power reactors to be in close proximity if, and only if, they are so designed that an accident at one does not endanger the safety of any of the others. Our design requirements against other industrial and transportation facilities nearby are consistent with this requirement, namely that the safety of the nuclear power plant must not be dependent upon events at those facilities."

Mr. Denton further stated that:

"[A]t this time we are not prepared to offer specific suggestions for provisions in the construction and operation of an LNG terminal at Rattlesnake Canyon or Horno Canyon necessary to clearly demonstrate the compatibility of such a facility with the existing nearby nuclear power reactors. While a variety of measures might be taken to isolate the possible interaction between the two types of activities, the need for and value of any specific measure would require further study."

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June 6, 1978
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In light of the Coastal Commission's recommendations of May 31, 1978 and in view of the statutorily-mandated decision date of July 31, 1978 precluding further study, the CPUC requests an NRC determination as to the acceptability of locating an LNG facility within 4-5 miles of an existing nuclear generating station. In the alternative, a clear set of specific NRC guidelines for the location of potentially hazardous facilities in proximity to nuclear reactors is sought.

In view of obvious constraints imposed by the July 31 decision date, a timely response is requested. Your consideration and cooperation in this matter of great importance is much appreciated.

Sincerely yours,

/S/
Robert Batinovich, President



COPY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 12, 1978

Mr. Pat Weinstein
Onshore LNG Project Manager
California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, California 94105

Dear Mr. Weinstein:

Thank you for the information concerning your investigations of coastal sites. We appreciate your request for NRC comment before any final decision is made on the preferred site for the proposed western LNG terminal.

As you noted in your letter of March 13, there are two nuclear power reactor sites where potential accidents involving LNG traffic has been reviewed (Calvert Cliffs and Hope Creek/Salem). Our general criteria are that nuclear power reactors should not be located near hazardous industrial developments unless one of two circumstances are satisfied: (1) that the risks of an accident at a nearby hazardous industrial facility affecting the safety of the nuclear reactor be acceptably low or (2) that the design of the nuclear reactors be such that they can safely withstand an accident from other nearby facilities.

Part 100 of Title 10 of the Code of Federal Regulations permits two or more nuclear power reactors to be in close proximity if, and only if, they are so designed that an accident at one does not endanger the safety of any of the others. Our design requirements against other industrial and transportation facilities nearby are consistent with this requirement, namely that the safety of the nuclear power plant must not be dependent upon events at those other facilities. Certain hazards, however, are considered sufficiently unlikely at many sites that it is unnecessary to design against them specifically. At present, for example, it is physically possible that one of the LNG tankers now sailing the Pacific Ocean could be wrecked upon the California coast. The probability that this might actually occur near San Onofre or Diablo Canyon is, however, extremely remote, and this hazard has not been considered in the design of those plants.

The nearby presence of an LNG terminal, even if that terminal were so designed and situated that it did not place a direct hazard to a nuclear power plant, could bring with it the increased possibility of the close approach by LNG tankers or flammable gases released from these tankers. Such a possibility would have to be considered in deciding whether or not the nuclear power plant could be operated safely without undue risk to the public.

April 12, 1978

Although no LNG facilities are likely to be built on the Delaware River, other hazardous ship cargos do appear in traffic on that river, and an Atomic Safety and Licensing Board is presently deliberating upon the Hope Creek license application on those grounds. Also, LNG tankers are expected to approach to within about 6km of the Calvert Cliffs site. This situation is currently under review by the NRC.

In the material you provided, it was noted that the adequacy of a four mile "buffer zone" between Rattlesnake Canyon and the Diablo Canyon sites "to ensure containment of an emergency at one plant without involving the other requires further study". We would agree with that conclusion. The hazards of LNG tanker spills have been estimated by some authorities to persist to distances of up to 20 km under particularly adverse conditions. For lesser distances, it would be necessary to restrict the LNG traffic during those periods when such adverse conditions prevail. Where adverse winds are common and the separation distance is much smaller than 20 kms, such restriction may prove a significant burden to the LNG traffic.

Our safety requirements for nuclear power plants are intended to protect the public from radiation injury, and not to protect an applicant's investments. If LNG and nuclear facilities are sited in close proximity, similar populations are at risk from accidents at either, and measures that go to prevention of the initiating LNG accident would be more desirable than measures to mitigate the effects of such accidents in power reactor facilities. Careful study is required to assure that specific proposed measures to protect one element of society does not, in effect, increase the risk to others.

At this time we are not prepared to offer specific suggestions for provisions in the construction and operation of an LNG terminal at Rattlesnake Canyon or Horno Canyon necessary to clearly demonstrate the compatibility of such a facility with the existing nearby nuclear power reactors. While a variety of measures might be taken to isolate the possible interaction between the two types of activities, the need for and value of any specific measure would require further study. We recommend, since this option still exists, that the problem be avoided, by selection of a site for an LNG terminal that is more removed from the existing nuclear power reactors.

Mr. Pat Weinstein

- 3 -

April 12, 1978

Finally, we do not believe that a seawater exchange system between a nuclear power plant and an LNG terminal would be economically feasible, nor of significant net environmental benefit, because of the length of the pipelines.

For your information, we are enclosing the results of staff work on LNG hazards from other licensing actions (Hope Creek, Salem, Calvert Cliffs). In addition, we are including a report, IITRI J6405, which indicates that certain staff assumptions may be nonconservative. We have not yet completed a technical review of this work.

It may be helpful to discuss this matter further, and particularly to clarify the substance of the results of our prior reviews (as noted, this material is attached). If you desire a meeting please do not hesitate to call me (301) 492-7207.

Sincerely,

15/
Harold R. Denton, Director
Division of Site Safety and
Environmental Analysis
Office of Nuclear Reactor Regulation

Enclosure:
AS stated

CALIFORNIA COASTAL COMMISSION

631 HOWARD STREET, 4th FLOOR
SAN FRANCISCO, CALIFORNIA 94105*Brown
action
my reg*

March 13, 1978

Harold Denton
Director of Site Safety and Environmental Analysis
Nuclear Regulatory Commission
Washington, D.C. 20014

Dear Mr. Denton:

The California Coastal Commission is required to evaluate and rank potential liquefied natural gas (LNG) terminal sites on the California coast and, by May 31, 1978, forward such ranking to the California Public Utilities Commission for a July 31 permit decision by that agency. We have retained 5 sites (out of 82 initially considered) for detailed study and final ranking. (see the preliminary and final staff reports adopted by the Commission on January 30, 1978).

Two of the five sites being considered are within 5 miles of existing nuclear power plants. The Rattlesnake Canyon site is approximately 4 miles south of the PG&E Diablo Canyon plant but is separated from it by rugged terrain. The Horno Canyon site on the Camp Pendleton Marine Base is approximately 5 miles south of the Southern California Edison/San Diego Gas and Electric Company's San Onofre plant. (see the attached topographic maps). Both sites have many favorable characteristics for an LNG facility based upon land use, environmental, and feasibility considerations. It is conceivable that either site could be ranked first by the Coastal Commission.

We would appreciate the views of the Nuclear Regulatory Commission concerning the feasibility of locating an LNG facility capable of storing a legal maximum of 1.65 million barrels of LNG, eventually serviced by approximately 190 annual tanker trips, at either of these sites.

We are concerned about the safety questions raised by the proximity of the facilities and would like your comments to address probable safety requirements at each site. In this regard, we would benefit greatly from a discussion of the Nuclear Regulatory Commission's experiences with the Calvert Cliffs and Hope Creek generating plants, which are located in close proximity to LNG facilities and LNG tanker routes. Suggested conditions for the safe construction and operation of an LNG terminal at both locations would also be extremely helpful. Any implications the location of a nearby LNG facility might have on the operating licensing process for the nuclear plants and the time and expense involved would be relevant to our analysis. Finally, any comments on the

Mr. Harold Denton
March 13, 1978
Page 2

3,

feasibility of a sea water exchange system between LNG and nuclear facilities at each site would be welcome.

Thank you for your cooperation. If more detailed information is required, do not hesitate to request it from us.

Very truly yours,

Pat Weinstein

John Grattan

JGS
PAT WEINSTEIN
Onshore LNG Project Manager

415-543-8555

DISTRIBUTION:

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→ EP Reading

HDenton

DMuller

VMoore

RMinogue, SD

NEisenberg, SD

JRead, DSE

AUG 8 1977

Ms. Suzanne Reed
Senior Energy Advisor
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

Dear Ms. Reed:

Thank you for your July 25, 1977 letter to Dr. Norman Eisenberg concerning the licensing and regulation of Liquefied Natural Gas (LNG) facilities. Although the Nuclear Regulatory Commission (NRC) is not responsible for licensing and regulating LNG facilities, as part of our responsibilities under the Atomic Energy Act of 1954, as amended, and the National Environmental Policy Act (NEPA), we review all Environmental Impact Statements (EISs) prepared by the Federal Power Commission (FPC) pursuant to their responsibilities under the Natural Gas Act and the NEPA.

In general, our reviews are limited to those areas for which NRC has special expertise or jurisdiction by law. Specifically our reviews are directed to impacts of the proposed action relative to the radiological health and safety of the public and possible impacts on facilities licensed by or subject to licensing by NRC. I understand that Ben Harless discussed in somewhat greater detail our procedures for reviewing EISs prepared by other Federal agencies during his telephone conversation with you on August 3, 1977.

As Mr. Harless mentioned, we also received a letter from Ms. Nancy J. Aurich of the California Office of Planning and Research (COPR) requesting NRC to furnish certain technical assistance and review participation in the preparation of an Environmental Impact Report for a LNG terminal to be sited in Santa Barbara County, California. A copy of our response to that letter is enclosed.

We would of course be pleased to review any Environmental Impact Reports prepared by COPR for LNG facilities and provide comments to the State

Ms. Suzanne Reed

- 2 -

AUG 8 1977

within the scope of our reviews of EISs prepared for the FPC on similar facilities.

Sincerely,

Harold R. Denton, Director
Division of Site Safety and
Environmental Analysis
Office of Nuclear Reactor Regulation

Enclosure:
As stated



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 3 1977

Ms. Nancy J. Aurich
Project Administration Assistant
Office of Planning and Research
1400 Tenth Street
Sacramento, Ca 95814

Dear Ms. Aurich:

Your letter of June 13, 1977 requests the Nuclear Regulatory Commission to furnish certain technical assistance and review participation in the preparation of an Environmental Impact Report for an LNG terminal to be sited in Santa Barbara County, California. We would be pleased to exchange scientific and technical information to assist in the review of the proposed Point Conception LNG terminal. This exchange of scientific and technical information should prove to be of specific benefit to both our regulatory programs. Mr. Harold R. Denton, Director, Division of Site Safety and Environmental Analysis, will serve as the NRC contact on this matter. Members of his Division are familiar with technical matters related to LNG projects. Mr. Denton's telephone number is (301) 492-7207.

For your information there are other coordinated activities between representatives of the State of California and the Nuclear Regulatory Commission. Specifically, Mr. Robert Ryan, Director, Office of State Programs is working with the Energy Resources Conservation and Development Commission toward an agreement on matters of concurrent responsibility and jurisdiction for the siting of nuclear plants. In addition, Mr. Harold Denton is working with Mr. Frank Hahn, Administrative Director of the Energy Resources Conservation and Development Commission on similar matters, but related specifically to the San Diego Gas and Electric Company's Sundesert Nuclear Project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lee V. Gossick".

Lee V. Gossick
Executive Director for Operations

Memorandum

To : State and Federal LNG Task Force Contacts

Date : July 25, 1977
(916) 322-4245

From : Governor's Office

Office of Planning and Research

Suzanne Reed
Suzanne Reed, Senior Energy Advisor

Subject: OFFSHORE LIQUEFIED NATURAL GAS FACILITY SITING

The Office of Planning and Research is examining the procedures that would be involved in issuing a permit for an offshore Liquefied Natural Gas (LNG) facility. To facilitate this study, I would like to know what role under existing law your agency would perform if a permit for such a facility was sought and what new authority might be required to enable full licensing and regulation of such a facility.

An offshore LNG receiving facility could fall into one of the following categories:

1. An LNG receiving storage and regasification facility constructed in state-controlled waters adjacent to a natural island with a pipeline across federal waters, then state waters to the shore.
2. An LNG receiving storage and regasification facility built in federally-controlled waters, with a pipeline crossing state waters to the shore.
3. An LNG receiving, storage, and regasification facility located on a natural island with a trestle extending into state waters and a pipeline crossing federal waters, then state waters to shore.

The offshore facilities referenced above might be either fixed to the ocean bottom with sub-sea storage, floating with floating storage, or fixed with surface storage.

I would appreciate receiving your analysis of what permits, comments, or approvals must be secured from your agency under these offshore facility siting situations at your earliest possible convenience. In your reply, please include:

1. an estimate of how long approval will take;
2. a list of any reports the applicant must file with your agency;
3. a brief description of the decision-making process; and
4. references to the statutes authorizing your agency's action.

I would also appreciate any other pertinent information you would care to supply. Thank you for your attention to this request.

RONALD G. BROWN JR.
GOVERNOR

June 13, 1977

General Lee V. Gossick
Executive Director
Nuclear Regulatory Commission
5650 Nickelson Lane
Rockville, MD 20852

Dear General Gossick:

In August, 1976, the County of Santa Barbara Office of Environmental Quality (OEQ) requested California State agency participation in an Environmental Impact Report (EIR) to be prepared in response to a proposal by Western LNG Terminal Company to site an LNG terminal at Point Conception, Santa Barbara County, California. The requirements of the County are for assistance from the State in addressing LNG safety and systems reliability and vessel traffic issues.

In accordance with a Memorandum of Understanding (MOU) with Santa Barbara, the Governor's Office of Planning and Research is coordinating State and Federal agency involvement in this project and is performing the necessary contractual management functions to accomplish analysis of the issues described above.

OPR envisions an active role for Federal agencies in this project and has secured technical assistance and review participation from the FEA, the Federal Maritime Administration, the Department of the Navy and U.S. Coast Guard, the FPC, NASA, and others. We are particularly interested in the participation of the Nuclear Regulatory Commission in regard to the seismic safety and sabotage issues that will be studied as a part of this project.

Please advise us of the name of a representative of your Commission who we may contact in regard to the above issues. I have discussed this request with Dr. Norman Eisenberg, of the Transportation and Standards Branch, who advised me to get in touch with you.

Thank you for your attention in this matter, and I will look forward to contacting you in the near future.

Sincerely,

Nancy J. Aurich
Project Administration Assistant

NJA:nb

Encl.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 1 1977

Robert L. Solomon
Chief, Policy and Program Evaluation Office
Energy Resources Conservation and
Development Commission
1111 Howe Avenue, MS30
Sacramento, California 95825

Dear Rob,

For your information I am enclosing a Federal Register Notice on LNG Safety Standards dated April 21, 1977. I've not yet had a chance to review it.

I received your April 11, 1977 letter but have not yet received the responses to the request for proposals.

Brian K. Grimes, Chief
Environmental Evaluation Branch
Division of Operating Reactors
Office of Nuclear Reactor Regulation

Enclosure:
As stated

ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION1111 HOWE AVENUE, MS 30
SACRAMENTO, CALIFORNIA 95825

(916) 322-2021



April 11, 1977

Mr. Brian Grimes
Chief, Environmental Evaluation Branch
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Brian:

I appreciated the opportunity to meet with you and Bill again when I was in Washington.

The state's review of the proposed LNG terminals continues, while the outlook for new legislation that would reorganize the LNG siting function remains uncertain. Therefore we are simply trying to pre-position as much of the analytical work, especially on safety, as we can.

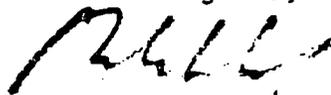
As we discussed in Washington, I am enclosing a copy of the contractor task statement on the safety portions of the Point Conception Environmental Impact Report. We will have responses to the request for proposals within about one week. We will forward directly to your office copies of the proposals on the safety analysis tasks; and, if you can designate the appropriate technical people to have an informal look at these responses, we can make a decision on the best way to get your input - perhaps by a conference call with our technical liaison, or better yet, an informal visit by yourself or a member of your staff. As agreed, this will be a strictly informal, "nonvoting" participation by NRC, and we'll take it step-by-step from there.

I am also enclosing some material regarding our position in the Pacific Indonesia LNG proceeding, where we have advocated a federal certificate condition requiring a "Final Safety Analysis Report" for the LNG facility. Aside from any future technical assistance that might be arranged, one of the areas where your office might be most helpful, again on an informal basis, would be in developing more specific and precise language for the actual permit condition. Since neither we nor the FPC have had any experience with a condition of this type, we would be very interested in your input as to how to develop this condition so that it would achieve the objectives described in the excerpts from my testimony before the FPC.

Mr. Brian Grimes
April 11, 1977
Page 2

I'll check with you in about two weeks, after you've had a chance to look over some of these materials.

Best regards,



ROBERT L. SOLOMON
Chief, Policy and Program
Evaluation Office

RLS:dh

Enclosures

Robert L. Solomon
April 8, 1977

To: Randy Deutsch, California Public Utilities Commission

Re: FSAR Condition

California recommends that the Federal Power Commission, in its certificate of public convenience and necessity for the proposed LNG facility, establish a condition requiring a Final Safety Analysis Report (FSAR).

The FSAR condition described below is analogous in concept, but not necessarily in procedure, to the requirement for acceptance of an FSAR by the Nuclear Regulatory Commission (NRC) before a nuclear power plant may be granted an operating license. The need for a final, as distinct from a preliminary, safety analysis is basically the same for a liquefied natural gas facility as it is for a nuclear plant. The NRC is specifically required, under the original Atomic Energy Act, to implement a dual licensing procedure-- first issuing a construction permit, and then an operating license. In contrast, the FSAR condition proposed by California is in the nature of a certificate condition that would be established and relieved through appropriate administrative action by the FPC.

The certificate condition should set forth specific procedures and guidelines for implementation. The applicant would be responsible for providing necessary technical data and studies documenting final design and engineering, construction, testing, start-up and initial operation. In addition to general engineering and construction information, the applicant would be required to submit detailed information on critical safety-related systems and procedures that have not been available for review by the FPC as of the time when the project is certificated. This would include, but not necessarily be limited to, applicant's detailed information on marine operations (including information to be made available to the State, according to the applicant, in April 1977, and which has, accordingly, not been available for FPC review on the record of the present case); additional data on testing, start-up, operating, maintenance, repair and overhaul procedures; plans for response to marine and land-based emergency conditions; and hazard evaluations for any significant design changes or specification of systems and/or components not finalized as of the time of certification of the project.

The FPC will be responsible for development of the actual Final Safety Analysis Report, which could be performed either by FPC staff, or by the FPC's technical agent or contractor(s). The development of the document would proceed concurrently with progress on design and construction of the project, to minimize the time required in the compilation of the FSAR, as well as providing an ongoing design audit and construction monitoring function.

There should be a procedure for time-limited review of the document (and perhaps periodic progress reports on an ongoing basis, to minimize time required for final review), and there should be provision for involvement of the state and/or other intervenors in the form of opportunity to comment within the appropriate review period, as on an EIS-supplement.

Final acceptance of the FSAR by the Federal Power Commission would be required before the plant could receive its first full cargo of LNG.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 1 1977

MEMORANDUM FOR: Chairman Rowden
Commissioner Gilinsky
Commissioner Kennedy

THRU: Lee V. Gossick (Signed) Lee V. Gossick
Executive Director for Operations

FROM: William J. Dircks
Assistant Executive Director
for Operations

SUBJECT: REQUEST FROM CALIFORNIA ENERGY RESOURCE COMMISSION
FOR ASSISTANCE IN NON-NUCLEAR SAFETY REVIEWS

On Thursday, February 24, Brian Grimes of NRR and I met with Robert Solomon, Chief of Policy and Program Evaluation, for the California Energy Resources Conservation and Development (CERCDC). Solomon had requested the meeting in order to explore the feasibility of securing NRC assistance in the review of the health and safety aspects of a proposed LNG facility to be constructed in California.

The FPC is conducting proceedings relating to an LNG facility to be located in California. California officials represented by the Energy Commission have testified before the FPC and have expressed concern about the need for additional resources and measures to assure system safety in the post permitting stages. Such additional measures would include final design review, monitoring of construction and plans, monitoring of facility operation, and assurance of acceptable safety contingency planning.

California has requested that FPC should condition its certificate approvals to not allow the facility to operate until a final safety analysis report (FSAR) has been completed and accepted and it has been determined that the facility has been built in accordance with the terms and conditions of the FSAR. The FSAR process, which the Commission pointed out should be similar to the FSAR process used by the U. S. Nuclear Regulatory Commission, would entail detailed independent review of final design and construction, safety contingency planning and testing, and should extend through initial start-up.

The State Energy Commission feels that the technical know-how for the implementation of the envisioned FSAR process does not exist either at the State or local level or with the FPC. In the view of the State Commission, such expertise is well established and presently exists in NRC, the Department of Defense, and NASA.

What Solomon was seeking in his meeting with us was an indication of any willingness on the part of NRC to assist them in:

- Reviewing of the FSAR;
- Establishing technical conditions for approval of project;
- Monitoring and inspecting construction operations;
- Reviewing initial start-up operations.

The State estimates that the NRC involvement would require several technical man years of effort over a three-year period.

If NRC agreed to assist it, the State would like FPC to contract with NRC to carry out the work. If FPC refused, the State would contract directly with NRC.

We ended the meeting with our agreeing to refer the matter to the Commissioners. We warned Mr. Solomon that, in view of the unusual nature of the proposal, the probable legal difficulties, and the very stringent manpower constraints faced by NRC in carrying out its own nuclear program, it would be difficult to be optimistic about securing full-scale NRC support for the State in the endeavor.

Solomon said that in view of the timing of FPC actions on the project he would be calling within a week to see if anything could be worked out.

If the Commission wishes to pursue this matter any further, we will secure the necessary legal and resource analyses.

If the Commission wishes to provide some level of support to the State short of the full-scale effort laid out by Solomon, we will explore alternatives with him.

(Signed) William J. Dircks

William J. Dircks
Assistant Executive Director
for Operations

Enclosure D

Testimony of Camp Pendleton Officials



177 FORTY
 1777 OFFICE
 1777
 1777 CAMP PENDLETON
 1777 CALIFORNIA 92455
 Case No.
 Site No.
 1777
 1777 INFORMATION CONTACT
 1777 NIGHT PUBLIC
 1777 1777-1777/

OFFICIAL PRESS RELEASE

LNG POLICY STATEMENT

CAMP PENDLETON, Calif., May 15 — The following statement was made at a California Coastal Commission public hearing today at Los Angeles.

I am Major General Carl W. Hoffman, U.S. Marine Corps, commanding general of the Marine Corps Base at Camp Pendleton, Calif. I am here representing the Commandant of the Marine Corps, and I will present his position and the position of the Secretary of the Navy on the proposed establishment of a liquified natural gas terminal at Camp Pendleton.

As you know, the Secretary of the Navy and the Commandant of the Marine Corps have stated that no site at Camp Pendleton is available for use as an LNG terminal. I will reiterate their reasons and urge you to reject the staff recommendation that the terminal be sited at Camp Pendleton.

- more -

LNG POLICY STATEMENT

ADD 1-1-1-1

Camp Pendleton houses the major ground combat elements and a few of the air combat elements of the I Marine Amphibious Force or I MAF. This force consists of the 1st Marine Division, the 3d Marine Aircraft Wing and a number of associated combat and logistical commands — all maintained in a high state of combat readiness for immediate use anywhere in the world.

The camp itself is a prime training area for all these air and ground combat commands. It contains 38,000 acres of ranges on which all the air and ground weapons of the force — including supersonic jet aircraft — are regularly exercised. It also has the only beach areas in the Western United States on which I MAF can hone the amphibious assault responsibilities assigned to U. S. Marines by federal law.

Construction of an LNG terminal at Camp Pendleton would have such a severe impact on these facilities that the combat readiness of I MAF and associated elements of the U. S. Navy would be seriously — perhaps irreparably — degraded.

For example, we would have to terminate the training of large landing forces. The 9,000-foot pier and LNG tanker activity would prevent the deployment and maneuver of the naval forces necessary for large landing exercises. Even small unit training could not receive the aircraft support vital to the success of landing forces. The LNG terminals and LNG tankers are hazardous areas, and high performance aircraft cannot fly over them at low altitude without violating peacetime safety rules.

We would also lose the use of our aircraft bombing range. The only air corridor to this range passes right over the terminal site. This corridor was designed by the Federal Aviation Administration and the U. S. Navy, to meet specific requirements. It keeps aircraft away from the San Onofre Nuclear Power Plant, military and civilian housing areas and Camp Pendleton's ammunition storage areas. It is used by fully armed aircraft — that is, aircraft carrying clusters of 500-lb. bombs — which fly over the terminal site at low altitude and at speeds in excess of 400 knots.

Construction of the terminal would also seriously inhibit training with ground combat weapons. The terminal plans we have seen call for routing natural gas pipelines through the range impact areas. And, rather obviously, we would be unable to fire high explosive ammunition in any area which contained gas pipelines.

The routing of pipelines through training areas would also seriously inhibit training with tanks and other mechanized equipment.

LNG POLICY STATEMENT

ADD 2-2-2-2

It is also pertinent to note that the population density requirements associated with LNG terminals would force us to relocate a number of billeting areas assigned to troops of I MAF. The costs of these relocations have not been refined, but they would be no less than \$40 million — and they could be as high as \$75 million. This, as I understand it, is a cost which would have to be met by the company building the terminal — one which would be passed on to the purchasers of natural gas.

I also must point out that the Secretary of Defense recently directed the Department of the Navy to study the possible relocation and/or consolidation of a number of training activities. One of the proposals under study calls for moving the Marine Corps Recruit Depot at San Diego — and, possibly, the Marine Corps Recruit Depot at Parris Island, S. C. — to Camp Pendleton. If this is done, the most logical Camp Pendleton site for the depot or depots is an area south of the LNG terminal site and adjacent to existing recruit training areas. Doing this might put the areas far above the population density requirements.

Because of all the things I have just told you, I must urge the commission to reject the staff recommendation and omit Camp Pendleton from further consideration as a site for an LNG terminal.

There is one final point to make.

This nation can import natural gas — and many other needed commodities — because the seas are free. American sea power guarantees that.

U. S. Marines are a vital element of sea power.

Establishing an LNG terminal at Camp Pendleton would jeopardize the Marine Corps' ability to contribute to American sea power. We think that would be a foolish risk.

Thank you.

I AM CAPTAIN WAYNE COLLINS REPRESENTING THE WESTERN DIVISION, NAVAL FACILITIES ENGINEERING COMMAND, SAN BRUNO, CALIFORNIA. OUR COMMAND HAS REPRESENTED NAVY INSTALLATIONS IN CALIFORNIA IN MANY DISCUSSIONS INVOLVING THE STATE OF CALIFORNIA'S COASTAL MANAGEMENT PROGRAM THROUGHOUT THE LAST FEW YEARS. WE HAVE ALSO COORDINATED NAVY INTERESTS FOR SIMILAR PROGRAMS IN THE STATES OF WASHINGTON AND OREGON. WE ARE SERIOUSLY CONCERNED WITH YOUR STAFF'S RECOMMENDATIONS REGARDING THE PROSPECTIVE USE OF A SITE AT CAMP PENDLETON FOR A LNG TERMINAL. MY COMMENTS ARE RELATED TO THOSE OF GENERAL HOFFMAN'S, BUT MY COMMENTS DO NOT ADDRESS NAVY/MARINE CORPS MISSION INTERFACES DIRECTLY BUT RATHER PINPOINT OBJECTIONS OF A GENERAL PLANNING POINT POLICY/OF VIEW. WHILE THESE COMMENTS RELATE TO THE NAVY/MARINE CORPS SPECIFIC INTERESTS AT CAMP PENDLETON, THEY ALSO GO BEYOND DIRECT SPECIFICS OF THAT SITE.

THE FIRST SUBJECT DEALS WITH YOUR STAFF'S VIEW AS REGARDS PUBLIC SAFETY IN THIS ISSUE. THE STAFF SEEMS TO BE CONCERNED WITH SAFETY, AT LEAST IN SOME AREAS. ALLOW ME TO CITE SEVERAL QUOTES/SUMMARIES OF STATEMENTS IN THE STAFF REPORT DEALING WITH SAFETY:

- A. "THE SAFETY OF LNG OPERATIONS REMAINS UNCERTAIN."
- B. "THE SINGLE TERMINAL AUTHORIZED....IS TO BE LOCATED AT A SITE REMOTE FROM HUMAN POPULATION IN ORDER TO PROVIDE THE MAXIMUM POSSIBLE PROTECTION TO THE PUBLIC AGAINST THE POSSIBILITY OF ACCIDENT."
- C. "THE COMMISSION HAS SERIOUS CONCERNS ABOUT THE ADEQUACY OF MEASURES TO PREVENT AND TO COPE WITH LNG ACCIDENTS AND ABOUT THE RESEARCH UNDERTAKEN SO FAR TO PREDICT THE CONSEQUENCES OF LNG SPILLS, FIRES, AND VAPOR CLOUD DISPERSION."
- D. "...THE COMMISSION HAS REMOVED LAS VARAS FROM FURTHER CONSIDERATION AS A LNG TERMINAL SITE TO MINIMIZE RISKS TO PERSONS AND PROPERTY.... EVEN THOUGH THE COMMISSION'S OWN CONSULTANTS BELIEVE THAT DESIGN

E. 30263: (A) "NEW OR EXPANDED REFINERIES OR PETROCHEMICAL FACILITIES NOT OTHERWISE CONSISTENT WITH THE PROVISIONS OF THIS DIVISION SHALL BE PERMITTED IF....(5) THE FACILITIES IS SITED SO AS TO PROVIDE A SUFFICIENT BUFFER AREA TO MINIMIZE ADVERSE IMPACTS ON SURROUNDING PROPERTY."

IT APPEARS THAT THE CLEAR INTENT OF SECTION 3 OF THE CALIFORNIA COASTAL MANAGEMENT ACT IS TO MAKE SURE COASTAL DEVELOPMENTS NOT ONLY PROTECT PUBLIC ACCESS, RECREATION, MARINE ENVIRONMENT, ETC., BUT TO ALSO ENSURE THAT NEW HAZARDOUS INDUSTRIAL DEVELOPMENTS ARE PLANNED FULLY CONSIDERING PUBLIC SAFETY. DESPITE THIS OBVIOUS INTENT, THE STAFF REPORT SAYS: "SINCE THE SAFETY OF LNG TERMINAL AND TANKER OPERATIONS IS NOT WITHIN THE COMMISSION'S LEGISLATIVE JURISDICTION, ONLY LIMITED STUDY WAS MADE OF THESE SAFETY ISSUES." ADDITIONALLY, : "THE BASIS FOR SITE RANKING IS THE HEAVY WEIGHTING OF COASTAL ACT POLICIES ON RECREATION, PUBLIC ACCESS, PROTECTION OF NATURAL RESOURCES, AND MINIMIZING ADVERSE DEVELOPMENT IMPACTS....LESS WEIGHT HAS BEEN GIVEN TO THE COASTAL ACT POLICIES PROVIDING FOR CONSIDERATION OF TERMINAL COST AND SAFETY DIFFERENCES AT THE SITES."

THESE LAST TWO STATEMENTS CLEARLY CONFLICT WITH THE INTENT OF CHAPTER 3 OF THE CALIFORNIA COASTAL MANAGEMENT ACT AND STAFF'S OWN WORDS QUOTED EARLIER VOICING CONCERN OVER SAFETY ISSUES AND THE OUTHRIGHT DISMISSAL OF AT LEAST ONE SITE DUE SOLELY TO SAFETY CONSIDERATIONS. CLEARLY ANY MAJOR LNG TERMINAL RANKING EFFORT BY THE STATE WHICH DOES NOT FULLY INCLUDE ^{ALL} ASPECTS OF PUBLIC SAFETY IS LITTLE MORE THAN AN INTERESTING ACADEMIC EXERCISE. THE ISSUE OF PUBLIC SAFETY MUST BE A MAJOR, AND WE WOULD SUGGEST THE PRIME, CONSIDERATION ^{UPON WHICH} BEFORE A FINAL STATE DECISION ON SITING IS MADE ~~MADE~~ BASED.

IF, IN FACT, YOU FEEL THAT YOUR RANKING CHARTER DOES NOT PERMIT ^{FULL} CONSIDERATION [^] OF PUBLIC SAFETY ISSUES, THEN THIS LIMITATION MUST BE FULLY DISCLOSED

TO THE PUBLIC THROUGH THE MEDIA AND THE OTHER CONSIDERATIONS REGARDING PUBLIC SAFETY ARE NOT APPROPRIATE IN YOUR REPORT - SUCH AS THE DISMISSAL OF ONE OR MORE SITES FOR SAFETY REASONS. IF SAFETY IS A CONSIDERATION IN YOUR FINDINGS, THEN YOU MUST THOROUGHLY EXPLORE ALL ASPECTS OF THE SAFETY ISSUE, NOT JUST THE ONES WHICH ARE MOST FAVORABLE TO A PARTICULAR POINT OF VIEW OR WHICH MIGHT BE MOST EASILY UNDERSTOOD. ^{WE BELIEVE} THE OPERATIONAL HAZARDS AT CAMP PENDLETON, ^{FROM THE LNG INTERFILE ARE} ~~WE BELIEVE ARE~~ MORE SEVERE FROM A PROBABILITY POINT OF VIEW THAN SEISMIC ^{RISKS,} CONSIDERING THE PROPOSED SITING OF A TRESTLE AND TANKER BERTH IN THE TRACK OF NAVAL SHIPS ON MANEUVERS, AND SITING OF THE TERMINAL WHERE IT WOULD BE REGULARLY OVERFLOWN BY ARMED HIGH PERFORMANCE AIRCRAFT AT LOW ALTITUDE IN RESTRICTED AIR SPACE. YOU CANNOT PICK AND CHOOSE THE SAFETY ASPECTS YOU CONSIDER AS THE ONES BEST FITTING EITHER THE ANSWER YOU WANT OR THE ONES YOU BEST UNDERSTAND. YOU MUST LOOK AT THE SAFETY QUESTION CAREFULLY AND COMPLETELY, OR TELL THE WORLD THAT YOUR RANKING HAS NO CONSIDERATIONS REGARDING THE QUESTION OF PUBLIC SAFETY WITHIN IT, BUT IS LIMITED ONLY TO CONSIDERATIONS OF AN ENVIRONMENTAL ^{CHARACTER.} ~~NATURE~~

AS AN ADDED PARENTHETICAL COMMENT ON SAFETY, WE STILL ^{DO NOT} ~~DO NOT~~ UNDERSTAND THE STATE'S POPULATION LESPITE RESTRICTIONS, WHICH ARE CONCERNED ONLY WITH PERMANENT RESIDENTS AND WORKERS NEAR A LNG TERMINAL. WHEN YOU CONSIDER, (1) THAT INTERSTATE 5 IS ABOUT AS CLOSE AS YOU CAN GET TO THE SITE WITHOUT BEING ON IT, (2) AND THE STATE'S PERMANENT POPULATION DENSITY RESTRICTION IS ABOUT 27 PEOPLE LIVING OR WORKING WITHIN ONE MILE OF THE SITE, AND (3) THAT THE STAFF REPORTS THE PEAK DENSITY ON INTERSTATE 5 IN THE VICINITY OF HORNO CANYON TO BE 7,080 PEOPLE PER MILE, IT IS DIFFICULT FOR US TO UNDERSTAND THE RECOMMENDATION THAT THIS IS THE BEST SITE IN CALIFORNIA FOR THIS FACILITY. THE SAFETY ISSUE SHOULD CENTER ON REDUCING THE TOTAL NUMBER OF POTENTIAL CASUALTIES RESULTING FROM THE MAXIMUM CREDIBLE ACCIDENT, NOT WHETHER THEY LIVE OR WORK IN THE AREA ON A REGULAR BASIS. PEOPLE ARE PEOPLE, WHETHER THEY ARE TRANSIENT OR NOT.

I WOULD LIKE TO RAISE ONE LAST QUESTION OF A DIFFERENT NATURE. THIS ENTIRE RANKING ISSUE WITH WHICH/ARE EMBROILED IS BEING CARRIED OUT UNDER THE JURISDICTION OF THE STATE'S COASTAL MANAGEMENT PROGRAM, WHICH, IN TURN, IS UNDER THE JURISDICTIONAL UMBRELLA OF THE FEDERAL COASTAL MANAGEMENT ACT. I AM CERTAIN YOU ARE AWARE OF THE FOLLOWING LANGUAGE IN THE FEDERAL COASTAL ZONE MANAGEMENT ACT: "EXCLUDED FROM THE COASTAL ZONE ARE LANDS THE USE OF WHICH IS BY LAW SUBJECT SOLELY TO THE DISCRETION OF OR WHICH IS HELD IN TRUST BY THE FEDERAL GOVERNMENT." OBVIOUSLY, NEITHER CAMP PENDLETON, NOR ANY OF THE OTHER NAVY/MARINE CORPS PROPERTY IN CALIFORNIA, IS LOCATED WITHIN THE STATE OF CALIFORNIA'S COASTAL ZONE. THE AUTHORITY OF THIS COASTAL ZONE COMMISSION TO PUBLICLY CONSIDER FUTURE DEVELOPMENT ON THIS NON-EXCESS FEDERAL PROPERTY TO THE EXTENT OF INCLUDING THE SITE IN A PUBLIC RANKING LIST ALONG WITH OTHER SITES WHICH ARE UNDER THE COMMISSION'S JURISDICTION, AND USING RANKING CRITERIA CONTAINED IN THE STATE'S COASTAL MANAGEMENT LEGISLATION, IS QUESTIONED.

THANK YOU FOR PERMITTING THE TIME FOR THESE COMMENTS.

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June 16, 1975

SECY-75-285

COMMISSIONER ACTION

For: The Commissioners

Thru: Executive Director for Operations *JL*

Subject: PROPOSED FEDERAL REGISTER NOTICE CIRCULATED BY THE OFFICE OF PREPAREDNESS, GENERAL SERVICES ADMINISTRATION: "RADIOLOGICAL INCIDENT EMERGENCY RESPONSE PLANNING--FIXED FACILITIES AND TRANSPORTATION, NOTICE OF INTERAGENCY RESPONSIBILITIES"

Purpose: To attain Commissioner comments/approval of NRC response to GSA.

Category: This paper covers a minor policy issue.

Discussion: On January 24, 1973, the AEC concurred in a "Notice of Interagency Responsibilities" entitled "Nuclear Incident Planning--Fixed Facilities" promulgated as a Federal Register Notice by the Federal Office of Emergency Preparedness (OEP). OEP has since been disestablished and its emergency planning functions assigned to the Office of Preparedness, General Services Administration (OP/GSA).

OP/GSA proposes to reissue this "old Notice" to outline Federal responsibilities for "Radiological Incident Emergency Response Planning--Fixed Facilities and Transportation" (transportation accidents involving radioactive materials).

Under the provisions of the proposed "new Notice":

- NRC is assigned "Lead Agency" responsibilities for this type of planning, replacing AEC (Regulatory) which had assumed these responsibilities under the old AEC organization.
- The Energy Research and Development Administration (ERDA), the Department of Transportation (DOT) and the Federal Disaster Assistance Administration (FDAA) are added to the family of Federal agencies that are currently providing support in the planning effort.

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- Responsibilities for transportation accident emergency planning have been added and assigned to DOT.
- The Environmental Protection Agency (EPA), the Defense Civil Preparedness Agency (DCPA) and the Department of Health, Education and Welfare (HEW) retain existing responsibilities.

The responsibilities assigned to NRC in the "new Notice" are compatible with existing activities in this area under the provisions of the "old Notice." Responsibilities of other agencies are essentially unchanged except in regard to DOT as noted above.

Coordination: All major offices of the NRC and the Office of the Executive Legal Director concur in the provisions of the Notice including the assignment of the designated specific responsibilities to the other involved Federal agencies.


Herbert H. Brown, Director
Office of International
and State Programs

Enclosures:

1. Ltr to Gen. Leslie W. Bray,
Director, OP/GSA
2. Ltr to Chairman W. A. Anders,
NRC from General Bray
3. "Old Notice" of Interagency
Responsibilities
4. "New Notice" (proposed) of
Interagency Responsibilities

Contact: Harold E. Collins
Extension 7220

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Wednesday, June 25, 1975.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DRAFT
HECollins:sw
6/6/75

General Leslie W. Bray, Jr., Director
Office of Preparedness
General Services Administration
GSA Building
Washington, D.C. 20405

Dear General Bray:

The Nuclear Regulatory Commission (NRC) has received the proposed "Notice of Interagency Responsibilities for Radiological Incident Emergency Response Planning -- Fixed Facilities and Transportation," transmitted by your letter of May 23.

NRC concurs in the provisions of the notice and accepts the specific responsibilities assigned to the NRC. The responsibilities as outlined for NRC in the proposed notice are compatible with existing NRC activities in this area pursuant to the old Office of Emergency Preparedness Notice of January 24, 1973.

Sincerely,

Lee V. Gossick
Executive Director for Operations

or

William A. Anders
Chairman



UNITED STATES OF AMERICA
GENERAL SERVICES ADMINISTRATION

Office of Preparedness
Washington, D C 20405



MAY 23 1975

Honorable William A. Anders
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Chairman:

Enclosed for your concurrence is a proposed statement of responsibilities concerning radiological emergency response planning. It is a revision of a similar statement approved by the departments and agencies concerned, and promulgated by the Director, Office of Emergency Preparedness, in the Federal Register of January 24, 1973. This statement dealt only with planning in relation to incidents at fixed nuclear facilities.

In the course of updating and revising the statement of responsibilities, some substantive changes and additions have occurred. Transportation incidents involving radioactive materials and Department of Transportation responsibilities have been covered for the first time. The lead agency for Federal radiological response planning and assistance to State and local governments is assigned to the Nuclear Regulatory Commission in place of the Atomic Energy Commission. Also, needed clarification of roles and relationships among the various agencies has been provided.

The enclosed statement has been prepared and agreed to by our staff people who are involved directly in carrying out the assigned responsibilities. It is my intention to have it published in the Federal Register when your formal concurrence is received.

Sincerely,


LESLIE W. BRAY, JR.
Director

Enclosure

3741

OFFICE OF EMERGENCY PREPAREDNESS

NOTICE

NUCLEAR INCIDENT PLANNING— FIXED FACILITIES

Notice of Interagency Responsibilities

The following notice of interagency responsibilities is issued by the Office of Emergency Preparedness in order to provide full public information concerning the general course and method by which certain nuclear incident planning responsibilities are channeled and determined (5 U.S.C. 552(a) (1) (B)).

Purpose.—This statement sets forth the responsibilities as agreed between certain Federal agencies in connection with fixed facility nuclear incident planning at the Federal level and for the provision of planning assistance to State and local governments.

Background.—Formal statement of the respective roles of the various Federal departments and agencies is made in connection with the role of the Office of Emergency Preparedness in coordinating the emergency planning efforts of the Federal agencies as assigned by Executive Order 11051. Current planning activities are taking place at all levels of Government as well as in private industry. At the Federal level, several agencies have been cooperating on an informal, ad hoc basis to lend assistance to State and local governments in nuclear incident planning.

Responsibilities.—The Atomic Energy Commission will be the lead operating agency in nuclear incident planning activities among Federal agencies and in Federal assistance to State and local governments, and the Office of Emergency Preparedness will exercise general monitoring of these activities. Responsibilities of AEC, OEP and other Federal agencies are detailed below.

The Atomic Energy Commission will be responsible for:

1. Issuance of instructions on nuclear incident planning to other Federal agencies related to national level planning and related to their responsibilities and authorities in dealing with State and local governments.

2. Development and promulgation of guidance to States and localities, in coordination with other Federal agencies, for the preparation of radiological emergency response plans.

3. Review and concurrence with such plans. (Proper correlation among State, local government, licensee, and national plans, e.g., Interagency Radiological Assistance Plan (IRAP), is an element of this review.)

4. On the technical side:
 - a. Determination of the accident potential at each fixed nuclear facility.

- b. Issuance of guidance for establishment of effective systems of radiation detection and measurement in nuclear incidents.

The Environmental Protection Agency will be responsible for:

1. Establishment of Action guidelines based on projected radiation exposure levels which might result from nuclear incidents.

2. Recommendations as to appropriate protective measures which can be taken by governmental authorities to ameliorate the consequences of an incident and reduce the potential population exposure in consideration of the possible radiation levels.

3. Assistance to State health departments or other State agencies that have responsibilities for radiological response, in the development of their emergency plans, following the guidelines issued by AEC.

4. Cooperation with AEC in establishment of radiation detection and measurement systems.

The Department of Health, Education, and Welfare will be responsible for:

1. Assistance to State health departments, State hospital associations, and other professional organizations, and ambulance services, in the development of plans for the prevention of adverse effects from exposure to radiation and for health and medical care responses to nuclear incidents consistent with guidelines issued by AEC and plans of other agencies.

2. Recommendations as to appropriate planning actions necessary for evaluation, prevention and control of radioactive contamination of foods, drugs, and animal feeds.

3. Collaboration with EPA in the determination of radiation exposure levels related to the health and safety of ambulance services and hospital personnel.

4. Cooperation with AEC in establishing radiation detection and measurement systems for ambulance services and hospital emergency departments.

The Defense Civil Preparedness Agency will be responsible for:

1. Assistance to State and local authorities in planning the general emergency preparedness actions required in response to nuclear incidents, consistent with AEC guidance.

2. Recommendations and guidance on the use of the civil defense radiological monitoring system.

The Office of Emergency Preparedness will exercise general monitoring of Federal nuclear planning activities. This will include:

1. Review and endorsement of AEC policy directives to other Federal agencies and policy guidance to States.

2. Assistance in resolving Federal interagency or Federal-State problems when necessary to the fulfillment of AEC's assigned mission.

3. Encouragement of States to produce nuclear incident plans as part of their general State emergency planning.

4. Assistance to AEC in developing priorities among those areas where nuclear incident planning is required.

5. Facilitating State and local contacts for AEC.

Other Federal agencies will be involved in specific instances of nuclear incident planning participation and assistance in accordance with their basic responsibilities and functions. Details of such participation as part of the coordinated Federal effort will be a development of each localized planning activity.

Dated: January 17, 1973.

G. A. LINCOLN, Director,
Office of Emergency Preparedness.

[FR Doc. 73-1384 Filed 1-23-73; 8:45 am]

FEDERAL REGISTER NOTICE
GENERAL SERVICES ADMINISTRATION

RADIOLOGICAL INCIDENT EMERGENCY RESPONSE PLANNING --
FIXED FACILITIES AND TRANSPORTATION

Notice of Interagency Responsibilities

This notice is issued by the General Services Administration (GSA), to provide full public information concerning the general course and method by which certain radiological incident emergency response planning responsibilities are channeled and determined (5 USC 552(a)(1)(B)). It supersedes the Federal Register notice of January 24, 1973 (38 FR 2356).

Purpose--To state the responsibilities as agreed between certain Federal agencies in connection with radiological emergency response planning at the Federal level for fixed nuclear facilities and transportation incidents involving radioactive materials and for providing coordinated Federal assistance to State and local governments in their emergency response planning related to such incidents. Policy and planning guidance to Federal agencies and planning assistance to States will be directed toward those incidents whose effects extend beyond the boundaries of a nuclear facility or site where radioactive materials are used, or the immediate area of an incident involving the transportation of radioactive material. It is intended that the plans and arrangements developed by Federal agencies and by the States for responding to the contingencies set forth in this notice will be encompassed subsequently in Federal and State planning documents which provide for the full

spectrum of peacetime nuclear emergencies. It is also intended that this Statement of Responsibilities will provide a continuing stimulus to State and local government emergency planning for responding to radiological incidents.

Background--Formal statement of the roles of the Federal departments and agencies, as set forth in this notice, is made pursuant to Executive Orders 11051 and 11490 and in connection with the responsibility of the Office of Preparedness to stimulate vigorous State and local participation in emergency preparedness measures and in achieving a coordinated working relationship between the various elements of State governments and the Federal agencies to which specific emergency preparedness functions have been assigned. While there is substantial assurance of an exceedingly low probability of incidents involving radioactive materials in fixed nuclear facilities and in the transportation of those materials, the anticipated proliferation of nuclear power plants and materials in the near future requires early consideration of this problem and adequate emergency planning for such contingencies. At the Federal level, several agencies are cooperating to lend assistance to State and local governments in developing emergency plans for fixed nuclear facilities and the transportation of nuclear materials. Current planning activities are taking place at all levels of government, as well as in private industry.

Responsibilities--The Nuclear Regulatory Commission (NRC) is the lead agency in radiological incident emergency response planning activities, as set forth in this notice, among Federal agencies for providing guidance to Federal agencies and to coordinate Federal planning and training assistance to State and local governments. The Office of Preparedness, GSA, exercises general monitorship of these activities. Responsibilities of NRC; the Office of Preparedness, GSA; and other Federal agencies are detailed below.

The Nuclear Regulatory Commission (NRC) is responsible for:

- 1. Issuance of radiological incident emergency response planning guidance to other Federal agencies related to national level planning and to their responsibilities and authorities in providing planning assistance to State and local governments.**
 - 2. Development and promulgation of guidance to State and local governments in coordination with other Federal agencies for the preparation of radiological emergency response plans.**
 - 3. Review and concurrence in such plans. (Proper correlation among State, local government, licensee, and national plans is an element of this review.)**
 - 4. Determination of the accident potential at each licensed fixed nuclear facility.**
-

5. Issuance of guidance for establishment of effective systems of emergency radiation detection and measurement.

The Environmental Protection Agency (EPA) is responsible for:

1. Establishment of Protective Action Guides (PAG) in coordination with appropriate Federal agencies, for use by the States in terms of projected radiation doses which might result from radiological incidents at fixed nuclear facilities or in the transportation of radioactive materials.

2. Recommendations as to appropriate protective actions which can be taken by governmental authorities to ameliorate the consequences of a radiological incident at a fixed nuclear facility or from an incident involving transportation of radioactive materials.

3. Following the guidance issued by NRC, provide assistance to State agencies with radiological emergency response responsibilities in the development of their emergency plans relative to fixed nuclear facilities and transportation incidents involving radioactive materials.

4. The establishment of emergency radiation detection and measurement systems guidelines in cooperation with NRC.

The Energy Research and Development Administration (ERDA) is responsible for:

1. Cooperation with the involved Federal agencies in the development and implementation of radiological emergency response planning

assistance for State and local governments, consistent with NRC guidance.

2. Assisting other agencies in the development and establishment of guidelines on effective systems of emergency radiation detection and measurement, including instrumentation, for State and local governments, in cooperation with NRC.

3. Determination of the accident potential at each non-licensed ERDA fixed nuclear facility.

The Department of Health, Education, and Welfare (HEW) is responsible for:

1. Assistance to State health departments, State hospital association, and other professional organizations and ambulance services, in the development of plans for the prevention of adverse effects from exposure to radiation, including the use of prophylactic drugs to reduce radiation dose to specific organs. This includes health and medical care responses to radiological incidents consistent with guidelines issued by NRC.

2. Issuance of guidance on appropriate planning actions necessary for evaluating and preventing radioactive contamination of foods and animal feeds, and the control and use of such products should they become contaminated.

3. Issuance of guidance on emergency radiation doses related to the health and safety of ambulance services, hospital, and other health

care personnel in cooperation with EPA.

4. Establishing and issuing guidelines for radiation detection and measurement systems for use by ambulance services and hospital emergency departments, in cooperation with NRC.

The Department of Transportation (DOT) is responsible for:

1. In cooperation with NRC and other Federal agencies, and consistent with NRC guidance, the provision of guidelines for the development of that portion of State and local emergency plans pertaining to transportation incidents involving radioactive materials as-described in the Purpose portion of this statement.
2. Assistance to State and local governments in emergency planning for such transportation incidents.

The Defense Civil Preparedness Agency (DCPA) is responsible for:

1. Assistance to State and local authorities in planning the emergency preparedness actions required to provide the mechanism for coordinating emergency operations in response to radiological incidents, consistent with NRC guidance.
2. Issuance of guidance on the use of civil defense resources, at all levels of government, including warning, communications, training, and radiological defense emergency response systems.

Federal Disaster Assistance Administration (FDAA) of the Department of Housing and Urban Development is responsible for:

1. **Guidance to State and local authorities on the disaster preparedness aspects of State emergency planning for fixed nuclear facilities and transportation incidents involving radioactive materials, consistent with NRC guidance, for the preparation of radiological emergency response plans.**

2. **Recommendations to NRC as to appropriate planning actions necessary for evaluation and review of State and local planning activities developed under this notice.**

The Office of Preparedness (OP), GSA, will exercise general monitorship of Federal radiological emergency response planning and training activities. Specifically related to this notice, OP responsibilities include:

1. **Review and endorsement of NRC guidance to other Federal agencies and NRC guidance and planning assistance to State and local governments.**

2. **Assistance in resolving Federal interagency or Federal-State problems when necessary to the fulfillment of the responsibilities assigned to Federal agencies in this notice.**

3. **Encouragement of States to produce plans related to this notice as part of their general State emergency planning.**

4. **Assistance to NRC and DOT in developing priorities, when required, to provide this planning assistance to State and local governments.**

5. Facilitating State and local contacts for NRC and DOT.
6. Maintaining an overview of planning activities and providing policy and planning guidance when required.

Participating Federal agencies will support the development and conduct of emergency response preparedness programs to include training, consistent with the respective responsibilities of the agencies as set forth above.

Other Federal agencies will be involved in specific instances of radiological incident emergency response planning participation and assistance in accordance with their basic responsibilities and functions. Details of such participation as part of the coordinated Federal effort will be a development of each localized planning activity.

Dated:

LESLIE W. BRAY, JR.
Director, Office of Preparedness
General Services Administration

ACRS reviews on one or more site suitability issues, when no adjudicatory decision by the Commission on such issues is requested. The Commission's policy regarding the desirability and nature of early site reviews is set forth in some detail in the Statement of Considerations which would accompany the proposed rule, and would be reflected in the proposed regulations themselves.

The Commission indicated in its testimony in support of S. 1717 and H.R. 7002 (NRC's proposed licensing reform legislation) before the JCAE on June 25, 1975, that the Commission was considering regulations advancing the early site review concept to the extent possible under its present statutory authority. The notice of proposed rule making attached hereto would accomplish this objective. A framework for early site reviews and hearings would be provided that would include production facilities such as reprocessing and commercial isotopic enrichment plants, and testing reactors, as well as nuclear power reactors.

Early reviews and decisions on site suitability issues offer several advantages. They would be of value to construction permit applicants in providing early identification and resolution of site-related problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application. Early consideration of site suitability issues would also enhance the efficiency of the licensing review process by substantially removing the resolution of critical siting issues as a delaying factor in the review process prior to construction authorization. Early hearings on site suitability matters would also serve to enhance public participation by focusing it on crucial issues at an early stage in the review process when it can be most effective.

The proposed amendments to Parts 2 and 50 which follow are designed to encourage and facilitate early consideration of site suitability issues. The amendments would provide for two separate approaches to the early consideration of site suitability issues. Under the first approach, a partial adjudicatory decision, after

hearing, would be obtained on site suitability issues. Under the second approach, site suitability issues would be reviewed by the Commission's Staff and ACRS, and a Staff and ACRS report on the issues would be issued. However, no hearing would be held and no adjudicatory decision would be rendered under the second approach, and the Staff and ACRS findings would not be binding on the atomic safety and licensing boards, Atomic Safety and Licensing Appeal Board, or Commission itself. Under either approach the review could include all site suitability issues and lead to a general conclusion regarding site acceptability, or the review could extend only to selected site suitability issues. The choice of approach would be left to the applicant.

A proposed ONRR Staff report (NUREG) which would describe in some detail the mechanics of Staff reviews of early site submittals for nuclear power reactors would be issued for comment along with the proposed rules.

On a related matter, this paper also proposes that the limited work authorization ("LWA") concept, which presently applies only to nuclear power reactors, be extended so as to apply to production facilities, such as commercial isotopic enrichment plants and fuel re-processing plants, and testing reactors. From a legal standpoint, the present concept can be made applicable to all production and utilization facilities where an environmental impact statement is required. From a policy standpoint, the same kind of time savings that the application of the LWA concept has produced in the case of nuclear power reactors can potentially be realized in the case of other production and utilization facilities. An LWA provision designed to confirm NRC's LWA authority is set forth in NRC's proposed licensing legislation. While the provision of the legislation applies only to power reactors (as does the present regulation in 10 CFR § 50.10(e)), NRC has stated in response to JCAE questions that there appeared to be no compelling reason why the provision could not be extended to other kinds of facilities.

The matter of fees for early site reviews will be addressed in a separate Commission paper dealing with fees generally.

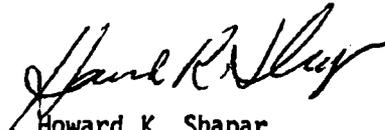
Recommendation: That the Commission approve the attached notice of proposed rule making, public announcement, and Staff report (for comment).

Coordination: This paper has been concurred in by the following offices:

Office of Nuclear Reactor Regulation
Office of Standards Development
Office of Nuclear Material Safety and Safeguards

Comments made by the Office of the General Counsel and the Office of Policy Evaluation are discussed in Attachment E.

Scheduling: At an early policy session.


Howard K. Shapar
Executive Legal Director

Attachments:

1. A - Notice of Proposed Rule Making
2. B - Impact/Value Analysis Prepared by ONRR
3. C - Public Announcement Prepared by OPA
4. D - ONRR Staff Report (NUREG)
5. E - Response to OGC and OPE Comments with OPE markup.

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Advisory Committee on Reactor Safeguards
Secretariat

ATTACHMENT A

NUCLEAR REGULATORY COMMISSION

[10 CFR Parts 2 and 50]

Early Site Reviews and Limited Work Authorizations

Notice is hereby given that the Nuclear Regulatory Commission has under consideration amendments to its regulations in 10 CFR Part 2, "Rules of Practice," and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," which would encourage and provide for early review of site suitability issues associated with nuclear power reactors and other large utilization and production facilities, and extend the so-called "limited work authorization" concept to include production facilities such as commercial isotopic enrichment plants and fuel reprocessing plants, and testing reactors.

Early Site Reviews

General Policy Considerations

In recent years the nuclear facility licensing process has increasingly focused on issues regarding the suitability of the proposed facility site. The acceptability of the proposed site is a critical issue in the construction permit review and hearing process, and on a number of occasions unfavorable decisions on site suitability issues have proven to have been dispositive of the applications.

Since July 1968, Paragraph I(c) of Appendix A to Part 2 of the Atomic Energy Commission's (now Nuclear Regulatory Commission's) regulations has provided for consideration of the matter of suitability of a proposed

site for a production or utilization facility separately from, and prior to, consideration of other issues in the hearing on an application for a construction permit. Some applicants have sought and received early site review by the staff, but, under the present system, these reviews have been informal and no firm conclusions have been reached. Very few site reviews have been carried through to a formal staff report and review by the Advisory Committee on Reactor Safeguards. As a result, prospective construction permit applicants have not had a firm basis for planning with reference to the acceptability of potential sites. And it has often been necessary to review site issues again in the context of the construction permit application, with a consequent loss of efficiency in the licensing process.

Early reviews and decisions on site suitability issues offer several advantages. They would be of value to construction permit applicants in providing early identification and resolution of site-related problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application. For example, an early site review could indicate that local geological, hydrological, or meteorological conditions make the proposed site unacceptable, or indicate that the total environmental impact associated with facility construction and operation would be such that it would appear that some other site is superior. Early consideration of site suitability issues would also enhance the efficiency of the licensing

review process by substantially removing the resolution of critical siting issues as a delaying factor in the review process prior to construction authorization. Early hearings on site suitability matters would also serve to enhance public participation by focusing it on crucial issues at an early stage in the review process when it can be most effective. The proposed amendments to Parts 2 and 50 which follow are designed to encourage and facilitate early consideration of site suitability issues.

They would provide for two separate approaches to the early consideration of site suitability issues. Under the first approach, a partial adjudicatory decision, after hearing, would be obtained on site suitability issues. Under the second approach, site suitability issues would be reviewed by the Commission's Staff and Advisory Committee on Reactor Safeguards (ACRS) and a Staff and ACRS report on the issues would be issued. However, no hearing would be held and no adjudicatory decision would be rendered under the second approach, and the Staff and ACRS findings would not be binding on the atomic safety and licensing boards, Atomic Safety and Licensing Board, or Commission itself. Under either approach the review could embrace all site suitability issues and lead to a general conclusion regarding site acceptability, or the review could extend only to selected site suitability issues.

Nature of Review

Under either approach, the conduct of an early review of one or more site suitability issues will require a "decoupling" of site suitability issues

from issues concerning the detailed facility design. However, some information about the nature of the proposed facility will clearly be required for the conduct of the review. Accordingly, some facility design parameters (or reasonable range of facility design parameters) must be postulated for purposes of review. Some helpful guidance regarding environmental design parameters for nuclear power plants is set forth in WASH-1355, "Nuclear Power Facility Performance Characteristics for Making Environmental Impact Assessments," December, 1974. The selection of the appropriate facility design parameters would be made by the applicant. The parameters selected by the applicant would be accepted for the purposes of review unless for some reason it clearly appeared that construction and/or operation of a facility within the specified parameters would be technically infeasible and that, therefore, early site review would not be productive.

Where an overall conclusion regarding acceptability of a proposed site is sought, it would be the Commission's general policy to conduct a review under the National Environmental Policy Act of 1969 ("NEPA") that is as close as possible in scope and depth to the NEPA review that is conducted for a construction permit application containing the preliminary design of the facility. However, the Commission recognizes that the NEPA inquiry into certain subject areas may of necessity be preliminary and/or general in nature. For example, the NEPA review of a nuclear power reactor construction permit application that includes the preliminary design of the facility would include

an assessment of (1) the need for the proposed facility and whether the alternative of not constructing new generating capacity is preferable from a cost-benefit standpoint, (2) whether, assuming new generating capacity is needed, some form of power generation other than nuclear should be adopted from a cost-benefit standpoint, and (3) whether certain alternative plant designs should be adopted from a cost-benefit standpoint. Consideration of these matters at an early site review stage may of necessity be general and preliminary because detailed information regarding the applicant's system needs, the timing of the proposed new facility, and the facility design may not be available at this point in time. The Commission expects that in such situations the environmental impact statement will need to be supplemented prior to the granting of construction authorization.

Clearly, at some point in time the conclusions of an early site review may become outdated. The selection of an appropriate time period for the effectiveness of a partial decision or Staff or ACRS determination on one or more site suitability issues involves competing policy considerations. On the one hand, there is the general desire to base licensing determinations on a review that includes all the most recent information. Facts may change over a period of time, and some mechanism must be provided for consideration of important new information bearing on site suitability matters prior to the granting of the construction authorization. On the other hand, the advantages of an early site

review will not be realized if site suitability issues must be routinely reconsidered de novo when construction authorization is sought.

The Commission believes that an appropriate balance will be drawn between these competing considerations if routine re-review of site suitability issues is required only in cases where construction authorization is sought more than five years after issuance of the partial final decision (under the first approach) or Staff or ACRS determination (under the second approach) on site suitability matters. Such a routine re-review would focus on any relevant new safety or environmental considerations. In the event construction authorization is sought prior to this time, the hearing record or Staff or ACRS report would be reopened only upon an appropriate demonstration that there exists significant new information that substantially affects the earlier conclusions or other good cause.

Governmental Coordination

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in making decisions on questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

Under the proposed amendments which follow, a State could seek and obtain a Commission Staff and ACRS review and determination on the acceptability of a proposed nuclear facility site (the second approach). This could prove to be useful for purposes of State review and planning efforts. Thus, the availability of the second approach would not be restricted to electric utilities or other persons who intend to apply for construction permits. On the other hand, the Commission believes that any partial adjudicatory decision on site suitability issues (the first approach) under its present legislative authority should properly be made within the context of a construction permit application review and hearing. Accordingly, the availability of the first approach to early consideration of site suitability matters will be restricted to those who plan to construct nuclear facilities.

It would be highly desirable if the numerous Federal, State and local reviews and approvals of proposed facility sites could be coordinated into some form of "one stop" review. In one particularly important subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR 60115), provides for early Environmental Protection Agency evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of discharge permits under Section 402 of the Federal Water Pollution Control Act by the Agency in advance of the

issuance of an early site approval (partial adjudicatory decision on site acceptability) by the Commission. In addition, a single environmental impact statement would be prepared, with the Commission as the lead agency, that would satisfy the NEPA requirements applicable to both agencies. A Section 401 State water quality certification would be sought prior to the issuance of the early section 402 discharge permit by the Agency.

The Commission expects to work with other affected Federal agencies to develop similar coordination mechanisms. The large number of State and local agencies that may be involved in nuclear facility siting and environmental impact evaluations makes it difficult for the Commission to develop detailed working procedures with all the agencies. However, plans for the maximum possible coordination are being developed. In the interim as early site review requests are filed, the Commission's Staff will contact the affected State and local agencies and seek to develop coordination procedures on a case-by-case basis.

The Two Approaches

As indicated, the proposed regulations which follow would provide for two approaches to the early consideration of site suitability issues. Under the first approach, a partial adjudicatory decision could be obtained, after hearing, on one or more site suitability issues. The proposed regulations which follow would provide detailed guidance regarding hearings and partial decisions on site suitability issues.

Special provision would be made for early filing of site suitability information in an early submittal of the construction permit application, and for early hearings and partial decisions on site suitability issues. The filing of the remainder of the technical and other general information required in support of the construction permit application could be postponed until after the partial decision on site suitability issues.

Special provision would also be made to assure that no early decision on a limited number of site suitability issues would prejudice the later full consideration of alternative sites. In cases where an early decision on a limited number of site suitability issues is requested, the Commission may require the applicant to supply some preliminary information regarding its site selection process and alternative sites in order to assure that the partial decision would not lead to a commitment of resources such that the later full NEPA review of alternative sites would be prejudiced.

Under the second approach to early consideration of site suitability issues, information regarding one or more site suitability issues would be submitted to the Commission's Staff and (where site safety issues are involved) ACRS for review. Under 10 CFR § 2.101(a), in its present form, a prospective applicant may confer informally with the staff of the Commission prior to filing of an application. As noted previously, in a number of cases applicants have informally submitted site suitability

information to the Commission's Staff for a preliminary review prior to formal submission of the application. While such preliminary views have no binding effect on the atomic safety and licensing boards, Atomic Safety and Licensing Appeal Board, or Commission, they have provided a means for an early identification of significant site suitability problems and their possible resolution.

The proposed regulations which follow would provide for a continuation of this practice on a more structured basis and would extend the review policy to include other interested persons, such as States, who do not intend to apply for a permit. The proposed regulations would be similar in format to 10 CFR Part 50, Appendix O, which provides for a staff-level review of standardized nuclear power reactor designs.

The early Staff review process for environmental issues would include preparation of a partial or full draft environmental impact statement, circulation of the draft impact statement for public and agency comment, and preparation of a partial or full final environmental impact statement. In the case of site safety issues, the review would include both Commission Staff and ACRS reviews and issuance of a Staff site safety evaluation report and ACRS site safety letter. The Commission Staff and (if appropriate) ACRS reviews will culminate in the issuance of a letter setting forth a Commission Staff site position. This letter

would include any recommended conditions or qualifications on the acceptability of the proposed site.

Limited Work Authorizations

On April 24, 1974, the Atomic Energy Commission adopted amendments to its regulations in 10 CFR Parts 2 and 50 to provide for the issuance of so-called "limited work authorizations" for nuclear power reactors. The limited work authorization concept provides a means, whereby, after completion of the staff environmental impact statement and completion of the hearing on environmental issues and certain other specified issues, site preparation and excavation and certain other on-site work may be undertaken by the construction permit applicant prior to issuance of the construction permit. Under the concept, the construction permit would only be issued after successful completion of the review and hearing on the remaining issues. The present concept has substantially improved the nuclear power plant licensing process and the present concept can be made applicable to all production and utilization facilities where an environmental impact statement is required. Accordingly, the proposed amendments which follow would extend the concept to production facilities such as commercial isotopic enrichment plants and reprocessing plants, and testing reactors.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, the National Environmental Policy Act of 1969, and section 553 of Title 5 of the United States Code, notice is hereby given that adoption of the following amendments to 10 CFR Parts 2 and 50 is contemplated. In addition, the Commission's Staff has prepared a Staff report (NUREG) which describes some of the detailed policies and procedures which would be followed by the Staff in its conduct of early site reviews. This Staff report is being issued for public comment along with the proposed regulations. All interested persons who desire to submit written comments for consideration in connection with the proposed amendments and Staff report should send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section by _____*, 1975. Copies of comments on the proposed amendments and report may be examined at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C.

1. Paragraph (a) of § 2.101 of 10 CFR Part 2 is amended by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to § 51.5(a) of this chapter" wherever they appear.

2. A new paragraph (c) is added to § 2.101 of 10 CFR Part 2 to read as follows:

* Insert date 60 days after publication in the Federal Register.

(c) Early Consideration of Site Suitability Issues. (1) An applicant for a construction permit for a production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter, may request that the Commission conduct an early review and hearing and render an early partial decision in accordance with Subpart F on issues of site suitability within the purview of the applicable provisions of Parts 50, 51, and 100 of this chapter. In such cases, the applicant for the construction permit may submit the information required of applicants by the provisions of this chapter in three or (in the case of nuclear power reactors) four parts. One part shall include or be accompanied by any information required by §§ 50.34(a)(1) and 50.30(f) of this chapter which relates to the issue(s) of site suitability for which an early review, hearing and partial decision are sought, and shall include the information required by §§ 50.33(a)-(e) and 50.37 of this chapter. The information submitted shall also include postulated facility design and operation parameters that are sufficient to enable the Commission to perform the requested site suitability evaluations under the applicable provisions of Parts 50, 51, and 100. The second part shall include or be accompanied by the construction permit application fee required by §§ 50.30(e) and 170.21 of this chapter and the remaining information required by §§ 50.30(f), 50.33, and 50.34(a)(1) of this chapter. This part shall be filed while the partial decision on the first part of the application is effective. The third part

shall include the remaining information required by §§ 50.34(a) and (in the case of a nuclear power reactor) 50.34a of this chapter. Filing of this information may precede by no more than six months or follow by no more than six months the filing of the information in the second part. In the case of an application for a construction permit for a nuclear power reactor, a fourth part shall include any information required by § 50.33a of this chapter and shall be filed in accordance with the time periods specified in § 50.33a.

(2) An application submitted in accordance with this paragraph will be initially treated as a tendered application in accordance with paragraph (a) of this section. As such, the application will be subject to an acceptance review for completeness prior to assignment of a docket number.

(3) If the application is assigned a docket number, the Director of Nuclear Reactor Regulation or the Director of Nuclear Material Safety and Safeguards, as appropriate, will send a copy to the Governor or other appropriate official of the State in which the site is located, and will cause to be published in the FEDERAL REGISTER a notice of receipt of the application which states the purpose of the application and location of the proposed site, and in the case of applications filed under section 103 of the Act, states that a person who wishes to have his views on the antitrust aspects of the application presented to the Attorney General for consideration shall submit such views in accordance with a subsequent

notice that will be published in the FEDERAL REGISTER. In the case of a nuclear power reactor, such subsequent notice will be published following submission of the information required by § 50.33a.

3. In § 2.110 the section heading and paragraph (a) are revised to read as follows:

§ 2.110 Filing and administrative action on submittals for design review or early site review.

(a) A submittal pursuant to Appendix O or Q of Part 50 of this chapter shall be subject to §§ 2.101(a) and 2.790 to the same extent as if it were an application for a permit or license.

* * * * *

4. A new Subpart F is added to 10 CFR Part 2 to read as follows:

Subpart F - Additional Procedures Applicable to Early Partial Decisions on Site Suitability Issues in Connection with an Application for a Permit to Construct Certain Production and Utilization Facilities.

§ 2.600 Scope of subpart.

This subpart prescribes procedures applicable to licensing proceedings which involve an early submittal of site suitability information in

accordance with § 2.101(c), and a hearing and early partial decision on issues of site suitability, in connection with an application for a permit to construct a production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or a testing reactor, which is subject to § 51.5(a) of this chapter.

§ 2.601 Notice of hearing on application for an early site review

(a) Where an applicant for a construction permit for a production or utilization facility subject to this subpart requests an early site review and hearing and an early partial decision on issues of site suitability pursuant to § 2.101(c), the provisions in the notice of hearing setting forth the matters of fact and law to be considered, as required by § 2.104, shall be modified so as to relate only to the site suitability issues.

(b) After docketing of the second part of the application, as provided in § 2.101(c)(1), a supplementary notice of hearing will be published pursuant to § 2.104 with respect to the remaining unresolved issues in the proceeding within the scope of § 2.104(b). Such supplementary notice of hearing will provide that any person whose interest may be affected by the proceeding and who desires to participate as a party in the resolution of the remaining issues shall file a petition for leave to intervene pursuant to § 2.714 within the time prescribed in the notice.

Such supplementary notice will also provide appropriate opportunities for participation by a representative of an interested state under § 2.715(c) and for limited appearances pursuant to § 2.715(a).

(c) Any person who was permitted to intervene as a party pursuant to the initial notice of hearing on site suitability issues and who was not dismissed or did not withdraw as a party may continue to participate as a party to the proceeding with respect to the remaining unresolved issues, provided that within the time prescribed for filing of petitions for leave to intervene in the supplementary notice of hearing, he files a notice of his intent to continue as a party, along with a supporting affidavit identifying the specific aspect or aspects of the subject matter of the proceeding as to which he wishes to continue to participate as a party, and setting forth with particularity the basis for his contentions with regard to each such aspect or aspects. A party who files a nontimely notice of intent to continue as a party may be dismissed from the proceeding, absent a determination that the party has made a substantial showing of good cause for failure to file on time, and with particular reference to the factors specified in §§ 2.714(a)(1)-(4) and 2.714(d). The notice will be ruled upon by the Commission or atomic safety and licensing board designated to rule on petitions for leave to intervene.

(d) To the maximum extent practicable, the membership of the atomic safety and licensing board designated to preside in the proceeding on

the remaining unresolved issues pursuant to the supplemental notice of hearing will be the same as the membership designated to preside in the initial notice of hearing on site suitability issues.

§ 2.602 General Procedures

The provisions of Subparts A and G relating to applications for construction permits and proceedings thereon apply, respectively, to proceedings in accordance with this subpart, except as specifically modified by the provisions of this subpart.

§ 2.603 Additional considerations

The Commission may decline to initiate an early hearing or render an early partial decision on issues of site suitability in cases where no partial decision on the relative merits under Part 51 of the proposed site and alternative sites is requested, upon determination that there is a reasonable likelihood that further Commission review would identify one or more preferable alternative sites and the partial decision on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the remainder of the information required by § 50.30(f) of this chapter that would prejudice the later review and decision on such alternative sites.

§ 2.604 Partial decisions on site suitability issues

(a) The provisions of §§ 2.754, 2.755, 2.760, 2.761, 2.762, 2.763, and 2.764(a) shall apply to any initial decision rendered in accordance

with this subpart. Paragraph 2.764(b) shall not apply to any partial initial decision rendered in accordance with this subpart. The authority of the Commission and/or Appeal Board to review such a partial initial decision sua sponte or to raise sua sponte an issue that has not been raised by the parties, will be exercised within the same time period as in the case of a full decision relating to the issuance of a construction permit.

(b) A partial decision on one or more site suitability issues pursuant to the applicable provisions of Parts 50, 51, and 100 of this chapter issued in accordance with this subpart shall remain in effect for a period of five years following completion of Commission or Atomic Safety and Licensing Appeal Board review, as appropriate, of the partial initial decision of the atomic safety and licensing board, after hearing, on the site suitability issues, unless the Commission, Atomic Safety and Licensing Appeal Board, or Atomic Safety and Licensing Board, upon its own initiative or upon motion by a party to the proceeding, finds that there exists significant new information that substantially affects the earlier conclusions or other good cause, and reopens the hearing record on site suitability issues. A partial decision on all site suitability issues shall serve as the decision on general site suitability issues required by § 50.10(e)(2)(ii), unless the record of the hearing on site suitability issues has been reopened for the consideration of new evidence or other good cause, as provided above, in

which case a new partial decision on the reopened site suitability issues (or new partial decision on general site suitability under § 50.10(e)(2)(11)) shall be rendered.

5. Paragraph 2.761(a) of 10 CFR Part 2 is amended by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to § 51.5(a) of this chapter,".

6. Paragraph I(c) of Appendix A to Part 2 is amended to read as follows:

(c) In a proceeding relating to the issuance of a construction permit for a production or utilization facility for industrial or commercial purposes or for a testing facility, which is subject to the environmental impact statement requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 and Part 51 of this chapter, separate hearings and decisions on National Environmental Policy Act and site suitability issues and other specified issues may be held as provided by Subpart F and § 2.761a.

The Commission or the atomic safety and licensing board may consider on their own initiative, or a party may request the Commission or the board to consider other particular issues or issues separately from, and prior to, the other issues relating to the effect of the construction

and/or operation of the facility upon the public health and safety, the common defense and security, and the environment or in regard to antitrust considerations. If the Commission or the board determines that a separate hearing should be held, the notice of hearing or other appropriate notice will state the time and place of the separate hearing on such issue or issues. The board designated to conduct the hearing will issue an initial decision, if deemed appropriate, which will be dispositive of the issue(s) considered at the hearing, in the absence of an appeal or Commission or Appeal Board review pursuant to §§ 2.760 and 2.762, before the hearing on, and consideration of, the remaining issues in the proceeding.

7. Paragraph (e) of § 50.10 of 10 CFR Part 50 is amended by adding the words "or the Director of Nuclear Material Safety and Safeguards, as appropriate," after the words "Director of Nuclear Reactor Regulation" wherever they appear; by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to the provisions of § 51.5(a) of this chapter" wherever they appear; by substituting the words "do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public" for the words "are not subject to the provisions of Appendix B" in subparagraph (1); by substituting the word "facility" for the words "nuclear power reactor" in

subparagraph (2); and by substituting the words "prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public" for the words "are subject to the provisions of Appendix B" in subparagraph (3)(1).

8. In § 50.33a of 10 CFR Part 50, the phrase "Any person" in paragraph (b) is changed to the phrase "Except as provided in paragraph (d), any person" and a new paragraph (d) is added to read as follows:

§ 50.33a Information required for antitrust review.

* * * * *

(d) Any person who applies for a class 103 construction permit for a nuclear power reactor pursuant to the provisions of § 2.101(c) of this chapter shall submit the document titled "Information Requested by the Attorney General for Antitrust Review" at least nine (9) months but not more than thirty-six months prior to the filing of the second part of the application specified in § 2.101(c) of this chapter.

9. A new Appendix Q is added to Part 50 to read as follows:

Appendix Q - Pre-application Early Site Reviews

This appendix sets out procedures for the filing, staff review, and referral to the Advisory Committee on Reactor Safeguards of requests for early review of one or more site suitability issues relating to the construction and operation of certain production or utilization facilities

separately from and prior to the submittal of applications for construction permits for the facilities. The production or utilization facilities are those of the type specified in § 50.21(b)(2) or (3) or § 50.22 or testing facilities which are subject to 10 CFR § 51.5(a) of this chapter. This Appendix does not apply to proceedings conducted pursuant to subpart F of Part 2 of this chapter.

1. Any person may submit information regarding one or more proposed facility sites to the Commission's Staff for its review separately from and prior to an application for a construction permit for a facility. Such a submittal shall consist of the portion of the information required of applicants for construction permits by §§ 50.33(a)-(c) and (e), and, insofar as it relates to the issue(s) of site suitability for which early review is sought, by §§ 50.34(a)(1) and 50.30(f).

2. The submittal for review of one or more proposed sites shall be made in the same manner and in the same number of copies as provided in § 50.30(a), (c)(1) and (c)(3) for license applications. The submittal for early review of each proposed site shall also include postulated facility design and operation parameters that are sufficient to enable the Staff to perform the requested site suitability evaluations.

3. Once the staff has initiated a technical review of a submittal under this appendix, it shall publish in the FEDERAL REGISTER a notice which briefly describes the location of the site and the issue(s) with respect

to which review has been initiated, and it will send a copy of the submittal to the Governor or other appropriate official of the State in which the site is located. The person requesting review shall serve a copy of the submittal on the Chief executive of the municipality in which the site is located or, if the site is not located in a municipality, on the chief executive of the county. The portion of the submittal containing information required of applicants for construction permits by §§ 50.33 (a)-(c) and (e) and 50.34(a)(1) will be referred to the Advisory Committee on Reactor Safeguards (ACRS) for a review and report. There will be no referral to the ACRS unless early review of site suitability issues under § 50.34(a)(1) is requested.

4. Upon completion of its review of a submittal under this appendix, the staff shall publish in the FEDERAL REGISTER a determination as to whether or not the proposed site or sites, or one or more aspects thereof, are acceptable, subject to such conditions as may be appropriate, and make available in the Public Document Room an analysis of the site suitability issues in the form of a report. An approval by the staff and ACRS of a site, or one or more aspects thereof, shall be utilized by and relied upon by the staff and the ACRS in their review of any individual facility license application which incorporates by reference a site approved in whole or in part by the staff in accordance with this paragraph for a period of five years after approval unless there exists significant new information which substantially affects the earlier conclusions or other good cause.

5. The determination and report by the staff shall not constitute a commitment to issue a permit or license, to permit on-site work under § 50.10(e), or in any way affect the authority of the Commission, Atomic Safety and Licensing Appeal Board, atomic safety and licensing boards, and other presiding officers in any proceeding under Subpart F and/or G of Part 2 of this Chapter.

6. The staff may decline to initiate technical review of a submittal under this appendix where it appears that, in cases where no review of the relative merits under Part 51 of the submitted site and alternative sites is requested, there is a reasonable likelihood that further Staff review would identify one or more preferable alternative sites and the Staff review on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the analysis of alternative sites in the Environmental Report that would prejudice the later review and decision on alternative sites under subpart F and/or G of Part 2 and Part 51 of this Chapter.

(Sec. 161, Pub. L. 83-703, 68 Stat. 948 (42 U.S.C. 2201); Sec. 201, Pub. L. 93-438, 88 Stat. 1242, (42 U.S.C. 5841); Sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332)).

Dated at _____ this _____ day of
_____ 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

Secretary of the Commission

Attachment B

Impact/Value Assessment for the Promulgation of an NRC Policy for Early Site Reviews for Planned Nuclear Facilities

INTRODUCTION

As a result of discussions involving the NRC staff and interested industry representatives, the need was identified for establishing a more detailed policy and procedures for the review and approval of sites proposed for eventual construction and operation of nuclear power stations in advance of actual use of the sites in applications for licenses. The proposed policy permits the early submittal of part of the CP application containing site suitability information and the advance partial adjudicatory decisions, after hearing, on site suitability issues (the first approach), as well as the submittal of early site review applications for staff and ACRS review short of an adjudicatory decision (the second approach). Under either approach, a wide spectrum of site issues may be addressed, ranging from a single issue (upon which a go/no-go decision may hinge) to the complete set of site issues (safety and environmental). The intent of the review is to determine a position for the scope of the site issues involved that can be relied upon without re-review when the site is subsequently used in an application for licenses. This should result in the establishment of site parameters that can be assumed later as a basis for the plant design, thereby eliminating the delay and redesign work that can be encountered if these site parameters are established during the CP review as has been generally done in the past.

The proposed policy is intended to complement the program for the standardization of nuclear power plants initiated by the then AEC more than two years ago. That program, which is continuing and gathering increased momentum under the NRC, involves the early review of nuclear plant designs and major portions thereof (i.e., designs for nuclear steam supply systems, and for balance-of-plant) for referencing by utilities in their applications for licenses. The CP review process for these utility applications, while reduced significantly in scope by the use of preapproved standard designs, is still controlled in duration by the review that must be performed for the site. The proposed policy for conducting early site reviews is intended to eliminate this pacing area of review by providing the opportunity for utilities to reference pre-approved sites as well as plant designs in CP applications. Therefore, design information for all major portions of a nuclear power plant - NSS, BOP and site - can be submitted by applicants and be preapproved by the Staff. In such cases, the only remaining areas of Staff review at the time of the docketing of a CP application are those associated with utility-specific matters and site-specific areas (i.e., the design of items such as ultimate heat sink, intake structure, service water piping, etc. may be difficult to define in an ESR application independent of a plant design), and a verification that the plant design selected is compatible with the design parameters associated with the site. With this combination of preapproved major portions of a plant design, the NRC Staff expects to achieve a significant reduction (i.e., as much as a year

for a well prepared application and an uncontested proceeding) in the schedule time for issuance of a CP and an LWA. It should be noted that appropriate changes have already been incorporated in 10 CFR Part 50.33a "Information required for antitrust review" to require the submittal of antitrust information at least nine months but no more than thirty-six months in advance of a CP application. The antitrust review need not be pacing, therefore, for the type of CP application discussed herein.

COMPARISON WITH PRESENT SYSTEM

Heretofore, the staff has performed reviews of certain site issues, usually in an informal manner, as requested by prospective CP applicants. Relative to the present system for conducting such advanced site reviews, the proposed policy, in conjunction with appropriate changes to the Regulations, assures a formalized method for processing such reviews and may be extended at the discretion of CP applicants to include hearings and adjudicatory decisions. For comparison purposes, the proposed system for handling such early site reviews differs from the present system in the following specific ways:

- a. The staff will perform early site reviews, both complete and limited, on a formal basis*. This means that the applicant must provide complete information for the intended scope of the application. The staff will review this information for acceptability and issue a formal report(s) presenting its conclusions. For an application involving site safety matters, the application will be reviewed by the ACRS with attendant ACRS letter report issued. For an application involving

*Applicants may still request preliminary, informal staff reviews of site considerations at their discretion.

environmental matters, a formal report will also be issued. This will result in the issuance of a Staff Site Position (SSP). This early site review can be performed for site environmental and safety considerations ranging from a single issue up to and including the complete site review, at the discretion of the applicant. Under the present system, most early site reviews were of an informal nature with no firm conclusion drawn by the staff. Very few were carried through the SER issuance and ACRS review stages. As a result, the issue (or issues) required re-review in the context of the CP application, with some loss of efficiency in the licensing process.

- b. Additional guidance will be made available (Regulatory Guide 4.Z) for use in preparing early site review applications that will permit the clear separation of site review matters from nuclear plant design matters. This guidance was not available, nor was it necessary, under the present system since all such site reviews conducted to date involved only one or two considerations; none involved all site considerations. Regulatory Guide 4.Z will basically be a composite of the format and information requirements given in Regulatory Guide 4.2 "Preparation of Environmental Reports for Nuclear Power Stations" (Revision 1, dated January 1975) and the site related information normally presented in a PSAR for a CP application (generally chapter 2 "Site Characteristics" of a PSAR). In addition, the information needs identified in

Regulatory Guide 4.Z for an ESR application will be cast in a manner to eliminate the need for plant design information. This is accomplished by establishing site parameter values based on site characteristics as interfaces that must be met by the plant design eventually to be located at the site.

- c. The processing of an ESR application received from a CP applicant can be carried through a public hearing and the issuance of an NRC final decision. This will permit a final conclusion to be drawn regarding the site consideration submitted for review, with no need to routinely re-review these matters even in a public hearing. This has not been done under the present system.

COORDINATION WITH STATES AND OTHER AGENCIES

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in deciding questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

It would be highly desirable if the numerous Federal, State and local reviews and approvals of proposed facility sites could be coordinated into some form of "one stop" review. In one particularly important

subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR 60115), provides for early Environmental Protection Agency (EPA) evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of FWPCA Section 402 discharge permits by the EPA in advance of the issuance of an early site approval (partial adjudicatory decision on site acceptability) by the Commission. In addition, a single environmental impact statement would be prepared, with the Commission as the lead agency, that would satisfy the NEPA requirements applicable to both agencies. A section 401 State water quality certification would be sought prior to the issuance of the discharge permit by the Agency.

The Staff will work with other affected Federal agencies to develop similar coordination mechanisms. The large number of State and local agencies that may be involved in nuclear facility siting and environmental impact evaluations makes it difficult for the Staff to develop detailed working procedures with all the agencies. However, plans for the maximum feasible coordination are being developed. In the interim as early site review requests are filed, the Staff will contact the affected State and local agencies and seek to develop coordination procedures on a case-by-case basis.

INDUSTRY VIEWS

As a vital part of our efforts to develop an ESR policy, discussions were held with several States and utilities and the Atomic Industrial Forum's Committee on Reactor Licensing and Safety (CRLS) to determine in a more direct manner the industry's interest in the promulgation of such a policy. All industry representatives were unanimous in their views that a more formalized procedure for the complete review of sites, or only selected site considerations, should be made available.

The CRLS group, representing a broad consensus of the nuclear industry (utilities, reactor vendors, and architect-engineers), was particularly helpful with its suggestions. In a meeting held in our Bethesda offices on February 21, 1975, the AIF group made the following significant points:

- a. A period of validity of at least five years (ten years is desirable) for the staff site approval is essential to the usefulness of the early site review concept.
- b. The ESR concept should include provisions for considering limited site aspects that can assist a utility in making an early assessment of a site's potential usefulness.
- c. The results of the early site review must be held inviolate during the period of validity unless significant safety aspects are discovered that warrant re-examination.

In formulating the proposed ESR policy, the staff has found the industry suggestions to be generally acceptable and consistent with its needs to assure protection for the public health and safety, and for the environment.

ANTICIPATED ACTIVITY

Several ESR applications, four with limited scope and two with complete scope, have already been submitted for staff and ACRS review. Those applications are shown in Table 1. In addition, more than a dozen other utilities have indicated plans for submitting ESR applications in CY 1976 and beyond. Adequate manpower is available to process the ESR applications already submitted and those anticipated in FY 76 & 77.

ALTERNATIVES

With regard to the issues described in the paper to the Commissioners, the following alternatives have been identified:

1. Publication of the attached notice of proposed rulemaking.
2. Issue nothing regarding early site review until the proposed legislation has been enacted or it is evident that enactment will not occur.
3. Delay issuance of the proposed rules until draft regulatory guides on the content and format of early site submittals by applicants are prepared, and invite comments concurrently on the proposed regulations and guides.
4. Adopt a test for reopening the reviews of site suitability issues for consideration of new information that is different than the test for reopening standardized plant design reviews set forth in 10 CFR Part 50, Appendices M and O.
5. Retain the present LWA rule which is restricted to nuclear power reactors.

TABLE 1

ESR Application Activity

<u>Site</u>	<u>Applicant</u>	<u>Scope</u>	<u>Status</u>
San Joaquin	City of Los Angeles Dept. of Water and Power	Hydrology, geology, and seismology	Submitted 2-28-74 To be completed 8-76
Vidal	Southern California Edison	Geology and seismology	Submitted 10-22-74 To be completed 3-76
Sundesert	San Diego Gas and Electric	Demography, hydrology, geology and seismology	Submitted 4-17-75 To be completed 2-76
Haven	Wisconsin Electric Power	All safety and environmental considerations	Submitted 8-15-75 Schedule not developed
Wood	Wisconsin Electric Power	All safety and environmental considerations	Submitted 8-15-75 Schedule not developed
Yellow Creek	Tennessee Valley Authority	Geology and seismology	Submitted 12-10-75 To be completed 6/76

VALUE/IMPACT FACTORS FOR ALTERNATIVES 1 AND 2

In evaluating the value/impact factors for Alternatives 1 and 2, it becomes obvious that the quantification of these factors is not an appropriate approach, but rather that the merits of these alternatives should be judged on a qualitative basis only. The reason for this, as described above, is that the present Regulations do in fact already permit early site reviews to be performed (10 CFR Part 2, Appendix A, Section I (c)) and therefore there are no quantifiable cost or benefit differences associated with these alternatives. The primary purpose of the proposed change to the Regulations is to provide greater impetus, visibility, and a more defined structure to the early site review process, and these are basically qualitative factors that are not subject to quantification. It is fully expected, however, that a prospective Early Site Review applicant will, as a part of his internal deliberations, perform a detailed, quantitative analysis of the pros and cons of whether and when he should submit, and what scope should be included in, such an application.

The benefits to be derived from the promulgation of an NRC policy for early site reviews (Alternative 1) now rather than await the disposition of the proposed legislation (Alternative 2) are:

1. Provides a structured approach for prospective CP applicants and other entities to obtain Staff and ACRS concussions on site issues that may be relied upon without routine re-review in a subsequent CP application using that site. The ESR policy, combined with the

several approaches already made available for applicants to obtain Staff and ACRS review and approval of standard plant designs, completes the major missing link by permitting design information for all three portions of a nuclear plant design - NSSS, BOP, and site - to be reviewed and approved in advance of need, thereby permitting a substantial reduction in the schedule time needed to grant authorization to construct. -

2. Permits prospective CP applicants to carry the site review through the public hearing process to obtain a final NRC decision that may be relied upon in a subsequent CP application using that site without routine re-adjudication at the public hearing stage.
3. Provides an opportunity for those utilities that have deferred plants in recent months, and have site information in hand, to proceed with at least the Staff review and approval of these proposed sites with minimal additional expense. These potential applications are included in those anticipated for submittal under this proposed policy in FY 76 and FY 77.
4. While awaiting passage of the proposed legislation, establishing and publicizing an NRC policy for early site reviews will encourage applications now, thereby accruing the benefits of the concept of separating site and plant reviews and approvals earlier than would otherwise be possible. It will also promote dialogue with the industry and States regarding such site reviews to enhance the development of procedures and criteria for future applications.

5. Should facilitate obtaining comments from Federal and State agencies on environmental considerations. It is anticipated that passage of the proposed legislation would provide even more assistance in this regard.

The following adverse impacts have been identified:

1. There is a potential that some site considerations, evaluated as part of the ESR application, may need to be re-evaluated in the context of the CP application in which the prior site review is utilized due to changes in site data or changes in evaluation criteria. Therefore, a duplication of effort may result.

The potential for such reevaluation is mitigated by the staff's commitment to apply only significant new evaluation criteria and to consider only significant new site data subsequent to staff approval, and also by the flexibility provided to prospective ESR applicants to request NRC review of site considerations selected at their discretion.

As an example, "need for power" has been identified as a site review consideration that may require updating at the time of site use in a CP application because of the significant variation that may occur in this parameter with time. In an ESR application involving an overall conclusion regarding site suitability from a NEPA standpoint, the staff expects the applicant to present an electrical power demand projection (a qualitative presentation is acceptable) over a period of time that would encompass the submittal date for the plant design information. The projection presented would indicate the time frame during which an additional nuclear power plant must be made operational

At the time of submittal of the full CP application, the applicant must verify by means of an updated power demand projection that indeed there is now a true need for power generation and that the processing of the CP application should go forward.

Other examples of site review considerations that may require updating at the time of site use in a CP application include alternative energy sources, benefit-cost analysis, and demography.

2. There is a possibility that the prospects for passage of the NRC's proposed legislation may be affected. The NRC's proposed legislation includes provision for the issuance of site permits, and the proposed policy and procedure would go far toward advancing the concept of early site reviews without the need for new legislation. The proposed legislation would go one step further by providing for a site permit proceeding that is entirely separate from the construction permit proceeding. Under the legislation site permit applications (as opposed to Early Site Review applications filed under present legislative authority) could be filed by persons who do not intend to apply for construction permits. It is believed that the effects on prospects for passage of NRC's legislation would be small.
3. Additional staff effort will be necessary to process ESR applications. Adequate staff manpower estimated to carry out this program has been included in the FY 76 budget and FY 77 budget request.

CONCLUSIONS

Based on the above analysis, it is concluded that the benefits which may accrue from the promulgation of an NRC policy for early site reviews (Alternative 1) now rather than await the disposition of the proposed legislation (Alternative 2) substantially outweigh the adverse impacts that may occur. It is our assessment that the proposed policy will make available a significant improvement in the licensing process for nuclear power plants to interested applicants. As such, it could provide benefits to all affected groups - design organizations, utilities, the Nuclear Regulatory Commission, and the public.

It should be noted that similar considerations apply to early site reviews for other large production and utilization facilities such as commercial fuel reprocessing plants, commercial isotopic enrichment plants, and large testing reactors.

VALUE/IMPACT FACTORS FOR ALTERNATIVES 3 - 5

Alternative 3

Delay issuance of the proposed rules until a draft regulatory guide on the content and format of early site submittals is prepared, and invite comments concurrently on the proposed regulations and guides.

Value/Impact Factors

Benefit

This would provide information regarding the proposed Staff implementation of the Commission's proposed policy and regulations that would facilitate public comments.

Adverse Impacts

- (1) This would delay publication of the proposed regulations by about three months. The publication of the regulatory guide is presently scheduled to follow promulgation of final regulations and policies by the Commission.
- (2) The regulatory guide is identified and generally described in the attached Staff Report (NUREG). Thus, the thrust and general nature of the proposed guide will be subject to public comment along with the proposed regulations and policy.

Alternative 4

Adopt a test for reopening the reviews of site suitability issues for consideration of new information that is different than the test for reopening standardized plant design reviews set forth in 10 CFR Part 50, Appendices M and O. The test for reopening standardized plant design reviews set forth in 10 CFR Part 50, Appendices M and O (and proposed under Alternative 1) is whether there exists significant new information that substantially affects the earlier conclusions or other good cause. The test that has been adopted by the Appeal Board for reopening a hearing record for consideration of new information once an initial decision is rendered by an ASLB and the matter is pending for review could be adopted. This test is whether there is new evidence of major significance to a proper resolution of the issues. While it is not entirely clear, the language in Appendices M and O may be construed as more stringent than the test adopted by the Appeal Board.

Value/Impact Factors

Benefits

Would provide a test for reopening the record for consideration of new information that would be the same for partial decisions on site suitability issues as for partial decisions on other issues.

Adverse Impacts

- (1) Would be inconsistent with the test for reopening standardized plant reviews under 10 CFR Part 50, Appendices M and O.
- (2) Could result in more frequent re-reviews of site suitability matters.

Alternative 5

Retain the present LWA regulations which only apply to nuclear power reactors.

Benefits

- (1) Would not require any commitments of time and resources for the conduct of special LWA reviews.
- (2) Would eliminate the litigative risks that would be associated with issuance of LWA's for large facilities other than power reactors. However, if the LWA reviews for these other large facilities are carefully conducted, these litigative risks would likely be small.

Adverse Impacts

Would eliminate the possibility that the same time savings that have been realized in the case of nuclear power reactor reviews could also be realized in the case of other large facilities, such as commercial isotope enrichment plants and reprocessing plants.

Conclusion

On the basis of the above, it is concluded that on balance Alternative 1 is preferable to Alternatives 3 - 5.

NRC PROPOSES POLICY FOR EARLY REVIEW OF SITES
PLANNED FOR LARGE NUCLEAR FACILITIES

The Nuclear Regulatory Commission is seeking public comment on a proposed policy and amendments to its Regulations to provide for early review of the suitability of potential sites for nuclear facilities. These measures provide for the processing of applications involving complete site information in both safety and environmental areas as well as applications seeking review of only certain specific areas--such as seismology--which could be a key factor in determining the suitability of a potential nuclear facility site.

Early review and decisions on site suitability would provide early identification and resolution of site-related problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application.

Also, early consideration would substantially remove the resolution of critical siting issues as a delaying factor in the licensing review prior to construction authorization. The early site suitability hearing also could enhance public participation by focusing it on crucial issues at an early stage in the review process.

The proposed procedures would provide two separate approaches to the early consideration of site suitability issues. Under the first approach a partial adjudicatory decision, after an appropriate hearing, would be issued on site suitability matters. Under the second approach, site suitability issues would be reviewed by the Commission's staff and the Advisory Committee on Reactor Safeguards (ACRS), with both the staff and

the ACRS issuing reports. No hearing would be held and no adjudicatory decision would be rendered under the second approach and the staff and ACRS findings would not be binding on the Atomic Safety and Licensing Board, Atomic Safety and Licensing Appeal Board, or Commission itself.

Routine re-review of site suitability issues would be required only when construction authorization is sought more than five years after issuance of the partial final decision (under the first approach) or staff and ACRS determination (under the second approach) on site suitability matters.

At the same time, the Commission is proposing rule changes which would extend the concept of Limited Work Authorizations (LWAs)--a concept which permits limited construction work at the site of a nuclear power station after a detailed review, public hearing, and favorable findings on environmental impact and site suitability issues--to other facilities such as fuel reprocessing plants, uranium enrichment facilities and test reactors.

In the past, the NRC staff has conducted, on request, site reviews for planned nuclear facilities, but these reviews generally were conducted on an informal basis and limited to one or two key issues. A more detailed environmental and site suitability review, duplicating to a large degree the previous informal review, was required at the time of submittal of an application to build the facility.

Under the early site review proposals being announced today, the applicant could submit site information on one or more site suitability issues. In the safety area, this would be reviewed by the NRC staff and the independent ACRS. In the environmental area, it would be reviewed by the staff and participating agencies which comment on draft environmental impact statements.

Under the first approach to early site reviews, a partial adjudicatory decision would be rendered by an Atomic Safety and Licensing Board. This would be followed by an NRC final decision for the specific areas reviewed. The resulting site clearance would be effective for five years unless there were significant new information that substantially affected the earlier conclusions, or other good cause.

For those applications successfully carried through this review process under the second approach, the NRC staff would issue a Staff Site Position (SSP). The SSP would specify the acceptability or unacceptability to the staff of the site for eventual location of a nuclear facility and the parameters for the design of the plant. The SSP would state any conditions imposed by the staff on the site's suitability. The SSP would be good for five years in the absence of significant new information or other good cause.

Copies of the proposed rules and an accompanying staff report which describes the mechanics of the proposed reviews in the case of nuclear power reactors in some detail may be obtained by writing to the Director, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D.C. 20555. Comments on the proposed implementing regulations or staff report should be addressed to the Secretary of the Commission, Attention: Docketing and Service Section, at the same address. Comments should be received no later than __ days following publication of the proposed regulations in the Federal Register on _____.

ATTACHMENT D

NUREG _____

POLICY AND PROCEDURE
EARLY SITE REVIEWS
FOR
PLANNED NUCLEAR POWER STATIONS

Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation

February 1976

ABSTRACT

This document presents the NRC Staff's policy and procedure for Staff review and approval of early site review applications that are independent of specific nuclear power station designs. It encompasses the processing of applications involving complete site information for both environmental and safety areas as well as those involving only certain key areas upon which a go/no-go decision may hinge.

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DEFINITION OF TERMS

ACRS	Advisory Committee on Reactor Safeguards
ASLB	Atomic Safety and Licensing Board
CP	Construction Permit
DSES	Draft Site Environmental Statement
ESR	Early Site Review
FSES	Final Site Environmental Statement
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission
Nuclear Power Station	One or more nuclear power plants
Site-SER	Site-Safety Evaluation Report
SSP	Staff Site Position
Standard Design	Design of a nuclear power plant, or major portion thereof, submitted under the Reference System option of the standardization policy (10 CFR Part 50 Appendix O)

I. INTRODUCTION

As a major part of the Nuclear Regulatory Commission's continuing efforts to improve the effectiveness and efficiency of the licensing process, a policy and procedure has been developed for the early review of sites planned for the location of nuclear power stations, independent of the specific design and construction features of the station itself. Such early site reviews, for new nuclear sites as well as those on which a nuclear power station is already located, can provide advanced assurance of site acceptability by the NRC staff for all site considerations or for certain key areas. This staff report presents a policy and procedure for early site reviews for use by applicants - utilities, States, governmental agencies, or other entities - who wish to pursue this initial step leading to the licensing of a nuclear power station.

To accommodate the variety of applicant needs and siting concerns that may exist, the early site review policy permits the selection of a scope of review, at the discretion of the applicant, that extends from a single site consideration up to and including all site considerations normally addressed in a full CP application. The potential applications are described as follows:

Early Site Review (ESR): This application involves the submittal of complete site information, both in the safety area with the review process carried through the NRC staff and ACRS, and in the environmental area with the review

process carried through the NRC staff and other participating NEPA-commenting agencies. The results of this review may be carried further to obtain a partial adjudicatory decision on site suitability.

Limited Early Site Reviews (LESR): This application involves the submittal of limited site information related to specific site issues in either or both the safety and environmental areas with the review process again carried through the NRC staff and ACRS for the safety areas, and the NRC staff and participating NEPA-commenting agencies for environmental areas. The results of this review may be carried further to obtain a partial adjudicatory decision on the site suitability issues.

The Early Site Review approach offers advanced assurance of the acceptability by the staff of limiting values for site parameters and of environmental analyses performed under NEPA at an early stage in the design of the nuclear power station. With the exception of possible significant new information or other good cause, all site-related considerations may be completely resolved to the satisfaction of the NRC staff, ACRS and participating NEPA-commenting agencies in advance of the submittal of specific nuclear plant design information.

The Limited Early Site Review approach permits applicants to obtain a staff, ACRS and possibly participating NEPA-commenting agency evaluation and conclusion regarding one or more particular site issues important to the siting, design and construction of a

planned nuclear power station. Firm staff decisions on important siting issues at an early date should assist applicants in stabilizing nuclear power station design requirements. Limited Early Site Reviews are available to replace the preliminary, informal type of site review performed in the past, at the applicant's discretion.

To complete the Early Site Review process in its entirety, the applicant may elect to carry the application through a public hearing and an ASLB decision followed by a definitive NRC decision. This may be accomplished for either the complete or limited Early Site Review application. The complete processing of an Early Site Review application through the public hearing phase would be accomplished in the context of a construction permit application.

II. EARLY SITE REVIEWS

Site reviews performed in accordance with this policy will be generally similar to site reviews performed in connection with construction permit applications. The major difference is the lack of a specific nuclear power station design (i.e., that portion of a station design which is not site-related or utility-related). This necessitates the identification and definition of site/station interface design requirements against which the specific design of the nuclear power station must be evaluated to demonstrate site/station compatibility* at the CP application stage. These and other aspects of an early site review are discussed in this chapter.

A. Review Process

As shown in Figure 1, Early Site Review applications will be subjected to the same acceptance review and docketing procedures presently utilized for other types of applications submitted for staff review. The acceptability of a tendered application will be based on a comparison of the informational needs as described in Regulatory Guide 4.Z**.

*For example, see 10 CFR Part 50 Appendix O, paragraph 3.

**Informational needs are given in Regulatory Guide 4.Z, "Preparation of Early Site Review Reports for Nuclear Power Stations".

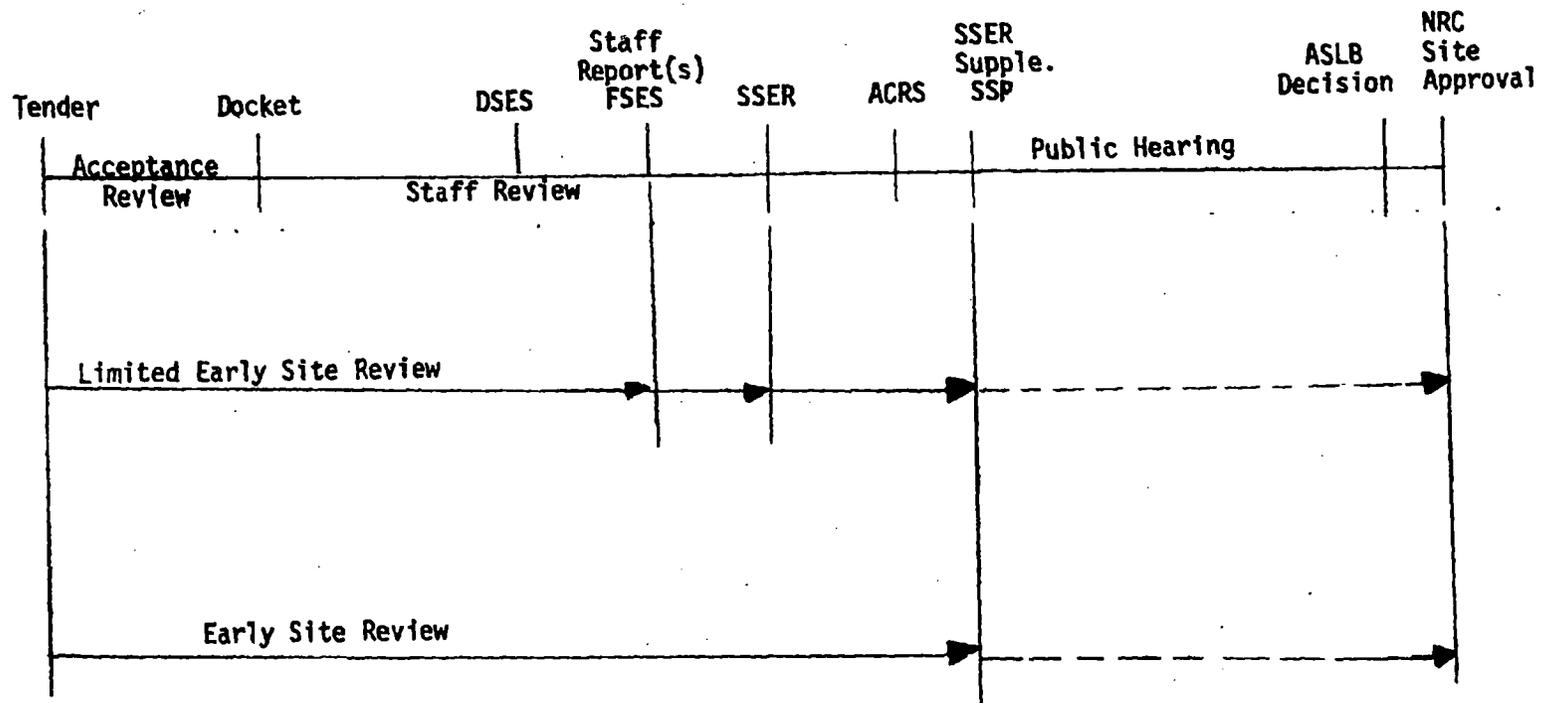


Figure 1

Extent of Review and Approval Process for Early Site Review Applications

As for other applications for staff review, the receipt of Early Site Review applications will be noticed in the Federal Register. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

Following docketing of the application, the staff review will be performed in accordance with present procedures. For the safety areas, the conclusions of the staff review will be documented in a Site-Safety Evaluation Report (SSER). The review will be carried through the ACRS stage with an ACRS letter report issued and SSER Supplement prepared as appropriate. For the environmental area, the conclusions of the review will be documented in a Draft Site Environmental Statement (DSES) distributed for Federal and State agency review, and a Final Site Environmental Statement (FSES) incorporating the resulting comments.

B. Content of Early Site Review Reports

Early Site Review applications must present the necessary site information in two self-sufficient and separate reports -- one for environmental information entitled "Early Site Review-Environmental Report" and the other for safety-related information entitled "Early Site Review - Site Safety Report".

Guidance regarding the format and content of these reports is given in Regulatory Guide 4.Z. This guide includes all the necessary categories of information regarding the description of a site for a nuclear power station. It describes the necessary environmental information similar to that presented in an Environmental Report, and safety-related site information similar to that presented in a Preliminary Safety Analysis Report. In addition, Regulatory Guide 4.Z describes the need for interface information which defines the site-related design limits for the nuclear power station based on the values of the various parameters established for the site. With regard to environmental and meteorological data, 12 months of data must be provided at the time of tendering.

C. Scheduling Considerations

In general, Regulatory processing of Early Site Review applications will be accomplished under a scheduling arrangement similar to that used for applications for licenses, except that a lower priority will be assigned. As discussed in Section A of this chapter and as shown in Figure 1, the major processing steps are the same as for other applications. However, the review areas involved are restricted to those concerned with siting considerations only.

It is anticipated that in the majority of cases the submittal and completion of NRC processing of Early Site Review applications will precede the submittal of a CP application utilizing the site. Other equally acceptable scheduling relationships between the Early Site Review applications and the CP application could involve both reviews underway in parallel. The site review application would be concerned with qualifying the site for a greater number of nuclear power plants than is specified by the CP application. However, the granting of a CP cannot precede the completion of that portion of the site review and approval process for the number of nuclear plants specified in the CP application.

D. Mode of Approval

For Early Site Review applications successfully carried through the staff, ACRS, and Federal and State agency review process, a Staff Site Position (SSP), issued by the NRC staff, will be granted.* SSP documentation will consist of notification to the applicant specifying the acceptability or unacceptability to the staff of the site for eventual location of a nuclear power station, and the acceptability or unacceptability to the staff of the site parameters for the design of the nuclear power station established during the review. It would reference the

*See Chapter IV for a discussion of an alternate method of early site approval involving a public hearing.

original application including the Environmental and Site Safety Reports and would state any conditions imposed on the staff's acceptability of the site, including the need to modify any aspects of acceptability based on significant new information that substantially affects the earlier conclusions or other good cause. At the time the site is used in a CP application, the review process for the site would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision, assuming the applicant has not elected to resolve the site issues in a public hearing as part of the early site review process.

E. Tenure of Approval

For Early Site Review applications, the Staff Site Position (SSP) would have a tenure of five years unless there was significant new information that substantially affected the earlier conclusions or other good cause. During this period, defined as the interval between issuance of the SSP and tendering of a CP application that uses the site, the site could be used in CP applications without staff and ACRS re-review under the conditions specified in the SSP documentation discussed above except for an updating review to determine which of the new information, if any, substantially affect the earlier conclusion. The updating review could be performed as late as and in conjunction with the acceptance review for the PSAR that presents the plant design information. If the site were not utilized in CP applications within the five year period, it would be subjected to a "qualification review" performed

by the NRC staff at the time of its use. The "qualification review" involves a determination of the applicability of any new NRC considerations and requirements or new applicant data that may have arisen since the issuance of the SSP. The site aspects affected by the results of the "qualification review" would be reviewed again. Those areas that are unaffected would not be reviewed again. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with his schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and the Site Safety Report. If no updating is required, the applicant must so certify, including the bases (subject to staff review), at the time of site utilization in a CP application.

Examples of site review considerations that may require updating at the time of site use in a CP application include need for power, source of power, cost-benefit analysis, and population density. For purposes of accomplishing the environmental review under NEPA and determining site acceptability regarding safety considerations at an early stage, it will be necessary to provide projections for some of the site considerations. The validity of these projections

must then be confirmed at the time of site use. Depending upon the extent and direction of departure from these projections, re-review may be necessary.

III. LIMITED EARLY SITE REVIEWS

Limited Early Site Reviews performed under this policy will permit an applicant to obtain NRC staff and, as appropriate, ACRS and participating NEPA-commenting agency review and evaluation of selected site considerations that are determined to be important for a go/no-go decision regarding site acceptability, or for which an early decision is necessary with respect to site selection or advance design efforts for a nuclear power station. The selected site considerations may be in the safety and/or environmental areas, and must qualify as considerations warranting an early and separate review, including whether conducting such a review would tend to foreclose later evaluation of alternate sites.

The NRC staff position associated with a Limited-ESR application must necessarily be confined to the particular site considerations addressed, and for the environmental area, it cannot encompass full NEPA review unless all NEPA considerations are addressed in order to perform the required cost-benefit balancing determination.

A. Review Process

As shown in Figure 1, Limited-ESR applications will be subjected to the same docketing and review procedures as Early Site Review applications. With regard to the acceptability of a tendered Limited-ESR application, the

staff will make a comparison of the informational needs as described in Regulatory Guide 4.Z for the scope of the site considerations addressed, with the information provided in the Limited Early Site Review report(s)*. As for Early Site Review applications, the receipt of a Limited-ESR application will be noticed in the Federal Register and comments from interested persons will be invited. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

With regard to the conclusions of the review, a Staff Report - Safety Considerations will be prepared for safety areas of review, and a Staff Report - Environmental Considerations** will be prepared for environmental areas of review. The latter will be distributed to appropriate Federal and State agencies for review.

*Limited Early Site Review-Environmental Report for environmental information, and/or Limited Early Site Review-Site Safety Report for safety-related information.

**For Limited-ESR applications involving complete NEPA review, the staff will issue a DSES and an FSES.

B. Content of Limited Early Site Review Reports

Similar to Early Site Review applications, Limited-ESR applications must also include a Limited Early Site Review report(s). As discussed in the previous section, the scope of the subject matter addressed may necessitate two separate and self-sufficient reports -- one for environmental information and the other for safety information. The subject matter should be addressed completely in accordance with the appropriate portions of Regulatory Guide 4.2 to permit a conclusion to be drawn in the form of a staff report(s) as discussed in Part A of this section. With regard to the environmental area, site considerations selected for submittal in a Limited ESR application must be isolable considerations for which independent conclusions can be drawn (e.g., it is not possible to draw a final conclusion on some site considerations, on a separate basis, directly involved in the cost-benefit analysis under NEPA since that analysis also depends on many other site considerations).

C. Scheduling Considerations

The NRC processing of Limited-ESR applications will be accomplished under a scheduling arrangement determined by the scope of the review requested and, therefore, decided on a case-by-case basis. The major processing steps are the same as those for Early Site Review applications, as shown in Figure 1.

Relative to the CP application that uses the site, a Limited-ESR application, in order to qualify as such, must be submitted more than six months prior to the submittal of the CP application and will be docketed separately. Special provisions* have previously been made for the submittal of an Environmental Report as much as six months prior to the PSAR for a CP application.

D. Mode of Approval

NRC staff approval of the particular aspects of a site proposed for subsequent location of a nuclear power station will consist of notification to the applicant summarizing the conclusions of the staff, ACRS (as applicable), and participating NEPA-commenting agency (as applicable) reviews including the specific areas of acceptability, limits established for the design of the nuclear power station, and any other necessary qualifications. The Staff Report-Safety Considerations and supplements (including the ACRS letter report) and/or the Staff Report-Environmental Considerations (including participating NEPA-commenting agency comments) become a portion of the approval documentation. At the time the site is used in a CP application, the review process for these site aspects would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision.

*10 CFR Part 2.101(a)

E. Tenure of Approval

A Limited-SSP will have a tenure of approval of five years, the same as an SSP for an Early Site Review application, unless there was significant new information which substantially affected the earlier conclusions or other good cause. As for an SSP, the conclusions given in the Limited-SSP could be utilized in CP applications using the site without re-review by the staff for the five year period. If the site were not utilized in a CP application within the five year period, the prior conclusion would be subjected to a "qualification review" at the time of its use in a manner identical to that for Early Site Review approvals. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and/or Site Safety Report for staff review. If no updating is required, the applicant must so state, including the bases (subject to staff review), at the time of site utilization in a CP application.

IV. PUBLIC HEARING ASPECTS

As a further step toward stabilizing site-related design requirements for the planned nuclear power station at an early stage, an Early Site Review application, complete or limited, may be processed through the public hearing phase as an early part of the CP review process at the discretion of the applicant. The site would then be established as a pre-approved site. The process would involve a public hearing conducted by an ASLB, an Initial Decision by the ASLB, and a Final Decision by the NRC. A site for a nuclear power station that has progressed to this point can be utilized later in the CP review without the need for additional review or public hearings unless there developed significant new information which substantially affected the earlier conclusions or other good cause.

As stated in Section I of this document, only those Early Site Review applications submitted in the context of a CP application may be carried through the public hearing phase. The NRC's proposed legislation would allow consideration of site suitability issues in a site permit proceeding that is entirely separate from the construction permit proceeding. The site permit proceeding would include public hearings when requested by any person whose interest may be affected. Further, under the proposed legislation site permit

applications could be filed by persons who have no intention of filing a construction permit application referencing the site. For example, States could seek a permit as a part of energy facility planning efforts.

ATTACHMENT E

RESPONSE TO OGC AND OPE COMMENTS

The attached comments on the Commission Paper for Early Site Reviews and Attachments A through D thereto were received from the Office of the General Counsel and from the Office of Policy Evaluation. Resolution of these comments was accomplished by modifications to the Commission Paper and Attachments, or by providing further explanation in this Attachment. The remaining comments were judged to require no specific response.

Modifications to the Commission Paper and Attachments were made at the following places:

- Commission Paper - page 4 (2 places)
- Attachment A
 - page 1 (last paragraph continued on page 2)
 - page 6 (first full paragraph)
 - page 9 (middle paragraph)
 - page 18 (last line)
- Attachment B
 - page 8 (added "ALTERNATIVES" Section)
 - page 9 (last line)
 - page 10 (lines 7 and 12 - 16)
 - page 12 (lines 21 - 24)
 - page 13 (line 17)
- Attachment C
 - page 2 (line 8)
- Attachment D
 - Cover page
 - page 4 (lines 5 and 6)
 - page 9 (lines 20 - 24)

In response to certain comments, the views of the Office of Nuclear Reactor Regulation are as follows:

I. Memorandum, P. L. Strauss to T. A. Rehm, dated February 11, 1976

A. Item 1 (2nd paragraph)

The staff believes that no overriding need exists for the retention of greater control over the scope of early site reviews (ESR). To a large extent, the potential for submittal of ESR applications that are wasteful of NRC resources should be small and self-regulating. The economics involved in gathering site data, in gaining control over the site land, in preparing an application for submittal to NRC, and finally in responding to staff information requests during the review dictate that the application submitted be meaningful and the results of value. This would be established during the pre-tendering

meetings between the prospective applicant and the NRC staff that always are associated with any application submitted. As a final measure of control, the staff can assign a low priority to the review of an application that is determined to be an inefficient use of resources.

B. Item 2

All NRC permits, licenses, and approvals have dates of expiration. The staff does not believe site approvals should be treated differently. The 5-year period of non-re-review was selected as a reasonable period relative to the 3-year period for reference systems submitted under Option 1 of the Standardization policy. New safety and environmental considerations or changes in information are expected to arise less frequently for sites than for plant designs. Following the 5-year period, it is the staff's intent to re-review only those aspects of the site that are affected by new safety and environmental considerations. Page 5 of the Notice of Proposed Rulemaking has been modified to reflect this.

II. Memorandum, B. Huberman to T. Rehm, dated February 2, 1976

A. Recommendation on transmittal memo that Attachment D be deleted.

The NRC staff believes that Attachment D ("Policy and Procedure - Early Site Reviews for Planned Nuclear Power Stations") should not be deleted from the ESR Paper for the following reasons:

1. Attachment D provides specific staff guidance on current NRC staff policy regarding details of preparation, acceptance review, docketing, review, and approval of ESR applications. It also addresses the procedures for using site approvals in CP applications before and after the period of effectivity has expired. Such subjects are more appropriately addressed in a separate staff document rather than in the Regulations or Statement of Considerations. Examples of such subjects include:
 - (a) Priority of review (p. 7).
 - (b) Ties Regulatory Guide 4.Z to ESR process (p. 4, 7).
 - (c) Establishes types of applicant and staff documents necessary (p. 6, 8, 14, 15).
 - (d) Describes need for updating (p. 9, 10).
 - (e) Describes purpose of "qualification review" (p. 9, 10).

2. Attachment D provides a vehicle for promulgating modifications to the staff ESR policy as experience is gained during the review of the initial applications. Amendments are more easily made to this document than to the Regulations and Statement of Considerations.
3. Attachment D provides a more visible means for presenting staff guidance for the ESR process.
4. It should be noted that the purpose of Regulatory Guide 4.Z is to provide guidance for the format and intent of ESR applications. While some overlap may finally occur between Attachment D and Regulatory Guide 4.Z, it should be minimal and present no difficulty in implementation.

B. Commission Paper (p. 1): Could an ESR include site-related BOP?

Yes (see p. 2 of Attachment B. Also Regulatory Guide 4.Z will address this subject in greater detail).

C. Commission Paper (p. 1): What does CP review schedule look like if early site approval/PDA is used?

Until Regulatory Guide 4.Z is complete and the staff has worked its way through the initial few applications to assure that most of the problem areas have been encountered and resolved, it is difficult and may be somewhat misleading to define a CP review schedule, involving a site approval and PDA, in greater detail than indicated on pp. 2 and 3 of Attachment B.

D. Commission Paper (p. 2): Do we really want to emphasize ACRS participation in site matters?

As indicated in Attachment D (pp. 1 and 2), ACRS would be involved in the ESR process if issues concerned with site safety are addressed. ACRS would not be involved in the review of environmental issues.

E. Commission Paper (p. 2): Basis of approval period?

Five years has been selected as a reasonable period of approval primarily based on our prior experience that site review considerations are not subject to changes with as great a frequency as plant review considerations. Recently issued PDA's for plant designs have specified 3-year approval periods.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 11, 1976

TO: T. A. Rehm, Assistant to the Executive Director
FROM: *James L. Strauss* for
Peter L. Strauss, General Counsel
SUBJECT: COMMENTS ON EARLY SITE REVIEW PAPER

As you requested, we have reviewed the draft paper entitled "Early Site Reviews for Planned Nuclear Facilities." Overall, we think this is a good piece of work. We believe the paper may go forward but that the Commission may wish to consider the following comments:

1. Under the proposed procedure, it would be entirely up to the applicant to establish the parameters of the site review. He could request a full-fledged site review or limit review to a single issue. The only control the Commission and staff retain would be the situation where it appears that review limited to a single site might foreclose consideration of alternatives. This exception is provided for in proposed § 2.603 of the proposed regulations and paragraph 6 of proposed Appendix Q.

We think that the Commission and the staff should retain greater control of the scope of site reviews. The utility may seek a site review which, in the staff's judgment, would result in an inefficient use of resources. For example, the utility may propose review of issues a and b and not want review of interrelated issues c and d. While it seems perfectly proper to allow the utility to propose a scope of review, the Commission and the staff should retain the authority to require a different scope of review, or to decline review.

In particular, alternative site analysis is one aspect that should be insisted upon. Proposed section 2.603

a)
6/16/76
L. Strauss

(page 17 of the draft notice) is designed to insure that there will be no premature foreclosure of consideration of alternate sites. In that regard, consideration should be given to the possible alternative of a nuclear energy center. For example, it may be that a good location for a center is not far from the proposed site; that, presumably, would cut against approval. Or a proposed single-unit site itself might be appropriate for a center, and that, too, should be taken into account. We think it would be helpful to indicate in the draft notice and in the NUREG document how proposed section 2.603 would be implemented. Thus, at page 4 of the draft notice we suggest insertion of language to the effect that the applicant must provide some preliminary information about alternate sites, including possible center sites, sufficient to permit the determination contemplated by section 2.603. The kind of information that will be required should be spelled out in somewhat greater detail in the section of the NUREG document entitled "Content of Early Site Review Reports."

2. Under the proposed procedure, the site certification would be good for only five years. Page 5 of the draft notice indicates that there would be a de novo site review where the construction permit is applied for more than five years after the site review determination.

To hypothesize an extreme case, a utility might submit a site for review where its primary concern was seismic -- e.g., whether a particular fault in the area was capable. The issue might go to hearing where it might be determined that the site has not moved in millions of years and is very unlikely to move for millions of years to come. Assuming a full-fledged ventilation of that issue at that hearing, there is no reason to consider the issue de novo six years later. And the same may be true of many other kinds of issues. For example, it seems unlikely that a rural site having no special environmental or historic characteristics is going to change significantly in a 10-year period.

The five-year standard would probably make no difference in an uncontested proceeding. The staff would simply review its old work and pronounce it adequate. But in a contested proceeding, the five-year standard may result in needless relitigation by an intervenor bent on delay.

Where a construction permit is applied for within the five-year period, the proposal as drafted would provide that the record would be reopened "upon an appropriate demonstration that there exists significant new information that substantially affects the earlier conclusion or other good cause." This standard for reopening would also be serviceable at later times.

3. We have one stylistic suggestion concerning the draft notice, which is very well written. On the first page, after the first paragraph under "General Policy Considerations" it would be helpful to insert a paragraph summarizing briefly what the present practice is concerning early site review, and the disadvantages of present practice. This would lead naturally to the ensuing discussion of advantages of the proposal. Here is a draft paragraph:

#2
Since July 1968, Paragraph I(c) of Appendix A to Part 2 of the Atomic Energy Commission's (now Nuclear Regulatory Commission's) regulations has provided for consideration of the matter of suitability of a proposed site for a production or utilization facility separately from, and prior to, consideration of other issues in the hearing on an application for a construction permit. Some applicants have sought and received early site review by the staff, but, under the present system, these reviews have been informal and no firm conclusions have been reached. Very few site reviews have been carried through to a formal staff report and review by the Advisory Committee on Reactor Safeguards. As a result,

*/
A prime example would be the creation of or serious planning for a NEC in the vicinity.

prospective construction permit applicants have not had a firm basis for planning with reference to the acceptability of potential sites. And it has often been necessary to review site issues again in the context of the construction permit application, with a consequent loss of efficiency in the licensing process.

See
On page 8, strike the first sentence of the first full paragraph, which is incorporated in the suggested draft paragraph. Strike the word "more" from the second sentence. On page 9, insert the phrase "As noted previously," in the 4th line before "in a number of".



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 2, 1976

MEMORANDUM FOR: Tom Rehm
FROM: Ben Huberman *Ben*
SUBJECT: EARLY SITE REVIEWS (REHM MEMO 1-27-76)

Enclosed is a marked-up copy of the draft staff paper indicating some suggested changes for your consideration.

Attachment D to the paper is duplicative of the Notice of Proposed Rulemaking and the (future) regulatory guide. I recommend that it be deleted.

*nl
w/te
staff*

cc: Peter Strauss, w/o encl.
M. Malsch, w/encl.
W. Haass, w/encl.

CONTACT:
Al Kenneke (OPE)
634-1541

Rec'd Off. Dir. *✓*
Date 2/5/76
Time 8:20

For: The Commissioners
From: Howard K. Shapar, Executive Legal Director
Thru: Executive Director for Operations
Subject: EARLY SITE REVIEWS FOR PLANNED NUCLEAR FACILITIES
Purpose: To obtain Commission approval of a notice of proposed rule making.
Category: *always* This paper involves major policy questions.

Issue: *20* How should the NRC establish a more detailed policy in favor of early site reviews and a more detailed regulatory framework for the early review and hearing on nuclear facility site suitability issues to the extent permitted under present statutory authority? On a related point, should the "LWA" concept be extended to production facilities, such as reprocessing and isotopic enrichment plants, and testing reactors?

Discussion: Since July 1968, Paragraph I(c) of Appendix A to Part 2 of the Atomic Energy Commission's (now Nuclear Regulatory Commission's) regulations has provided for consideration of the matter of suitability of a proposed site for a production or utilization facility separately from, and prior to, consideration of other issues in the hearing on an application for a construction permit. However, no detailed rules for the early consideration of site suitability issues are presently provided.

27 August ~~late~~ *After* last year the Commission considered SECY-75-391, "Early Site Reviews for Planned Nuclear Power Stations", and an Addendum thereto, SECY-75-391A, ~~The Commission~~ directed the Staff to develop a revised paper which would include both a policy statement and proposed detailed regulations for the conduct of early site reviews, to analyze the impact and value of early site reviews, and to include an appropriate public announcement.

This paper proposes a detailed Commission policy and regulatory framework for the conduct of staff reviews and adjudicatory hearings on one or more site suitability issues and for the conduct of staff-level and

Contact:
Martin G. Malsch
Ext. 27437

Walter P. Haass
Ext. 27581

work staff

Denton?

*1. Could ESR include site-related BOP?
Does ESR include CP
What does review schedule look like.
11000 is used*

Do we really want to emphasize ACRS participation in site matters?

ACRS reviews on one or more site suitability issues, when no adjudicatory decision by the Commission on such issues is requested. The Commission's policy regarding the desirability and nature of early site reviews is set forth in some detail in the Statement of Considerations which would accompany the proposed rule, and would be reflected in the proposed regulations themselves.

The Commission indicated in its testimony in support of S. 1717 and H.R. 7002 (NRC's proposed licensing reform legislation) before the JCAE on June 25, 1975, that the Commission was considering regulations advancing the early site review concept to the extent possible under its present statutory authority. The notice of proposed rule making attached hereto would accomplish this objective. A framework for early site reviews and hearings would be provided that would include production facilities such as reprocessing and commercial isotopic enrichment plants, and testing reactors, as well as nuclear power reactors.

Early reviews and decisions on site suitability issues offer several advantages. They would be of value to construction permit applicants in providing early identification and resolution of site-related problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application. Early consideration of site suitability issues would also enhance the efficiency of the licensing review process by substantially removing the resolution of critical siting issues as a delaying factor in the review process prior to construction authorization. Early hearings on site suitability matters would also serve to enhance public participation by focusing it on crucial issues at an early stage in the review process when it can be most effective.

The proposed amendments to Parts 2 and 50 which follow are designed to encourage and facilitate early consideration of site suitability issues. The amendments would provide for two separate approaches to the early consideration of site suitability issues. Under the first approach, a partial adjudicatory decision, after

act.
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F2 make -
Muller d/3

Basis of Approval?
Period

Could persons other than "bonafide CP utilities" also apply e.g. States?
yes - according to Att. A - should also say it here.

yes - would so in FR

hearing, would be obtained on site suitability issues. Under the second approach, site suitability issues would be reviewed by the Commission's Staff and ACRS, and a Staff and ACRS report on the issues would be issued. However, no hearing would be held and no adjudicatory decision would be rendered under the second approach, and the Staff and ACRS findings would not be binding on the atomic safety and licensing boards, Atomic Safety and Licensing Appeal Board, or Commission itself. Under either approach the review could include all site suitability issues and lead to a general conclusion regarding site acceptability, or the review could extend only to selected site suitability issues. The choice of approach would be left to the applicant.

A proposed ONRR Staff report (NUREG) which would describe in some detail the mechanics of Staff reviews of early site submittals for nuclear power reactors would be issued for comment along with the proposed rules.

Duplicate
Suggest
Deletion

On a related matter, this paper also proposes that the limited work authorization ("LWA") concept, which presently applies only to nuclear power reactors, be extended so as to apply to production facilities, such as commercial isotopic enrichment plants and fuel re-processing plants, and testing reactors. From a legal standpoint, the present concept can be made applicable to all production and utilization facilities where an environmental impact statement is required. From a policy standpoint, the same kind of time savings that the application of the LWA concept has produced in the case of nuclear power reactors can potentially be realized in the case of other production and utilization facilities. An LWA provision designed to confirm NRC's LWA authority is set forth in NRC's proposed licensing legislation. While the provision of the legislation applies only to power reactors (as does the present regulation in 10 CFR § 50.10(e)), NRC has stated in response to JCAE questions that there appeared to be no compelling reason why the provision could not be extended to other kinds of facilities.

The matter of fees for early site reviews will be addressed in a separate Commission paper dealing with fees generally.

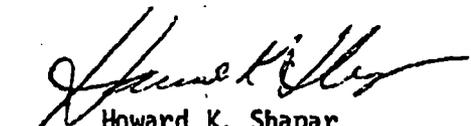
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Rogers
DeBarting

Recommendation: *ed* That the Commission approve the attached ^① notice of proposed rule making, public announcement, and ~~Staff~~ report (for comment).

Coordination: This paper has been concurred in by the following offices:

- Office of Nuclear Reactor Regulation
- Office of Standards Development
- Office of Nuclear Material Safety and Safeguards

Scheduling: At an early policy session.


Howard K. Shapar
Executive Legal Director

- Attachments:
1. A - Notice of Proposed Rule Making
 2. B - Impact/Value Analysis Prepared by ONRR
 3. C - Public Announcement Prepared by OPA
 4. D - ONRR Staff Report (NUREG)

ATTACHMENT A

NUCLEAR REGULATORY COMMISSION

[10 CFR Parts 2 and 50]

Early Site Reviews and Limited
Work Authorizations

Notice is hereby given that the Nuclear Regulatory Commission has under consideration amendments to its regulations in 10 CFR Part 2, "Rules of Practice," and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," which would encourage and provide for early review of site suitability issues associated with nuclear power reactors and other large utilization and production facilities, and extend the so-called "limited work authorization" concept to include production facilities such as commercial isotopic enrichment plants and fuel reprocessing plants, and testing reactors.

Early Site Reviews

General Policy Considerations

In recent years the nuclear facility licensing process has increasingly focused on issues regarding the suitability of the proposed facility site. The acceptability of the proposed site is a critical issue in the construction permit review and hearing process, and on a number of occasions unfavorable decisions on site suitability issues have proven to have been dispositive of the applications.

Early reviews and decisions on site suitability issues offer several advantages. They would be of value to construction permit applicants in providing early identification and resolution of site-related

problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application. For example, an early site review could indicate that local geological, hydrological, or meteorological conditions make the proposed site unacceptable, or indicate that the total environmental impact asso-

of
an acceptable design basis

ciated with facility construction and operation would be such that ~~it~~ the site would appear that some other site is superior. Early consideration of site suitability issues would also enhance the efficiency of the licensing review process by substantially removing the resolution of critical siting issues as a delaying factor in the review process prior to construction authorization. Early hearings on site suitability matters would also serve to enhance public participation by focusing it on crucial issues at an early stage in the review process when it can be most effective. The proposed amendments to Parts 2 and 50 which follow are designed to encourage and facilitate early consideration of site suitability issues.

see

They would provide for two separate approaches to the early consideration of site suitability issues. Under the first approach, a partial adjudicatory decision, after hearing, would be obtained on site suitability issues. Under the second approach, site suitability issues would be reviewed by the Commission's Staff and Advisory Committee on Reactor Safeguards (ACRS) and a Staff and ACRS report on the issues would be issued. However, no hearing would be held and no adjudicatory decision would be rendered under the second approach, and the Staff and ACRS findings would not be binding on the atomic safety and licensing boards, Atomic Safety and

They would allow for early hearing

They never are
See ACRS findings on
Northwest Utilities intervention
at Atomic Indian Point

What you hear is there is no final decision

Licensing Board, or Commission itself. Under either approach the review could embrace all site suitability issues and lead to a general conclusion regarding site acceptability, or the review could extend only to selected site suitability issues.

Nature of Review

Under either approach, the conduct of an early review of one or more site suitability issues will require a "decoupling" of site suitability issues from issues concerning the detailed facility design. However, some information about the nature of the proposed facility will clearly be required for the conduct of the review. Accordingly, some facility design parameters (or reasonable range of facility design parameters) must be postulated for purposes of review. Some helpful guidance regarding environmental design parameters for nuclear power plants is set forth in WASH-1355, "Nuclear Power Facility Performance Characteristics for Making Environmental Impact Assessments," December, 1974. The selection of the appropriate facility design parameters would be made by the applicant. The parameters selected by the applicant would be accepted for the purposes of review unless for some reason it clearly appeared that construction and/or operation of a facility within the specified parameters would be technically infeasible and that, therefore, early site review would not be productive.

Where an overall conclusion regarding acceptability of a proposed site is sought, it would be the Commission's general policy to conduct a

review under the National Environmental Policy Act of 1969 ("NEPA") that is as close as possible in scope and depth to the NEPA review that is conducted for a construction permit application containing the preliminary design of the facility. However, the Commission recognizes that the NEPA inquiry into certain subject areas may of necessity be preliminary and/or general in nature. For example, the NEPA review of a nuclear power reactor construction permit application that includes the preliminary design of the facility would include an assessment of (1) the need for the proposed facility and whether the alternative of not constructing new generating capacity is preferable from a cost-benefit standpoint, (2) whether, assuming new generating capacity is needed, some form of power generation other than nuclear should be adopted from a cost-benefit standpoint, and (3) whether certain alternative plant designs should be adopted from a cost-benefit standpoint. Consideration of these matters at an early site review stage may of necessity be general and preliminary because detailed information regarding the applicant's system needs, the timing of the proposed new facility, and the facility design may not be available at this point in time. The Commission expects that in such situations the environmental impact statement will need to be supplemented prior to the granting of construction authorization.

Clearly, at some point in time the conclusions of an early site review may become outdated. The selection of an appropriate time period for the effectiveness of a partial decision or Staff or ACRS determination on one or more site suitability issues involves competing policy considerations. On the one hand, there is the general desire to base

licensing determinations on a review that includes all the most recent information. Facts may change over a period of time, and some mechanism must be provided for consideration of important new information bearing on site suitability matters prior to the granting of the construction authorization. On the other hand, the advantages of an early site review will not be realized if site suitability issues must be routinely reconsidered de novo when construction authorization is sought.

The Commission believes that an appropriate balance will be drawn between these competing considerations if routine re-review of site suitability issues is required only in cases where construction authorization is sought more than five years after issuance of the partial final decision (under the first approach) or Staff or ACRS determination (under the second approach) on site suitability matters. In the event construction authorization is sought prior to this time, the hearing record or Staff or ACRS report would be reopened only upon an appropriate demonstration that there exists significant new information that substantially affects the earlier conclusions or other good cause.

Governmental Coordination

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in making decisions on questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough

consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

Conflict with Art. B, p. 13 top
Review

Under the proposed amendments which follow, a State could seek and obtain a Commission Staff and ACRS review and determination on the acceptability of a proposed nuclear facility site (the second approach). This could prove to be useful for purposes of State review and planning efforts. Thus, the availability of the second approach would not be restricted to electric utilities or other persons who intend to apply for construction permits. On the other hand, the Commission believes that any partial adjudicatory decision on site suitability issues (the first approach) under its present legislative authority should properly be made within the context of a construction permit application review and hearing. Accordingly, the availability of the first approach to early consideration of site suitability matters will be restricted to those who plan to construct nuclear facilities.

It would be highly desirable if the numerous Federal, State and local reviews and approvals of proposed facility sites could be coordinated into some form of "one stop" review. In one particularly important subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR

60115), provides for early Environmental Protection Agency evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of discharge permits under Section 402 of the Federal Water Pollution Control Act by the Agency in advance of the issuance of an early site approval (partial adjudicatory decision on site acceptability) by the Commission. In addition, a single environmental impact statement would be prepared, with the Commission as the lead agency, that would satisfy the NEPA requirements applicable to both agencies. A Section 401 State water quality certification would be sought prior to the issuance of the early section 402 discharge permit by the Agency.

The Commission expects to work with other affected Federal agencies to develop similar coordination mechanisms. The large number of State and local agencies that may be involved in nuclear facility siting and environmental impact evaluations makes it difficult for the Commission to develop detailed working procedures with all the agencies. However, plans for the maximum possible coordination are being developed. In the interim as early site review requests are filed, the Commission's Staff will contact the affected State and local agencies and seek to develop coordination procedures on a case-by-case basis.

The Two Approaches

As indicated, the proposed regulations which follow would provide for two approaches to the early consideration of site suitability issues.

Under the first approach, a partial adjudicatory decision could be obtained, after hearing, on one or more site suitability issues.

Since July 1968, Paragraph I(c) of Appendix A to Part 2 of the Atomic Energy Commission's (now Nuclear Regulatory Commission's) regulations has provided for consideration of the matter of suitability of a proposed site for a production or utilization facility separately from, and prior to, consideration of other issues in the hearing on an application for a construction permit. The proposed regulations which follow would provide more detailed guidance regarding hearings and partial decisions on site suitability issues. Special provision would be made for early filing of site suitability information in an early submittal of the construction permit application, and for early hearings and partial decisions on site suitability issues. The filing of the remainder of the technical and other general information required in support of the construction permit application could be postponed until after the partial decision on site suitability issues. Special provision would also be made to assure that no early decision on a limited number of site suitability issues would prejudice the later full consideration of alternative sites.

Under the second approach to early consideration of site suitability issues, information regarding one or more site suitability issues would

Does industry want ACRS under the second approach? Maybe it should be optional.

be submitted to the Commission's Staff and (where site safety issues are involved) ACRS for review. Under 10 CFR § 2.101(a), in its present form, a prospective applicant may confer informally with the staff of the Commission prior to filing of an application. In a number of cases applicants have informally submitted site suitability information to the Commission's Staff for a preliminary review prior to formal submission of the application. While such preliminary views have no binding effect on the atomic safety and licensing boards, Atomic Safety and Licensing Appeal Board, or Commission, they have provided a means for an early identification of significant site suitability problems and their possible resolution.

*See
concern
bottom
p. 2*

The proposed regulations which follow would provide for a continuation of this practice on a more structured basis and would extend the review policy to include other interested persons, such as States, who do not intend to apply for a permit. The proposed regulations would be similar in format to 10 CFR Part 50, Appendix O, which provides for a staff-level review of standardized nuclear power reactor designs.

The early Staff review process for environmental issues would include preparation of a partial or full draft environmental impact statement, circulation of the draft impact statement for public and agency comment, and preparation of a partial or full final environmental impact statement. In the case of site safety issues, the review would include both Commission Staff and ACRS reviews and issuance of a Staff site safety

evaluation report and ACRS site safety letter. The Commission Staff and (if appropriate) ACRS reviews will culminate in the issuance of a letter setting forth a Commission Staff site position. This letter would include any recommended conditions or qualifications on the acceptability of the proposed site.

Limited Work Authorizations

On April 24, 1974, the Atomic Energy Commission adopted amendments to its regulations in 10 CFR Parts 2 and 50 to provide for the issuance of so-called "limited work authorizations" for nuclear power reactors. The limited work authorization concept provides a means, whereby, after completion of the staff environmental impact statement and completion of the hearing on environmental issues and certain other specified issues, site preparation and excavation and certain other on-site work may be undertaken by the construction permit applicant prior to issuance of the construction permit. Under the concept, the construction permit would only be issued after successful completion of the review and hearing on the remaining issues. The present concept has substantially improved the nuclear power plant licensing process and the present concept can be made applicable to all production and utilization facilities where an environmental impact statement is required. Accordingly, the proposed amendments which follow would extend the concept to production facilities such as commercial isotopic enrichment plants and reprocessing plants, and testing reactors.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, the National Environmental Policy Act of 1969, and section 553 of Title 5 of the United States Code, notice is hereby given that adoption of the following amendments to 10 CFR Parts 2 and 50 is contemplated. In addition, the Commission's Staff has prepared a Staff report (NUREG) which describes some of the detailed policies and procedures which would be followed by the Staff in its conduct of early site reviews. This Staff report is being issued for public comment along with the proposed regulations. All interested persons who desire to submit written comments for consideration in connection with the proposed amendments and Staff report should send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section by _____*, 1975. Copies of comments on the proposed amendments and report may be examined at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C.

*Duplicate
subject
delivered
4/24
6/1*

✓
✓

1. Paragraph (a) of § 2.101 of 10 CFR Part 2 is amended by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to § 51.5(a) of this chapter" wherever they appear.

2. A new paragraph (c) is added to § 2.101 of 10 CFR Part 2 to read as follows:

* Insert date 60 days after publication in the Federal Register.

(c) Early Consideration of Site Suitability Issues. (1) An applicant for a construction permit for a production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter, may request that the Commission conduct an early review and hearing and render an early partial decision in accordance with Subpart F on issues of site suitability within the purview of the applicable provisions of Parts 50, 51, and 100 of this chapter. In such cases, the applicant for the construction permit may submit the information required of applicants by the provisions of this chapter in three or (in the case of nuclear power reactors) four parts. One part shall include or be accompanied by any information required by §§ ^{PSAR site} 50.34(a)(1) and ^{ER} 50.30(f) of this chapter which relates to the issue(s) of site suitability for which an early review, hearing and partial decision are sought, and shall include the information required by §§ ^{name/address} 50.33(a)-(e) and ^{Reactor Data Agreement} 50.37 of this chapter. The information submitted shall also include postulated facility design and operation parameters that are sufficient to enable the Commission to perform the requested site suitability evaluations under the applicable provisions of Parts 50, 51, and 100. The second part shall include or be accompanied by the construction permit application fee required by §§ ^{in pass} ~~50.30(e)~~ and 170.21 of this chapter and the remaining information required by §§ ^{firmly/post data/completed data} 50.30(f), 50.33, and 50.34(a)(1) of this chapter. This part shall be filed while the partial decision on the first part of the application is effective. The third part

is this needed for sub?
 ✓
 no
 rather than here?
 ✓

shouldn't this be reflected in part one, i.e. an answer aspect

shall include the remaining information required by §§ 50.34(a) and
 (in the case of a nuclear power reactor) 50.34a of this chapter. *plant design info* Filing
 of this information may precede by no more than six months or follow by
 no more than six months the filing of the information in the second part.
 In the case of an application for a construction permit for a nuclear
 power reactor, a fourth part shall include any information required by
antitrust § 50.33a of this chapter and shall be filed in accordance with the time
 periods specified in § 50.33a.

(2) An application submitted in accordance with this paragraph will be initially treated as a tendered application in accordance with paragraph (a) of this section. As such, the application will be subject to an acceptance review for completeness prior to assignment of a docket number.

(3) If the application is assigned a docket number, the Director of Nuclear Reactor Regulation or the Director of Nuclear Material Safety and Safeguards, as appropriate, will send a copy to the Governor or other appropriate official of the State in which the site is located, and will cause to be published in the FEDERAL REGISTER a notice of receipt of the application which states the purpose of the application and location of the proposed site, and in the case of applications filed under section 103 of the Act, states that a person who wishes to have his views on the antitrust aspects of the application presented to the Attorney General for consideration shall submit such views in accordance with a subsequent

notice that will be published in the FEDERAL REGISTER.. In the case of a nuclear power reactor, such subsequent notice will be published following submission of the information required by § 50.33a.

3. In § 2.110 the section heading and paragraph (a) are revised to read as follows:

§ 2.110 Filing and administrative action on submittals for design review or early site review.

(a) A submittal pursuant to Appendix O or Q of Part 50 of this chapter shall be subject to ^{Filing application} §§ 2.101(a) and ^{availability of records} 2.790 to the same extent as if it were an application for a permit or license.

* * * * *

4. A new Subpart F is added to 10 CFR Part 2 to read as follows:

What 2.101c

Subpart F, (Additional) Procedures Applicable to Early Partial Decisions on Site Suitability Issues in Connection with an Application for a Permit to Construct Certain Production and Utilization Facilities.

c.e. Those ESR's that go to a hearing

§ 2.600 Scope of subpart.

This subpart prescribes procedures applicable to licensing proceedings which involve an early submittal of site suitability information in

^{new}
accordance with § 2.101(c), and a hearing and early partial decision on issues of site suitability, in connection with an application for a permit to construct a production or utilization facility of the type specified in § 50.21(b)(2) or (3) or 50.22 of this chapter or a testing reactor, which is subject to § 51.5(a) of this chapter.

§ 2.601 Notice of hearing on application for an early site review.

(a) Where an applicant for a construction permit for a production or utilization facility subject to this subpart requests an early site review and hearing and an early partial decision on issues of site suitability pursuant to § 2.101(c), the provisions in the notice of hearing setting forth the matters of fact and law to be considered, as required by § 2.104, shall be modified so as to relate only to the site suitability issues.

(b) After docketing of the second part of the application, as provided in § 2.101(c)(1), a supplementary notice of hearing will be published pursuant to § 2.104 with respect to the remaining unresolved issues in the proceeding within the scope of § 2.104(b). Such supplementary notice of hearing will provide that any person whose interest may be affected by the proceeding and who desires to participate as a party in the resolution of the remaining issues shall file a petition for leave to intervene pursuant to § 2.714 within the time prescribed in the notice.

Such supplementary notice will also provide appropriate opportunities for participation by a representative of an interested state under § 2.715(c) and for limited appearances pursuant to § 2.715(a).

(c) Any person who was permitted to intervene as a party pursuant to the initial notice of hearing on site suitability issues and who was not dismissed or did not withdraw as a party may continue to participate as a party to the proceeding with respect to the remaining unresolved issues, provided that within the time prescribed for filing of petitions for leave to intervene in the supplementary notice of hearing, he files a notice of his intent to continue as a party, along with a supporting affidavit identifying the specific aspect or aspects of the subject matter of the proceeding as to which he wishes to continue to participate as a party, and setting forth with particularity the basis for his contentions with regard to each such aspect or aspects. A party who files a nontimely notice of intent to continue as a party may be dismissed from the proceeding, absent a determination that the party has made a substantial showing of good cause for failure to file on time, and with particular reference to the factors specified in §§ 2.714(a)(1)-(4) and 2.714(d). The notice will be ruled upon by the Commission or atomic safety and licensing board designated to rule on petitions for leave to intervene.

*Grounds
for a
new
petition
is being
required
What
is
being
set
out
by
this
amendment?*

(d) To the maximum extent practicable, the membership of the atomic safety and licensing board designated to preside in the proceeding on

the remaining unresolved issues pursuant to the supplemental notice of hearing will be the same as the membership designated to preside in the initial notice of hearing on site suitability issues.

§ 2.602 General Procedures

The provisions of Subparts A and G relating to applications for construction permits and proceedings thereon apply, respectively, to proceedings in accordance with this subpart, except as specifically modified by the provisions of this subpart.

§ 2.603 Additional considerations

The Commission may decline to initiate an early hearing or render an early partial decision on issues of site suitability in cases where no partial decision on the relative merits under Part 51 of the proposed site and alternative sites is requested, upon determination that there is a reasonable likelihood that further Commission review would identify one or more preferable alternative sites and the partial decision on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the remainder of the information required by § 50.30(f) of this chapter that would prejudice the later review and decision on such alternative sites.

§ 2.604 Partial decisions on site suitability issues

(a) The provisions of §§ 2.754, 2.755, 2.760, 2.761, 2.762, 2.763, and 2.764(a) shall apply to any proceeding conducted and any initial decision

What is being left out besides 2.764(b)?

eg. 2.756, 7, 8, 9 etc. ?
clerk's office?
conduct "pre-hearing" - not as to whether or not

Handwritten notes above § 2.604(a):
Hearings, Initial Decision, Partial Expedited to Comm, Appeals, and final

Handwritten note: Effective pending Comm Rev.

issue CP/OL

rendered in accordance with this subpart. Paragraph 2.764(b) shall not apply to any partial initial decision rendered in accordance with this subpart. The authority of the Commission and/or Appeal Board to review such a partial initial decision sua sponte or to raise sua sponte an issue that has not been raised by the parties, will be exercised within the same time period as in the case of a full decision relating to the issuance of a construction permit.

(b) A partial decision on one or more site suitability issues pursuant to the applicable provisions of Parts 50, 51, and 100 of this chapter issued in accordance with this subpart shall remain in effect for a period of five years following completion of Commission or Atomic Safety and Licensing Appeal Board review, as appropriate, of the partial initial decision of the atomic safety and licensing board, after hearing, on the site suitability issues, unless the Commission, Atomic Safety and Licensing Appeal Board, or Atomic Safety and Licensing Board, upon its own initiative or upon motion by a party to the proceeding, finds that there exists significant new information that substantially affects the earlier conclusions or other good cause, and reopens the hearing record on site suitability issues. A partial decision on all site suitability issues shall serve as the decision on general site suitability issues required by § 50.10(e)(2)(ii), unless the record of the hearing on site suitability issues has been reopened for the consideration of new evidence or other good cause, as provided above, in

which case a new partial decision on the reopened site suitability issues (or new partial decision on general site suitability under § 50.10(e)(2)(ii)) shall be rendered.

5. Paragraph 2.761(a) of 10 CFR Part 2 is amended by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 of this chapter or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to § 51.5(a) of this chapter,".

6. Paragraph I(c) of Appendix A to Part 2 is amended to read as follows:

Hearing Policy Procedure
(c) In a proceeding relating to the issuance of a construction permit for a production or utilization facility for industrial or commercial purposes or for a testing facility, which is subject to the environmental impact statement requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 and Part 51 of this chapter, separate hearings and decisions on National Environmental Policy Act and site suitability issues and other specified issues may be held as provided by Subpart F and § 2.761a.

The Commission or the atomic safety and licensing board may consider on their own initiative, or a party may request the Commission or the board to consider other particular issues or issues separately from, and prior to, the other issues relating to the effect of the construction

and/or operation of the facility upon the public health and safety, the common defense and security, and the environment or in regard to antitrust considerations. If the Commission or the board determines that a separate hearing should be held, the notice of hearing or other appropriate notice will state the time and place of the separate hearing on such issue or issues. The board designated to conduct the hearing will issue an initial decision, if deemed appropriate, which will be dispositive of the issue(s) considered at the hearing, in the absence of an appeal or Commission or Appeal Board review pursuant to §§ 2.760 and 2.762, before the hearing on, and consideration of, the remaining issues in the proceeding.

All these provisions implicate to this change i.e. also later sections of Part 50 equally applicable to NMSS?
88/

7. Paragraph (e) of § 50.10 of 10 CFR Part 50 is amended by adding the words "or the Director of Nuclear Material Safety and Safeguards, as appropriate," after the words "Director of Nuclear Reactor Regulation" wherever they appear; by substituting the words "production or utilization facility of the type specified in §§ 50.21(b)(2) or (3) or 50.22 or for a testing reactor, which is subject to § 51.5(a) of this chapter," for the words "nuclear power reactor subject to the provisions of § 51.5(a) of this chapter" wherever they appear; by substituting the words "do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public" for the words are not subject to the provisions of Appendix B in subparagraph (1); by substituting the word "facility" for the words "nuclear power reactor" in

Implications of this?

extends

NO - words are from App B

subparagraph (2); and by substituting the words "prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public" for the words "are subject to the provisions of Appendix B" in subparagraph (3)(i).

8. In § 50.33a of 10 CFR Part 50, the phrase "Any person" in paragraph (b) is changed to the phrase "Except as provided in paragraph (d), any person" and a new paragraph (d) is added to read as follows:

§ 50.33a Information required for antitrust review.

* * * * *

(d) Any person who applies for a class 103 construction permit for a nuclear power reactor pursuant to the provisions of § 2.101(c) of this chapter shall submit the document titled "Information Requested by the Attorney General for Antitrust Review" at least nine (9) months but not more than thirty-six months prior to the filing of the second part of the application specified in § 2.101(c) of this chapter.

9. A new Appendix Q is added to Part 50 to read as follows:

Appendix Q - Pre-application Early Site Reviews

This appendix sets out procedures for the filing, staff review, and referral to the Advisory Committee on Reactor Safeguards of requests for early review of one or more site suitability issues relating to the construction and operation of certain production or utilization facilities

*c.e. those
ESR's
that end
with
staff
report
&
don't
go to a
hearing*

separately from and prior to the submittal of applications for construction permits for the facilities. The production or utilization facilities are those of the type specified in § 50.21(b)(2) or (3) or § 50.22 or testing facilities which are subject to 10 CFR § 51.5(a) of this chapter. This Appendix does not apply to proceedings conducted pursuant to subpart F of Part 2 of this chapter.

inc not just facilities

1. Any person may submit information regarding one or more proposed facility sites to the Commission's Staff for its review separately from and prior to an application for a construction permit for a facility.

i.e. those that go to hearing do stop in E process

Such a submittal shall consist of the portion of the information required of applicants for construction permits by §§ 50.33(a)-(c) and (e), and, insofar as it relates to the issue(s) of site suitability for which early review is sought, by §§ 50.34(a)(1) and 50.30(f).

leaves out corporate aspects

PSAR ER

2. The submittal for review of one or more proposed sites shall be made in the same manner and in the same number of copies as provided in § 50.30(a), (c)(1) and (c)(3) for license applications. The submittal for early review of each proposed site shall also include postulated facility design and operation parameters that are sufficient to enable the Staff to perform the requested site suitability evaluations.

incl site op

place filing copies

3. Once the staff has initiated a technical review of a submittal under this appendix, it shall publish in the FEDERAL REGISTER a notice which briefly describes the location of the site and the issue(s) with respect

to which review has been initiated, and it will send a copy of the submittal to the Governor or other appropriate official of the State in which the site is located. The person requesting review shall serve a copy of the submittal on the Chief executive of the municipality in which the site is located or, if the site is not located in a municipality, on the chief executive of the county. The portion of the submittal containing information required of applicants for construction permits by §§ 50.33 (a)-(c) and (e) and 50.34(a)(1) will be referred to the Advisory Committee on Reactor Safeguards (ACRS) for a review and report. There will be no referral to the ACRS unless early review of site suitability issues under § 50.34(a)(1) is requested.

do we ever want to do unless applicant requests

4. Upon completion of its review of a submittal under this appendix, the staff shall publish in the FEDERAL REGISTER a determination as to whether or not the proposed site or sites, or one or more aspects thereof, are acceptable, subject to such conditions as may be appropriate, and make available in the Public Document Room an analysis of the site suitability issues in the form of a report. An approval by the staff and ACRS of a site, or one or more aspects thereof, shall be utilized by and relied upon by the staff and the ACRS in their review of any individual facility license application which incorporates by reference a site approved in whole or in part by the staff in accordance with this paragraph for a period of five years after approval unless there exists significant new information which substantially affects the earlier conclusions or other good cause.

→ it really gains little, since ACRS waits for staff report anyway

→ it never has - ^{does} this only emphasize that?
-24-

5. The determination and report by the staff shall not constitute a commitment to issue a permit or license, to permit on-site work under § 50.10(e), or in any way affect the authority of the Commission, Atomic Safety and Licensing Appeal Board, atomic safety and licensing boards, and other presiding officers in any proceeding under Subpart F and/or G of Part 2 of this Chapter.

6. The staff may decline to initiate technical review of a submittal under this appendix where it appears that, in cases where no review of the relative merits under Part 51 of the submitted site and alternative sites is requested, there is a reasonable likelihood that further Staff review would identify one or more preferable alternative sites and the Staff review on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the analysis of alternative sites in the Environmental Report that would prejudice the later review and decision on alternative sites under subpart F and/or G of Part 2 and Part 51 of this Chapter.

Good - but
How will this be decided?

Staff
will review
04/16/84

(Sec. 161, Pub. L. 83-703, 68 Stat. 948 (42 U.S.C. 2201); Sec. 201, Pub. L. 93-438, 88 Stat. 1242, (42 U.S.C. 5841); Sec. 102, Pub. L. 97-190, 83 Stat. 853 (42 U.S.C. 4332)).

Dated at _____ this _____ day of
_____ 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

Secretary of the Commission

Impact/Value Assessment for the Promulgation
of an NRC Policy for Early Site Reviews
for Planned Nuclear Facilities

INTRODUCTION

As a result of discussions involving the NRC staff and interested industry representatives, the need was identified for establishing a more detailed policy and procedures for the review and approval of sites proposed for eventual construction and operation of nuclear power stations in advance of actual use of the sites in applications for licenses. The proposed policy permits the early submittal of part of the CP application containing site suitability information and the advance partial adjudicatory decisions, after hearing, on site suitability issues (the first approach), as well as the submittal of early site review applications for staff and ACRS review short of an adjudicatory decision (the second approach). Under either approach, a wide spectrum of site issues may be addressed, ranging from a single issue (upon which a go/no-go decision may hinge) to the complete set of site issues (safety and environmental). The intent of the review is to determine a position for the scope of the site issues involved that can be relied upon without re-review when the site is subsequently used in an application for licenses. This should result in the establishment of site parameters that can be assumed later as a basis for the plant design, thereby eliminating the delay and redesign work that can be encountered if these site parameters are established during the CP review as has been generally done in the past.

wo
P.8

The proposed policy is intended to complement the program for the standardization of nuclear power plants initiated by the ~~then~~ AEC more than two years ago. That program, which is continuing and gathering increased momentum under the NRC, involves the early review of nuclear plant designs and major portions thereof (i.e., designs for nuclear steam supply systems, and for balance-of-plant) for referencing by utilities in their applications for licenses. The CP review process for these utility applications, while reduced significantly in scope by the use of preapproved standard designs, is still controlled in duration by the review that must be performed for the site. The proposed policy for conducting early site reviews is intended to eliminate this pacing area of review by providing the opportunity for utilities to reference pre-approved sites as well as plant designs in CP applications. Therefore, design information for all major portions of a nuclear power plant - NSS, BOP and site - can be submitted by applicants and be preapproved by the Staff. In such cases, the only remaining areas of Staff review at the time of the docketing of a CP application are those associated with utility-specific matters and site-specific areas (i.e., the design of items such as ultimate heat sink, intake structure, service water piping, etc. may be difficult to define in an ESR application independent of a plant design), and a verification that the plant design selected is compatible with the design parameters associated with the site. With this combination of preapproved major portions of a plant design, the NRC Staff expects to achieve a significant reduction (i.e., as much as a year

but if
preapproved
be included

is this a saving possible if sub. not related to OP not included in ESR?

for a well prepared application and an uncontested proceeding) in the schedule time for issuance of a CP and an LMA. It should be noted that appropriate changes have already been incorporated in 10 CFR Part 50.33a "Information required for antitrust review" to require the submittal of antitrust information at least nine months but no more than thirty-six months in advance of a CP application. The antitrust review need not be pacing, therefore, for the type of CP application discussed herein.

COMPARISON WITH PRESENT SYSTEM

Heretofore, the staff has performed reviews of certain site issues, usually in an informal manner, as requested by prospective CP applicants. Relative to the present system for conducting such advanced site reviews, the proposed policy, in conjunction with appropriate changes to the Regulations, assures a formalized method for processing such reviews and may be extended at the discretion of CP applicants to include hearings and adjudicatory decisions. For comparison purposes, the proposed system for handling such early site reviews differs from the present system in the following specific ways:

- a. The staff will perform early site reviews, both complete and limited, on a formal basis*. This means that the applicant must provide complete information for the intended scope of the application. The staff will review this information for acceptability and issue a formal report(s) presenting its conclusions. For an application involving site safety matters, the application will be reviewed by the ACRS with attendant ACRS letter report issued. For an application involving

will we decrease particularly site safety reviews?

Not required Applicants may still request preliminary, informal staff reviews of site considerations at their discretion. *will staff request? Can ACRS handle this workload?*

*need for power applicant
will be required
to address it*

-4-

environmental matters, a formal report will also be issued. This will result in the issuance of a Staff Site Position (SSP). This early site review can be performed for site environmental and safety considerations ranging from a single issue up to and including the complete site review, at the discretion of the applicant. Under the present system, most early site reviews were of an informal nature with no firm conclusion drawn by the staff. Very few were carried through the SER issuance and ACRS review stages. As a result, the issue (or issues) required re-review in the context of the CP application, with some loss of efficiency in the licensing process.

- b. Additional guidance will be made available (Regulatory Guide 4.Z) for use in preparing early site review applications that will permit the clear separation of site review matters from nuclear plant design matters. This guidance was not available, nor was it necessary, under the present system since all such site reviews conducted to date involved only one or two considerations; none involved all site considerations.

Regulatory Guide 4.Z will basically be a composite of the format and information requirements given in Regulatory Guide 4.2

"Preparation of Environmental Reports for Nuclear Power Stations" (Revision 1, dated January 1975) and the site related information normally presented in a PSAR for a CP application (generally chapter 2 "Site Characteristics" of a PSAR). In addition, the information needs identified in

conflicts with top p. 9

What about site-related BOP?

safety - no problem - straightforward
E-mover - how to resolve

eg. cooling towers, water intakes

will staff Lewis report be issued in draft for comment

Regulatory Guide 4.2 for an ESR application will be cast in a manner to eliminate the need for plant design information.

This is accomplished by establishing site parameter values based on site characteristics as interfaces that must be met by the plant design eventually to be located at the site.

- c. The processing of an ESR application received from a CP applicant can be carried through a public hearing and the issuance of an NRC final decision. This will permit a final conclusion to be drawn regarding the site consideration submitted for review, with no need to routinely re-review these matters even in a public hearing. This has not been done under the present system.

hedge?

COORDINATION WITH STATES AND OTHER AGENCIES

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in deciding questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

It would be highly desirable if the numerous Federal, State and local reviews and approvals of proposed facility sites could be coordinated into some form of "one stop" review. In one particularly important

subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR 60115), provides for early Environmental Protection Agency (EPA) evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of FWPCA Section 402 discharge permits by the EPA in advance of the issuance of an early site approval (partial adjudicatory decision on site acceptability) by the Commission. In addition, a single environmental impact statement would be prepared, with the Commission as the lead agency, that would satisfy the NEPA requirements applicable to both agencies. A section 401 State water quality certification would be sought prior to the issuance of the discharge permit by the Agency.

*will
this
be
done
for ESR
?*

The Staff will work with other affected Federal agencies to develop similar coordination mechanisms. The large number of State and local agencies that may be involved in nuclear facility siting and environmental impact evaluations makes it difficult for the Staff to develop detailed working procedures with all the agencies. However, plans for the maximum feasible coordination are being developed. In the interim as early site review requests are filed, the Staff will contact the affected State and local agencies and seek to develop coordination procedures on a case-by-case basis.

INDUSTRY VIEWS

As a vital part of our efforts to develop an ESR policy, discussions were held with several States and utilities and the Atomic Industrial Forum's Committee on Reactor Licensing and Safety (CRLS) to determine in a more direct manner the industry's interest in the promulgation of such a policy. All industry representatives were unanimous in their views that a more formalized procedure for the complete review of sites, or only selected site considerations, should be made available.

The CRLS group, representing a broad consensus of the nuclear industry (utilities, reactor vendors, and architect-engineers), was particularly helpful with its suggestions. In a meeting held in our Bethesda offices on February 21, 1975, the AIF group made the following significant points:

- ✓ a. A period of validity of at least five years (ten years is desirable) for the staff site approval is essential to the usefulness of the early site review concept.
- ✓ b. The ESR concept should include provisions for considering limited site aspects that can assist a utility in making an early assessment of a site's potential usefulness.
- c. The results of the early site review must be held inviolable during the period of validity unless significant safety aspects are discovered that warrant re-examination.

How does this add to a?

In formulating the proposed ESR policy, the staff has found the industry suggestions to be generally acceptable and consistent with its needs to assure protection for the public health and safety and for the

list the 5 alternatives early

ANTICIPATED ACTIVITY

Several ESR applications, four with limited scope and two with complete scope, have already been submitted for staff and ACRS review. Those applications are shown in Table 1. In addition, more than a dozen other utilities have indicated plans for submitting ESR applications in CY 1976 and beyond. Adequate manpower is available to process the ESR applications already submitted and those anticipated in FY 76 & 77.

VALUE/IMPACT FACTORS FOR ALTERNATIVES 1 AND 2

Bull?

In evaluating the value/impact factors for Alternatives 1 and 2, it becomes obvious that the quantification of these factors is not an appropriate approach, but rather that the merits of these alternatives should be judged on a qualitative basis only. The reason for this, as described above, is that the present Regulations do in fact already permit early site reviews to be performed and therefore there are no quantifiable cost or benefit differences associated with these alternatives. The primary purpose of the proposed change to the Regulations is to provide greater impetus, visibility, and a more defined structure to the early site review process, and these are basically qualitative factors that are not subject to quantification.

Direct opposite to first page last sent

The benefits to be derived from the promulgation of an NRC policy for early site reviews (Alternative 1) now rather than await the disposition of the proposed legislation (Alternative 2) are:

1. Provides a structured approach for prospective CP applicants and other entities to obtain Staff and ACRS conclusions on site issues

but seems to conflict with top p.5

that may be relied upon without routine re-review in a subsequent CP application using that site. The ESR policy, combined with the several approaches already made available for applicants to obtain Staff and ACRS review and approval of standard plant designs, completes the major missing link by permitting design information for all three portions of a nuclear plant design - NSSS, BOP, and site - to be reviewed and approved in advance of need, thereby permitting a substantial reduction in the schedule time needed to grant authorization to construct.

Why didn't you say so earlier

Solid Quant benefit (not just)

2. Permits prospective CP applicants to carry the site review through the public hearing process to obtain a final NRC decision that may be relied upon in a subsequent CP application using that site without routine re-adjudication at the public hearing stage.

ditto

3. Provides an opportunity for those utilities that have deferred plants in recent months, and have site information in hand, to proceed with at least the Staff review and approval of these proposed sites with minimal additional expense. These potential applications are included in those anticipated for submittal under this proposed policy in FY 76 and FY 77.

ditto

4. While awaiting passage of the proposed legislation, establishing and publicizing an NRC policy for early site reviews will encourage applications now, thereby accruing the benefits of the concept of separating site and plant reviews and approvals earlier than would otherwise be possible. It will

Others restriction on the purpose of the legislation,

TABLE 1

ESR Application Activity

<u>Site</u>	<u>Applicant</u>	<u>Scope</u>	<u>Status</u>	<u>Mos</u>
San Joaquin	City of Los Angeles Dept. of Water and Power	Hydrology, geology, and seismology	Submitted 2-28-74 To be completed 8-76	30
Vidal	Southern California Edison	Geology and seismology	Submitted 10-22-74 To be completed 3-76	17
Sundesert	San Diego Gas and Electric	Demography, hydrology, geology and seismology	Submitted 4-17-75 To be completed 2-76	10
Haven	Wisconsin Electric Power	All safety and environmental considerations	Submitted <u>8-15-75</u> Schedule <u>not developed</u>	<i>why not</i>
Wood	Wisconsin Electric Power	All safety and environmental considerations	Submitted <u>8-15-75</u> Schedule <u>not developed</u>	
Yellow Creek	Tennessee Valley Authority	Geology and seismology	Submitted 12-10-75 Schedule not developed	

also promote dialogue with the industry and States regarding such site reviews to enhance the development of procedures and criteria for future applications.

5. Should facilitate obtaining comments from Federal and State agencies on environmental considerations. It is anticipated that passage of the proposed legislation would provide even more assistance in this regard.

The following adverse impacts have been identified:

1. There is a potential that some site considerations, evaluated as part of the ESR application, may need to be re-evaluated in the context of the CP application in which the prior site review is utilized due to changes in site data or changes in evaluation criteria. Therefore, a duplication of effort may result. The potential for such reevaluation is mitigated by the staff's commitment to apply only significant new evaluation criteria and to consider only significant new site data subsequent to staff approval, and also by the flexibility provided to prospective ESR applicants to request NRC review of site considerations selected at their discretion.

As an example, "need for power" has been identified as a site review consideration that may require updating at the time of site use in a CP application because of the significant

DR?

in all cases?

variation that may occur in this parameter with time. In an ESR application, the staff expects the applicant to present an electrical power demand projection over a period of time that would encompass the submittal date for the plant design information. The projection presented would indicate the time frame during which an additional nuclear power plant must be made operational. At the time of submittal of the full CP application, the applicant must verify by means of an updated power demand projection that indeed there is now a true need for power generation and that the processing of the CP application should go forward.

Notes that
all examples
are NEPA items.
See comment
on p. 5

Other examples of site review considerations that may require updating at the time of site use in a CP application include alternative energy sources, benefit-cost analysis, and demography.

not likely
except (rarely)
close - in
Newbold's.

2. There is a possibility that the prospects for passage of the NRC's proposed legislation may be affected. The NRC's proposed legislation includes provision for the issuance of site permits, and the proposed policy and procedure would go far toward advancing the concept of early site reviews without the need for new legislation. The proposed legislation would go one step further by providing for a site permit proceeding that is entirely separate from the

*Also under
Present
Proposal
Sub. H. A.P. 6, 25*

*even based on
all the Murphy
letters NRC
has gotten?*

construction permit processing. Under the legislation site permit applications could be filed by persons who do not intend to apply for construction permits. It is believed that the effects on prospects for passage of NRC's legislation would be small.

*But expected
longer
term
savings?*

- 3. Additional staff effort will be necessary to process ESR applications. Adequate staff manpower estimated to carry out this program has been included in the FY 76 budget and FY 77 budget request.

CONCLUSIONS

Based on the above analysis, it is concluded that the benefits which may accrue from the promulgation of an NRC policy for early site reviews (Alternative 1) now rather than await the disposition of the proposed legislation (Alternative 2) substantially outweigh the adverse impacts that may occur. It is our assessment that the proposed policy will make available a significant improvement in the licensing process for nuclear power plants to interested applicants. As such, it could provide benefits to all affected groups - design organizations, utilities, the Nuclear Regulatory Commission, and the public.

It should be noted that similar considerations apply to early site reviews for other large production and utilization facilities such as commercial fuel reprocessing plants, commercial isotopic enrichment plants, and large testing reactors.

VALUE/IMPACT FACTORS FOR ALTERNATIVES 3 - 5

Alternative 3

Delay issuance of the proposed rules until a draft regulatory guide on the content and format of early site submittals is prepared, and invite comments concurrently on the proposed regulations and guides.

Value/Impact Factors

Benefit

This would provide information regarding the proposed Staff implementation of the Commission's proposed policy and regulations that would facilitate public comments.

Adverse Impacts

- (1) This would delay publication of the proposed regulations by about three months. The publication of the regulatory guide is presently scheduled to follow promulgation of final regulations and policies by the Commission.
- (2) The regulatory guide is identified and generally described in the attached Staff Report (NUREG). Thus, the thrust and general nature of the proposed guide will be subject to public comment along with the proposed regulations and policy.

Alternative 4

Adopt a test for reopening the reviews of site suitability issues for consideration of new information that is different than the test for reopening

standardized plant design reviews set forth in 10 CFR Part 50, Appendices M and O. The test for reopening standardized plant design reviews set forth in 10 CFR Part 50, Appendices M and O (and proposed under Alternative 1) is whether there exists significant new information that substantially affects the earlier conclusions or other good cause. The test that has been adopted by the Appeal Board for reopening a hearing record for consideration of new information once an initial decision is rendered by an ASLB and the matter is pending for review could be adopted. This test is whether there is new evidence of major significance to a proper resolution of the issues.

Stym

This discussion is not entirely clear.

While it is not entirely clear, the language in Appendices M and O may be construed as more stringent than the test adopted by the Appeal Board.

Value/Impact Factors

Benefits

Would provide a test for reopening the record for consideration of new information that would be the same for partial decisions on site suitability issues as for partial decisions on other issues.

Adverse Impacts

- (1) Would be inconsistent with the test for reopening standardized plant reviews under 10 CFR Part 50, Appendices M and O.
- (2) Could result in more frequent re-reviews of site suitability matters.

worded differently but is it inconsistent

Alternative 5

Retain the present LWA regulations which only apply to nuclear power reactors.

Benefits

- (1) Would not require any commitments of time and resources for the conduct of special LWA reviews.
- (2) Would eliminate the litigative risks that would be associated with issuance of LWA's for large facilities other than power reactors. However, if the LWA reviews for these other large facilities are carefully conducted, these litigative risks would likely be small.

Define

Adverse Impacts

Would eliminate the possibility that the same time savings that have been realized in the case of nuclear power reactor reviews could also be realized in the case of other large facilities, such as commercial isotope enrichment plants and reprocessing plants.

Conclusion

On the basis of the above, it is concluded that on balance Alternative 1 is preferable to Alternatives 3 - 5.

A.H.C

NRC PROPOSES POLICY FOR EARLY REVIEW OF SITES
PLANNED FOR LARGE NUCLEAR FACILITIES

The Nuclear Regulatory Commission is seeking public comment on a proposed policy and amendments to its Regulations to provide for early review of the suitability of potential sites for nuclear facilities. These measures provide for the processing of applications involving complete site information in both safety and environmental areas as well as applications seeking review of only certain specific areas--such as seismology--which could be ~~a key factor~~^{by} in determining the suitability of a potential nuclear facility site.

Early review and decisions on site suitability would provide early identification and resolution of site-related problems before substantial commitments of resources are made in the choice of a plant design and in going forward with the remainder of the application.

Also, early consideration would substantially remove the resolution of critical siting issues as a delaying factor in the licensing review prior to construction authorization. The early site suitability hearing also could enhance public participation by focusing it on crucial issues at an early stage in the review process.

The proposed procedures would provide two separate approaches to the early consideration of site suitability issues. Under the first approach a partial adjudicatory decision, after an appropriate hearing, would be issued on site suitability matters. Under the second approach, site suitability issues would be reviewed by the Commission's staff and the Advisory Committee on Reactor Safeguards (ACRS), with both the staff and

the ACRS issuing reports. No hearing would be held and no adjudicatory decision would be rendered under the second approach and the staff and ACRS findings would not be binding on the Atomic Safety and Licensing Board, Atomic Safety and Licensing Appeal Board, or Commission itself.

Routine re-review of site suitability issues would be required only when construction authorization is sought more than five years after issuance of the partial final decision (under the first approach) or staff ^{and} ~~or~~ ACRS determination (under the second approach) on site suitability matters.

At the same time, the Commission is proposing rule changes which would extend the concept of Limited Work Authorizations (LWAs)--a concept which permits limited construction work at the site of a nuclear power station after a detailed review, public hearing, and favorable findings on environmental impact and site suitability issues--to other facilities such as fuel reprocessing plants, uranium enrichment facilities and test reactors.

In the past, the NRC staff has conducted, on request, site reviews for planned nuclear facilities, but these reviews generally were conducted on an informal basis and limited to one or two key issues. A more detailed environmental and site suitability review, duplicating to a large degree the previous informal review, was required at the time of submittal of an application to build the facility.

Under the early site review proposals being announced today, the applicant could submit site information on one or more site suitability issues. In the safety area, this would be reviewed by the NRC staff and the independent ACRS. In the environmental area, it would be reviewed by the staff and participating agencies which comment on draft environmental impact statements.

Under the first approach to early site reviews, a partial adjudicatory decision would be rendered by an Atomic Safety and Licensing Board. This would be followed by an NRC final decision for the specific areas reviewed. The resulting site clearance would be effective for five years unless there were significant new information that substantially affected the earlier conclusions, or other good cause.

For those applications successfully carried through this review process under the second approach, the NRC staff would issue a Staff Site Position (SSP). The SSP would specify the acceptability or unacceptability to the staff of the site for eventual location of a nuclear facility and the parameters for the design of the plant. The SSP would state any conditions imposed by the staff on the site's suitability. The SSP would be good for five years in the absence of significant new information or other good cause.

Copies of the proposed rules and an accompanying staff report which describes the mechanics of the proposed reviews in the case of nuclear power reactors in some detail may be obtained by writing to the Director, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D.C. 20555. Comments on the proposed implementing regulations or staff report should be addressed to the Secretary of the Commission, Attention: Docketing and Service Section, at the same address. Comments should be received no later than __ days following publication of the proposed regulations in the Federal Register on _____.

ATTACHMENT D

NUREG _____

POLICY AND PROCEDURE
EARLY SITE REVIEWS
FOR
PLANNED NUCLEAR POWER STATIONS

Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation

September 1975
Amended January 1976

ABSTRACT

This document presents the NRC Staff's policy and procedure for Staff review and approval of early site review applications that are independent of specific nuclear power station designs. It encompasses the processing of applications involving complete site information for both environmental and safety areas as well as those involving only certain key areas upon which a go/no-go decision may hinge.

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DEFINITION OF TERMS

ACRS	Advisory Committee on Reactor Safeguards
ASLB	Atomic Safety and Licensing Board
CP	Construction Permit
DSES	Draft Site Environmental Statement
ESR	Early Site Review
FSES	Final Site Environmental Statement
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission
Nuclear Power Station	One or more nuclear power plants
Site-SER	Site-Safety Evaluation Report
SSP	Staff Site Position
Standard Design	Design of a nuclear power plant, or major portion thereof, submitted under the Reference System option of the standardization policy (10 CFR Part 50 Appendix O)

I. INTRODUCTION

As a major part of the Nuclear Regulatory Commission's continuing efforts to improve the effectiveness and efficiency of the licensing process, a policy and procedure has been developed for the early review of sites planned for the location of nuclear power stations, independent of the specific design and construction features of the station itself. Such early site reviews, for new nuclear sites as well as those on which a nuclear power station is already located, can provide advanced assurance of site acceptability by the NRC staff for all site considerations or for certain key areas. This staff report presents a policy and procedure for early site reviews for use by applicants - utilities, States, governmental agencies, or other entities - who wish to pursue this initial step leading to the licensing of a nuclear power station.

To accommodate the variety of applicant needs and siting concerns that may exist, the early site review policy permits the selection of a scope of review, at the discretion of the applicant, that extends from a single site consideration up to and including all site considerations normally addressed in a full CP application. The potential applications are described as follows:

Early Site Review (ESR): This application involves the submittal of complete site information, both in the safety area with the review process carried through the NRC staff and ACRS, and in the environmental area with the review

Redundancy

-2-

*How
When*

process carried through the NRC staff and other participating NEPA-commenting agencies. The results of this review may be carried further to obtain a partial adjudicatory decision on site suitability.

Limited Early Site Reviews (LESR): This application involves the submittal of limited site information related to specific site issues in either or both the safety and environmental areas with the review process again carried through the NRC staff and ACRS for the safety areas, and the NRC staff and participating NEPA-commenting agencies for environmental areas. The results of this review may be carried further to obtain a partial adjudicatory decision on the site suitability issues.

The Early Site Review approach offers advanced assurance of the acceptability by the staff of limiting values for site parameters and of environmental analyses performed under NEPA at an early stage in the design of the nuclear power station. With the exception of possible significant new information or other good cause, all site-related considerations may be completely resolved to the satisfaction of the NRC staff, ACRS and participating NEPA-commenting agencies in advance of the submittal of specific nuclear plant design information.

The Limited Early Site Review approach permits applicants to obtain a staff, ACRS and possibly participating NEPA-commenting agency evaluation and conclusion regarding one or more particular site issues important to the siting, design and construction of a

planned nuclear power station. Firm staff decisions on important siting issues at an early date should assist applicants in stabilizing nuclear power station design requirements. Limited Early Site Reviews are available to replace the preliminary, informal type of site review performed in the past, at the applicant's discretion.

To complete the Early Site Review process in its entirety, ^{abolished} the ^(under present law) applicant may elect to carry the application through a public hearing and an ASLB decision followed by a definitive NRC decision. This may be accomplished for either the complete or limited Early Site Review application. The complete processing of an Early Site Review application through the public hearing phase would be accomplished in the context of a construction permit application. *ie*

(e.g.)
But could a state file an ESR application to get SSP?

*Best site related
BOP could
be submitted in ESR*

II. EARLY SITE REVIEWS

Site reviews performed in accordance with this policy will be generally similar to site reviews performed in connection with construction permit applications. The major difference is the lack of a specific nuclear power station design. This necessitates the identification and definition of site/station interface design requirements against which the specific design of the nuclear power station must be evaluated to demonstrate site/station compatibility* at the CP application stage. These and other aspects of an early site review are discussed in this chapter.

are discussed in this chapter.

A. Review Process

As shown in Figure 1, Early Site Review applications will be subjected to the same acceptance review and docketing procedures presently utilized for other types of applications submitted for staff review. The acceptability of a tendered application will be based on a comparison of the informational needs as described in Regulatory Guide 4.Z**.

*For example, see 10 CFR Part 50 Appendix O, paragraph 3.

**Informational needs are given in Regulatory Guide 4.Z, "Preparation of Early Site Review Reports for Nuclear Power Stations".

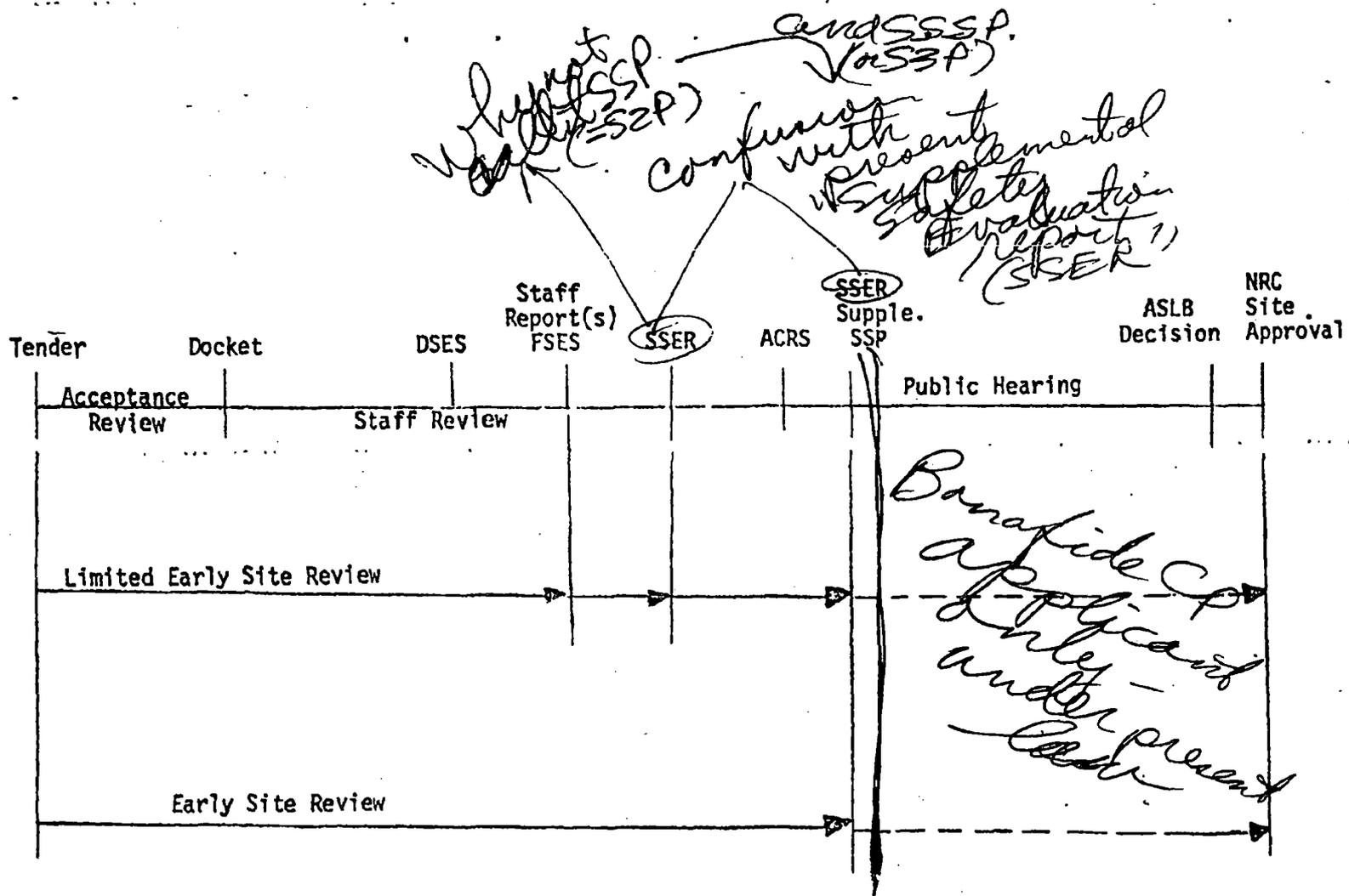


Figure 1

Extent of Review and Approval Process for Early Site Review Applications

As for other applications for staff review, the receipt of Early Site Review applications will be noticed in the Federal Register. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

Following docketing of the application, the staff review will be performed in accordance with present procedures. For the safety areas, the conclusions of the staff review will be documented in a Site-Safety Evaluation Report (SSER). The review will be carried through the ACRS stage with an ACRS letter report issued and SSER Supplement prepared as appropriate. For the environmental area, the conclusions of the review will be documented in a Draft Site Environmental Statement (DSES) distributed for Federal and State agency review, and a Final Site Environmental Statement (FSES) incorporating the resulting comments.

conjunction with SSER

Staff Report - Safety Considerations See p. 13

*if no hqs
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B. Content of Early Site Review Reports

Early Site Review applications must present the necessary site information in two self-sufficient and separate reports -- one for environmental information entitled "Early Site Review-Environmental Report" and the other for safety-related information entitled "Early Site Review - Site Safety Report".

Guidance regarding the format and content of these reports is given in Regulatory Guide 4.Z. This guide includes all the necessary categories of information regarding the description of a site for a nuclear power station. It describes the necessary environmental information similar to that presented in an Environmental Report, and safety-related site information similar to that presented in a Preliminary Safety Analysis Report. In addition, Regulatory Guide 4.Z describes the need for interface information which defines the site-related design limits for the nuclear power station based on the values of the various parameters established for the site. With regard to environmental and meteorological data, 12 months of data must be provided at the time of tendering.

Why not ease up on this?

C. Scheduling Considerations

In general, Regulatory processing of Early Site Review applications will be accomplished under a scheduling arrangement similar to that used for applications for licenses, except that a lower priority will be assigned. As discussed in Section A of this chapter and as shown in Figure 1, the major processing steps are the same as for other applications. However, the review areas involved are restricted to those concerned with siting considerations only.

What does it mean in practical sense?

It is anticipated that in the majority of cases the submittal and completion of NRC processing of Early Site Review applications will precede the submittal of a CP application utilizing the site. Other equally acceptable scheduling relationships between the Early Site Review applications and the CP application could involve both reviews underway in parallel. The site review application would be concerned with qualifying the site for a greater number of nuclear power plants than is specified by the CP application. However, the granting of a CP cannot precede the completion of that portion of the site review and approval process for the number of nuclear plants specified in the CP application.

why was LaSalle not considered for 4 units rather than 2?

D. Mode of Approval

For Early Site Review applications successfully carried through the staff, ACRS, and Federal and State agency review process, a Staff Site Position (SSP), issued by the NRC staff, will be granted.* SSP documentation will consist of notification to the applicant specifying the acceptability or unacceptability to the staff of the site for eventual location of a nuclear power station, and the acceptability or unacceptability to the staff of the site parameters for the design of the nuclear power station established during the review. It would reference the

*See Chapter IV for a discussion of an alternate method of early site approval involving a public hearing.

original application including the Environmental and Site Safety Reports and would state any conditions imposed on the staff's acceptability of the site, including the need to modify any aspects of acceptability based on significant new information that substantially affects the earlier conclusions or other good cause. At the time the site is used in a CP application, the review process for the site would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision, assuming the applicant has not elected to resolve the site issues in a public hearing as part of the early site review process.

*e.g. 2
demo.*

E. Tenure of Approval

For Early Site Review applications, the Staff Site Position (SSP) would have a tenure of five years unless there was significant new information that substantially affected the earlier conclusions or other good cause. During this period, defined as the interval between issuance of the SSP and tendering of a CP application that uses the site, the site could be used in CP applications without staff and ACRS re-review under the conditions specified in the SSP documentation discussed above and except for an updating review to determine the significance of new data and requirements. If the site were not utilized in CP applications within the five year period, it would be subjected to a "qualification review" performed by the NRC staff at the time of its use. The "qualification review" involves a determination

What would this be like e.g. how long would it take?

Wouldn't this be done anyway? per

*is this
the difference?*

of the applicability of any new NRC considerations and requirements or new applicant data that may have arisen since the issuance of the SSP. The site aspects affected by the results of the "qualification review" would be reviewed again. Those areas that are unaffected would not be reviewed again. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with his schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and the Site Safety Report. If no updating is required, the applicant must so certify, including the bases (subject to staff review), at the time of site utilization in a CP application.

Examples of site review considerations that may require updating at the time of site use in a CP application include need for power, source of power, cost-benefit analysis, and population density. For purposes of accomplishing the environmental review under NEPA and determining site acceptability regarding safety considerations at an early stage, it will be necessary to provide projections for some of the site considerations. The validity of these projections

must then be confirmed at the time of site use. Depending upon
the extent and direction of departure from these projections,
re-review may be necessary.

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III. LIMITED EARLY SITE REVIEWS

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Limited Early Site Reviews performed under this policy will permit an applicant to obtain NRC staff and, as appropriate, ACRS and participating NEPA-commenting agency review and evaluation of selected site considerations that are determined to be important for a go/no-go decision regarding site acceptability, or for which an early decision is necessary with respect to site selection or advance design efforts for a nuclear power station. The selected site considerations may be in the safety and/or environmental areas, and must qualify as considerations warranting an early and separate review, including whether conducting such a review would tend to foreclose later evaluation of alternate sites.

*Why
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applicant
need?*

The NRC staff position associated with a Limited-ESR application must necessarily be confined to the particular site considerations addressed, and for the environmental area, it cannot encompass full NEPA review unless all NEPA considerations are addressed in order to perform the required cost-benefit balancing determination.

A. Review Process

As shown in Figure 1, Limited-ESR applications will be subjected to the same docketing and review procedures as Early Site Review applications. With regard to the acceptability of a tendered Limited-ESR application, the

staff will make a comparison of the informational needs as described in Regulatory Guide 4.2 for the scope of the site considerations addressed, with the information provided in the Limited Early Site Review report(s)*. As for Early Site Review applications, the receipt of a Limited-ESR application will be noticed in the Federal Register and comments from interested persons will be invited. Documents comprising the application and those generated during the review will be placed in the Public Document Room. In addition, a Local Public Document Room will be established in the vicinity of the site and contain the same information.

With regard to the conclusions of the review, a Staff Report - Safety Considerations will be prepared for safety areas of review, and a Staff Report - Environmental Considerations** will be prepared for environmental areas of review. The latter will be distributed to appropriate Federal and State agencies for review.

will they do it?

*Limited Early Site Review-Environmental Report for environmental information, and/or Limited Early Site Review-Site Safety Report for safety-related information.

**For Limited-ESR applications involving complete NEPA review, the staff will issue a DSES and an FSES.

B. Content of Limited Early Site Review Reports

Similar to Early Site Review applications, Limited-ESR applications must also include a Limited Early Site Review report(s). As discussed in the previous section, the scope of the subject matter addressed may necessitate two separate and self-sufficient reports -- one for environmental information and the other for safety information. The subject matter should be addressed completely in accordance with the appropriate portions of Regulatory Guide 4.2 to permit a conclusion to be drawn in the form of a staff report(s) as discussed in Part A of this section. With regard to the environmental area, site considerations selected for submittal in a Limited ESR application must be isolable considerations for which independent conclusions can be drawn (e.g., it is not possible to draw a final conclusion on some site considerations, on a separate basis, directly involved in the cost-benefit analysis under NEPA since that analysis also depends on many other site considerations).

C. Scheduling Considerations

The NRC processing of Limited-ESR applications will be accomplished under a scheduling arrangement determined by the scope of the review requested and, therefore, decided on a case-by-case basis. The major processing steps are the same as those for Early Site Review applications, as shown in Figure 1.

Relative to the CP application that uses the site, a Limited-ESR application, in order to qualify as such, must be submitted more than six months prior to the submittal of the CP application and will be docketed separately. Special provisions* have previously been made for the submittal of an Environmental Report as much as six months prior to the PSAR for a CP application.

D. Mode of Approval

NRC staff approval of the particular aspects of a site proposed for subsequent location of a nuclear power station will consist of notification to the applicant summarizing the conclusions of the staff, ACRS (as applicable), and participating NEPA-commenting agency (as applicable) reviews including the specific areas of acceptability, limits established for the design of the nuclear power station, and any other necessary qualifications. The Staff Report-Safety Considerations and supplements (including the ACRS letter report) and/or the Staff Report-Environmental Considerations (including participating NEPA-commenting agency comments) become a portion of the approval documentation. At the time the site is used in a CP application, the review process for these site aspects would be continued within the context of the CP review in a public hearing by an ASLB, followed by an NRC decision.

*10 CFR Part 2.101(a)

E. Tenure of Approval

A Limited-SSP will have a tenure of approval of five years, the same as an SSP for an Early Site Review application, unless there was significant new information which substantially affected the earlier conclusions or other good cause. As for an SSP, the conclusions given in the Limited-SSP could be utilized in CP applications using the site without re-review by the staff for the five year period. If the site were not utilized in a CP application within the five year period, the prior conclusion would be subjected to a "qualification review" at the time of its use in a manner identical to that for Early Site Review approvals. It is the applicant's responsibility to request the NRC staff to perform a timely "qualification review" in accordance with schedule needs.

In the event of the need to provide updating information that may affect the basis upon which the original conclusions were drawn, the applicant must submit supplemental information to update the Environmental Report and/or Site Safety Report for staff review. If no updating is required, the applicant must so state, including the bases (subject to staff review), at the time of site utilization in a CP application.

IV. PUBLIC HEARING ASPECTS

As a further step toward stabilizing site-related design requirements for the planned nuclear power station at an early stage, an Early Site Review application, complete or limited, may be processed through the public hearing phase as an early part of the CP review process at the discretion of the applicant. The site would then be established as a pre-approved site. The process would involve a public hearing conducted by an ASLB, an Initial Decision by the ASLB, and a Final Decision by the NRC. A site for a nuclear power station that has progressed to this point can be utilized later in the CP review without the need for additional review or public hearings unless there developed significant new information which substantially affected the earlier conclusions or other good cause.

do we want to have NRC on ESR

As stated in Section I of this document, only those Early Site Review applications submitted in the context of a CP application may be carried through the public hearing phase. ~~The NRC's proposed legislation would allow consideration of site suitability issues in a site permit proceeding that is entirely separate from the construction permit proceeding. The site permit proceeding would include public hearings when requested by any person whose interest may be affected. Further, under the proposed legislation site permit~~

Not relevant in PIP document

** footnote*

applications could be filed by persons who have no intention of filing a construction permit application referencing the site. For example, States could seek a permit as a part of energy facility planning efforts.



April 6, 1976

CORRECTION NOTICE TO SECY-75-391B - EARLY SITE REVIEWS FOR PLANNED
NUCLEAR FACILITIES

. ATTACHED ARE REPLACEMENT PAGES TO SECY-75-391B DATED FEBRUARY 26, 1976, WHICH ACCOMMODATE COMMISSIONER'S COMMENTS ON SECY-75-391B. ADDITIONAL INFORMATION REGARDING STAFF RESOURCES PREPARED BY ONRR IS INCLUDED IN A NEW ATTACHMENT F TO SECY-75-391B. SOME ADDITIONAL INFORMATION ON COORDINATION WITH STATES AND OTHER AGENCIES WAS PREVIOUSLY SET FORTH IN A MEMORANDUM FOR THE COMMISSIONERS FROM BEN RUSCHE, DATED APRIL 1, 1976.

SECRETARIAT

-7-

Under the proposed amendments which follow, a State could seek and obtain a Commission Staff and ACRS review and determination on the acceptability of a proposed nuclear facility site (the second approach). This could prove to be useful for purposes of State review and planning efforts. Thus, the availability of the second approach would not be restricted to electric utilities or other persons who intend to apply for construction permits. On the other hand, the Commission believes that any partial adjudicatory decision on site suitability issues (the first approach) under its present legislative authority should properly be made within the context of a construction permit application review and hearing. Accordingly, the availability of the first approach to early consideration of site suitability matters will be restricted to those who plan to construct nuclear facilities.

The Commission is of the firm view that duplication in environmental assessments should be avoided to the maximum extent feasible. In one particularly important subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR 60115), provides for early Environmental Protection Agency evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of discharge permits under Section 402 of the Federal Water Pollution Control Act by the Agency in advance of the

-25-

5. The determination and report by the staff shall not constitute a commitment to issue a permit or license, to permit on-site work under § 50.10(e), or in any way affect the authority of the Commission, Atomic Safety and Licensing Appeal Board, Atomic Safety and Licensing Boards, and other presiding officers in any proceeding under Subpart F and/or G of Part 2 of this Chapter.

6. The staff may decline to initiate technical review of a submittal under this appendix where it appears that, in cases where no review of the relative merits under Part 51 of the submitted site and alternative sites is requested, there is a reasonable likelihood that further Staff review would identify one or more preferable alternative sites and the Staff review on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the analysis of alternative sites in the Environmental Report that would prejudice the later review and decision on alternative sites under subpart F and/or G of Part 2 and Part 51 of this Chapter.

Regulatory Guide 4.Z for an ESR application will be cast in a manner to eliminate the need for plant design information. This is accomplished by establishing site parameter values based on site characteristics as interfaces that must be met by the plant design eventually to be located at the site.

- c. The processing of an ESR application received from a CP applicant can be carried through a public hearing and the issuance of an NRC final decision. This will permit a final conclusion to be drawn regarding the site consideration submitted for review, with no need to routinely re-review these matters even in a public hearing. This has not been done under the present system.

COORDINATION WITH STATES AND OTHER AGENCIES

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in deciding questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

It is the Commission's firm belief that duplicative environmental assessments should be avoided to the maximum feasible extent. In one particularly important

INDUSTRY VIEWS

As a vital part of our efforts to develop an ESR policy, discussions were held with several utilities and the Atomic Industrial Forum's Committee on Reactor Licensing and Safety (CRLS) to determine in a more direct manner the industry's interest in the promulgation of such a policy. All industry representatives were unanimous in their views that a more formalized procedure for the complete review of sites, or only selected site considerations, should be made available.

The CRLS group, representing a broad consensus of the nuclear industry (utilities, reactor vendors, and architect-engineers), was particularly helpful with its suggestions. In a meeting held in our Bethesda offices on February 21, 1975, the AIF group made the following significant points:

- a. A period of validity of at least five years (ten years is desirable) for the staff site approval is essential to the usefulness of the early site review concept.
- b. The ESR concept should include provisions for considering limited site aspects that can assist a utility in making an early assessment of a site's potential usefulness.
- c. The results of the early site review must be held inviolate during the period of validity unless significant safety aspects are discovered that warrant re-examination.

In formulating the proposed ESR policy, the staff has found the industry suggestions to be generally acceptable and consistent with its needs to assure protection for the public health and safety, and for the environment.

NRC PROPOSES POLICY FOR EARLY REVIEW OF SITES
PLANNED FOR LARGE NUCLEAR FACILITIES

The Nuclear Regulatory Commission is seeking public comment on a proposed policy and amendments to its Regulations to provide for early review of the suitability of potential sites for nuclear facilities. These measures provide for the processing of applications involving complete site information in both safety and environmental areas as well as applications seeking review of only certain specific areas -- such as seismology -- which could be a key factor in determining the suitability of a potential nuclear facility site. The proposed policy complements the previously announced standardization policy that provides for early review of nuclear power plant designs or major portions thereof.

Early review and decisions on site suitability would provide early identification and resolution of site-related problems before substantial commitments of resources are made in the choosing of a plant design and in going forward with the remainder of the application.

Also, early consideration would substantially remove the resolution of critical siting issues as a delaying factor in the licensing review prior to construction authorization. Further, the early site suitability hearing would enhance the effectiveness of public participation by allowing crucial siting issues to be aired at an early stage in the review process.

The proposed procedures would provide two separate approaches to the early consideration of site suitability issues. In both cases, an Environmental Impact Statement (EIS) and a Site-Safety Evaluation Report (SSER) would be prepared. Under the first approach, a partial adjudicatory decision,

after an appropriate hearing, would be issued on site suitability matters. Under the second approach, site suitability issues would be reviewed by the Commission's staff and the independent Advisory Committee on Reactor Safeguards (ACRS), with both the staff and the ACRS issuing reports. No hearing would be held and no adjudicatory decision would be rendered under the second approach, and the staff and ACRS findings would not be binding on the Atomic Safety and Licensing Board, the Atomic Safety and Licensing Appeal Board, or the Commission itself.

Under both approaches, a determination on site suitability issues (by adjudicatory decision, staff, or ACRS) would not routinely be reviewed again, provided construction authorization was sought within 5 years of that determination.

The Commission is also proposing rule changes which would extend the concept of Limited Work Authorizations (LWA's) -- by which limited site preparation and construction work may take place at the site of a nuclear power station after a detailed review, a public hearing, and favorable findings on environmental impact and site suitability issues, but before issuance of a construction permit -- to other facilities such as fuel reprocessing plants, uranium enrichment facilities and test reactors.

In the past, the NRC staff has conducted, on request, site reviews for planned nuclear facilities, but these reviews generally were conducted on an informal basis and limited to one or two key issues. A more detailed environmental and site suitability review, duplicating to a large degree the previous informal review, was required at the time of submittal of an application to build the facility.

Under the early site review proposals announced today, the applicant could submit site information on one or more site suitability issues. In the safety area, this would be reviewed by the NRC staff and the ACRS. In the environmental area, it would be reviewed by the staff and by other agencies participating in and commenting on draft environmental impact statements.

Under the first approach to early site reviews, a partial adjudicatory decision would be rendered by an Atomic Safety and Licensing Board. This decision would be subject to review by the Atomic Safety and Licensing Appeal Board and, ultimately, by the Commission. The resulting site clearance would be effective for five years unless significant new information developed that substantially affected the earlier conclusions, or for other good cause.

For those applications successfully carried through this review process under the second approach, the NRC staff would issue a Staff Site Position (SSP). The SSP would specify the acceptability or unacceptability to the staff of the site for eventual location of a nuclear facility and any conditions imposed by the staff on the site's suitability. It would also set forth the parameters for the design of the plant. The SSP would remain valid for five years in the absence of significant new information or other good cause.

Copies of the proposed rules, and an accompanying staff report which describes in some detail the mechanics of the proposed reviews in the case of nuclear power reactors, may be obtained by writing to the Director, Office

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of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D. C. 20555. Comments on the proposed implementing regulations and/or staff report should be addressed to the Secretary of the Commission, Attention: Docketing and Service Section, at the same address. Comments should be received no later than ___ days following publication of the proposed regulations in the Federal Register on _____.

ATTACHMENT F (NEW)

STAFF RESOURCES FOR ESR APPLICATIONS

Based on information available to the staff regarding the future plans of utilities and States to submit ESR applications for staff review, the staff has determined its capability in terms of manpower and dollars for contractual services to process these applications. Estimates indicate that the number of complete ESR applications to be submitted in FY 77 could be as high as eleven (11) and more likely will be no greater than six (6). By comparing the workload assumed for the initial FY 77 manpower and contractual services with a more recent analysis, it is concluded that adequate staff manpower will be available to handle the maximum number of applications anticipated, primarily because of the reduced number of CP applications now projected for FY 77.* This includes consideration of the flexibility inherent in scheduling ESR's, and that some of the ESR's will be of the limited scope variety. With regard to dollars for contractual services, the staff can handle the lower number of ESR's anticipated by also deferring technical projects, but additional funds might be required if the maximum forecast were to materialize. In view of the fact that 5 of the 11 ESR's in the maximum forecast are identified as "not firm" and our flexibility in scheduling these reviews, it is not anticipated at this time that any increase in contractual services for FY 77 will be necessary.

The workload in FY 78 is unclear at this time because of uncertainties in utility financing and load growth. However, our current information indicates

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that the FY-78 workload is comparable to the 6 ESR level forecast for FY 77. Should this prove to be correct, it is anticipated that adequate staffing and sufficient time to arrange for contractual services will be available.

April 6, 1976

CORRECTION NOTICE TO SECY-75-391B - EARLY SITE REVIEWS FOR PLANNED
NUCLEAR FACILITIES

ATTACHED ARE REPLACEMENT PAGES TO SECY-75-391B DATED FEBRUARY 26, 1976, WHICH ACCOMMODATE COMMISSIONER'S COMMENTS ON SECY-75-391B. ADDITIONAL INFORMATION REGARDING STAFF RESOURCES PREPARED BY ONRR IS INCLUDED IN A NEW ATTACHMENT F TO SECY-75-391B. SOME ADDITIONAL INFORMATION ON COORDINATION WITH STATES AND OTHER AGENCIES WAS PREVIOUSLY SET FORTH IN A MEMORANDUM FOR THE COMMISSIONERS FROM BEN RUSCHE, DATED APRIL 1, 1976.

SECRETARIAT

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Under the proposed amendments which follow, a State could seek and obtain a Commission Staff and ACRS review and determination on the acceptability of a proposed nuclear facility site (the second approach). This could prove to be useful for purposes of State review and planning efforts. Thus, the availability of the second approach would not be restricted to electric utilities or other persons who intend to apply for construction permits. On the other hand, the Commission believes that any partial adjudicatory decision on site suitability issues (the first approach) under its present legislative authority should properly be made within the context of a construction permit application review and hearing. Accordingly, the availability of the first approach to early consideration of site suitability matters will be restricted to those who plan to construct nuclear facilities.

The Commission is of the firm view that duplication in environmental assessments should be avoided to the maximum extent feasible. In one particularly important subject area - water pollution control - the Commission has initiated substantial efforts along these lines. The second Memorandum of Understanding between the Commission and the Environmental Protection Agency, published in the Federal Register on December 31, 1975 (40 FR 60115), provides for early Environmental Protection Agency evaluations of levels of liquid effluent discharges and impacts on water quality and biota and early issuance of discharge permits under Section 402 of the Federal Water Pollution Control Act by the Agency in advance of the

-25-

5. The determination and report by the staff shall not constitute a commitment to issue a permit or license, to permit on-site work under § 50.10(e), or in any way affect the authority of the Commission, Atomic Safety and Licensing Appeal Board, Atomic Safety and Licensing Boards, and other presiding officers in any proceeding under Subpart F and/or G of Part 2 of this Chapter.

6. The staff may decline to initiate technical review of a submittal under this appendix where it appears that, in cases where no review of the relative merits under Part 51 of the submitted site and alternative sites is requested, there is a reasonable likelihood that further Staff review would identify one or more preferable alternative sites and the Staff review on one or more limited site suitability issues would lead to an irreversible and irretrievable commitment of resources by the Applicant prior to the submittal of the analysis of alternative sites in the Environmental Report that would prejudice the later review and decision on alternative sites under subpart F and/or G of Part 2 and Part 51 of this Chapter.

Regulatory Guide 4.Z for an ESR application will be cast in a manner to eliminate the need for plant design information. This is accomplished by establishing site parameter values based on site characteristics as interfaces that must be met by the plant design eventually to be located at the site.

- c. The processing of an ESR application received from a CP applicant can be carried through a public hearing and the issuance of an NRC final decision. This will permit a final conclusion to be drawn regarding the site consideration submitted for review, with no need to routinely re-review these matters even in a public hearing. This has not been done under the present system.

COORDINATION WITH STATES AND OTHER AGENCIES

Several Federal agencies other than the Commission, as well as numerous State and local agencies, are involved in deciding questions of environmental impact and nuclear facility siting. In recent years there has been increasing emphasis at State governmental levels on early and thorough consideration of environmental impact, land use, and similar questions associated with energy facility siting, including nuclear facility siting. Several States have enacted comprehensive new energy facility siting legislation.

It is the Commission's firm belief that duplicative environmental assessments should be avoided to the maximum feasible extent. In one particularly important

INDUSTRY VIEWS

As a vital part of our efforts to develop an ESR policy, discussions were held with several utilities and the Atomic Industrial Forum's Committee on Reactor Licensing and Safety (CRLS) to determine in a more direct manner the industry's interest in the promulgation of such a policy. All industry representatives were unanimous in their views that a more formalized procedure for the complete review of sites, or only selected site considerations, should be made available.

The CRLS group, representing a broad consensus of the nuclear industry (utilities, reactor vendors, and architect-engineers), was particularly helpful with its suggestions. In a meeting held in our Bethesda offices on February 21, 1975, the AIF group made the following significant points:

- a. A period of validity of at least five years (ten years is desirable) for the staff site approval is essential to the usefulness of the early site review concept.
- b. The ESR concept should include provisions for considering limited site aspects that can assist a utility in making an early assessment of a site's potential usefulness.
- c. The results of the early site review must be held inviolate during the period of validity unless significant safety aspects are discovered that warrant re-examination.

In formulating the proposed ESR policy, the staff has found the industry suggestions to be generally acceptable and consistent with its needs to assure protection for the public health and safety, and for the environment.

NRC PROPOSES POLICY FOR EARLY REVIEW OF SITES
PLANNED FOR LARGE NUCLEAR FACILITIES

The Nuclear Regulatory Commission is seeking public comment on a proposed policy and amendments to its Regulations to provide for early review of the suitability of potential sites for nuclear facilities. These measures provide for the processing of applications involving complete site information in both safety and environmental areas as well as applications seeking review of only certain specific areas -- such as seismology -- which could be a key factor in determining the suitability of a potential nuclear facility site. The proposed policy complements the previously announced standardization policy that provides for early review of nuclear power plant designs or major portions thereof.

Early review and decisions on site suitability would provide early identification and resolution of site-related problems before substantial commitments of resources are made in the choosing of a plant design and in going forward with the remainder of the application.

Also, early consideration would substantially remove the resolution of critical siting issues as a delaying factor in the licensing review prior to construction authorization. Further, the early site suitability hearing would enhance the effectiveness of public participation by allowing crucial siting issues to be aired at an early stage in the review process.

The proposed procedures would provide two separate approaches to the early consideration of site suitability issues. In both cases, an Environmental Impact Statement (EIS) and a Site-Safety Evaluation Report (SSER) would be prepared. Under the first approach, a partial adjudicatory decision,

after an appropriate hearing, would be issued on site suitability matters. Under the second approach, site suitability issues would be reviewed by the Commission's staff and the independent Advisory Committee on Reactor Safeguards (ACRS), with both the staff and the ACRS issuing reports. No hearing would be held and no adjudicatory decision would be rendered under the second approach, and the staff and ACRS findings would not be binding on the Atomic Safety and Licensing Board, the Atomic Safety and Licensing Appeal Board, or the Commission itself.

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March 5, 1976

SECY-76- 133

*Approved
w/ comments
4-1-76*

COMMISSIONER ACTION

For: The Commissioners

From: Joseph D. Lafleur, Jr., Acting Director, Office of
International & State Programs

Thru: Lee V. Gossick, Executive Director for Operations *[Signature]*

Subject: NRC ROLE IN NATIONAL LEVEL EMERGENCY PLANNING AND
PREPAREDNESS

Purpose: To inform the Commission of NRC responsibilities in
National Level Emergency Planning and Preparedness and
to obtain the Commission's approval for a program to
begin to implement these responsibilities.

Issue: As an independent Federal agency, the NRC has certain
responsibilities for national level emergency planning
and preparedness. These are delineated in general terms
in Presidential Executive Order 11490. No formal assign-
ment of responsibility for coordinating this type of
planning and preparedness has been made within the NRC.

Discussion: The Federal Preparedness Agency (FPA) (which has respon-
sibility to coordinate all Federal emergency planning for
the President) is requesting that NRC furnish FPA with
information concerning its national level emergency
planning and preparedness program. The NRC does not, at
this time, have any national level emergency plan or
emergency preparedness resources to implement its respon-
sibilities as designated by the various Presidential
Executive Orders and Federal Preparedness Agency guides
and circulars aimed at helping agencies meet their
responsibilities under these Executive Orders. In
addition, although the Office of International and
State Programs (ISP) has worked on developing part of
the requirements related to the national level emergency
planning and preparedness program, NRC is not now pre-
paring a national-level emergency plan. A representa-
tive from ISP has been temporarily designated as the
"NRC Emergency Coordinator" in order to maintain

Contact:
RWDeFayette, ISP
JECollins, ISP
Phone: 492-7210

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Emergency
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liaison with FPA on national level emergency preparedness matters. Formal assignment of responsibility for centrally coordinating national level emergency planning and preparedness should be designated within the NRC and the necessary staff should be assigned if NRC is to meet its responsibilities in this program. The two main new staff functions required are: (1) the preparation of the national level emergency plan for NRC, and (2) the coordination of NRC national level emergency preparedness activities with the national level emergency preparedness activities of other Federal agencies. Since both of these functions are directly related to the present emergency preparedness functions of the Office of International and State Programs* including coordination of the NRC input to the Federal Response Plan for Peacetime Nuclear Emergencies (FRPPNE), that office should be given this responsibility.

To aid the Commission's understanding of the magnitude of the planning task, Enclosure 1 is a detailed discussion of the major requirements for establishing NRC's national level emergency preparedness program, and Enclosure 2 is a copy of a "Readiness Questionnaire" used by FPA in evaluating the readiness of Federal agencies to fulfill their responsibilities in this effort.

Recommendation: It is recommended, therefore, that the Commission take the following actions:

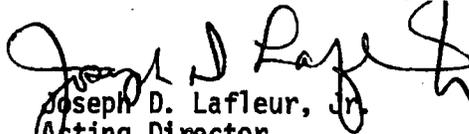
- a. Officially assign the responsibility for the development of the NRC national level emergency preparedness program (excluding the development of contingency plans as assigned to NMSS by the Energy Reorganization Act of 1974) to the Office of International and State Programs.* Other offices within NRC such as I&E, NMSS and NRR, will have primary responsibilities to identify and develop the necessary information within their respective areas which will ultimately become supportive of the overall NRC national level emergency preparedness capability.
- b. Direct that the necessary personnel required for this effort be assigned or acquired. In order to implement this program initially, two full-time professionals will be required to coordinate the development of the program. As experience is acquired in this area, determination will be made with respect to the number of personnel required to maintain the NRC national level emergency preparedness program.

*NOTE: When current organizational plans for a split of ISP into an office of International Programs and an office of State Programs (OSP) are complete, all reference to ISP in this paper will refer to OSP.

- c. Direct that implementing actions required of NRC (outlined in Item 7 of Enclosure 1) be commenced immediately.

Coordination:

The Offices of Nuclear Reactor Regulation, Inspection and Enforcement, Nuclear Materials Safeguards and Safety, and the Office of the Executive Legal Director have concurred in this paper. Additionally, emergency preparedness representatives of the Office of International and State Programs consulted with representatives of the Federal Preparedness Agency concerning the detailed discussion of major requirements for the NRC's role in this program. OPE concurs; OGC comments have been incorporated.


Joseph D. Lafleur, Jr.
Acting Director
Office of International
and State Programs

Enclosures:

1. Detailed Discussion w/attachment (Resulting outgoing from SECY-75-669.)
2. Readiness Questionnaire

Commissioner comments should be provided directly to the Office of the Secretary by c.o.b. Tuesday, March 16, 1976.

DISTRIBUTION

Commissioners
Commission Staff Offices
Executive Director for Operations
Secretariat

Detailed Discussion of
Major Requirements for Establishing NRC in the National Level
Emergency Preparedness Program

BACKGROUND

The basic policy document on the subject of national level emergency planning is Executive Order (EO) 11490. As in EO 11490 and circulars of the former Office of Emergency Preparedness (now the Federal Preparedness Agency (FPA)), it is the stated policy of the Federal government to develop and maintain plans and programs to assure the continuity of Federal government under all emergency conditions, including attack on the United States. The FPA circulars provide basic guidance to Federal agencies on measures to be taken to implement this policy.

1. Categorization of Federal Agencies. FPA guidance provides for the assignment of Federal agencies into one of three categories with respect to their emergency functions in time of national defense emergencies. These categories were established by assessing both the national need of the functions to be performed by an agency and the degree of need for a capability to operate continuously under national defense emergencies. These categories are defined by FPA as follows:

Category A. Organizations requiring a capability for uninterrupted emergency operations including the immediate preattack, transattack and immediate postattack periods.

Category B. Organizations with a requirement for postattack reconstitution as soon as conditions permit, unless otherwise directed by appropriate authority.

Category C. Organizations that are to defer reconstitution until directed by appropriate authority.

These distinctions apply within agencies as well as among them. Thus, agencies must determine the appropriate category of emergency responsibilities for their major constituent organizations by identifying the appropriate time for their contribution to the national-level performance of the essential functions by the agency.

The former AEC was designated as a "Category A" agency, and revised designations published by FPA, tentatively designate both the NRC and the ERDA as "Category A" agencies. The new listing also identifies NRC regional offices as Category A regional-level components of NRC. Each agency, however, has the responsibility to determine for itself the category into which it believes it belongs. We believe, based on the functional capabilities statement that we have developed for inclusion into a forthcoming revision to EO 11490 being contemplated by FPA (see SECY 75-699 attached), that this FPA designation of NRC as a "Category A" agency appropriately reflects the importance of the NRC mission in times of national emergency conditions. As an agency with "Category A" functions, NRC must be prepared to carry out national level essential functions from any one of three geographic locations with the regular headquarters office as primary headquarters and the other locations as alternate headquarters. In addition, agencies such as NRC that have field organizations are to prepare these field organizations to accept in a national emergency interim authority within their regions for carrying out essential national functions assigned to that agency. The specific geographic priority list for such delegation of authority will, to the maximum extent feasible, be in accordance with the sequence of regional office designations established by the FPA.

2. National Office (headquarters) Emergency Staffing. As an agency with "Category A" functions, the NRC must establish three executive teams at the national level composed of the minimum number of personnel needed to perform essential uninterruptible functions during an immediate preattack, trans-attack and immediate postattack period. One or more individuals designated in the line of succession for the agency will be assigned to each of the three teams. In the event of an attack emergency, one team would provide for continuous agency leadership from the headquarters Office for initiating and directing emergency operations, a second and a third team would each report, when directed, to separate designated emergency operating facilities outside the Washington, D. C. area, one of which is a consolidated Federal emergency operating facility (FPA "Special Facility").

Our regular Headquarters office and at least one other NRC emergency operating facility is to be suitably prepared to carry out NRC essential uninterruptible functions during national reconstitution and recovery phases. In determining alternate locations, it is desirable that maximum use be made of existing assets to provide Federal government authorities and their staffs with protection, equipment and supplies, and communications capability suitable to the performance of essential uninterruptible functions. Space for the Head of a Department or Agency is to be made available at each location. Supporting professional, clerical and service staffs are to be distributed and trained so as to achieve general parity of capability among the locations.

3. Regional Offices Emergency Staffing. The capability required at regional and field level for performance of NRC essential uninterruptible functions in support of national essential functions will be developed at two geographic

locations per region. Primary capability to (1) act temporarily for the National Office in event of communications disruption or (2) act as the National Office in event of damage to all executive teams higher in the order of succession is to be achieved. Basically, this means that two teams will have to be assigned within each region. In the event of an attack or upon command from higher authority, one team would remain at the regional headquarters and the other team would proceed to the designated Federal Regional Center.

Plans for reconstitution of the regional offices in the standard Federal Regional Council Cities area should also be made, together with alternative plans for reconstitution at two other areas in the region decided upon by FPA if the Federal Regional Council City area is not habitable or sufficient. Capability to carry out essential regional functions should be developed to meet the requirements for continuous performance or reconstitution, as appropriate. This reconstitution will take place after an attack, and is, basically, the job of setting up the regional headquarters at a location other than its normal operating headquarters if required. The exact location would be decided by national authority and promulgated by FPA. Any field activities designed to support a State in its essential functions should be related to the continuity of government arrangements of the individual State.

4. Activation of Emergency Plans. During an emergency, it is expected that the President would address critical Federal/Civil emergency matters on an urgent basis. In support of his decisions, and to implement Federal agency emergency plans, the FPA National Office Emergency Operations Center (L C) may be activated and designated as the primary location for the central

collection and assessment of information and the coordination of non-military emergency action by the Federal agencies. If the Director of the FPA determines that the situation is developing into a significant emergency and the involvement of other Federal agencies is appropriate, he will notify these agencies to provide representation at the FPA National Office EOC. He may also recommend that executive teams from the "Category A" agencies report to their designated emergency locations and the agency emergency plan be activated.

5. Continuity of Government Responsibilities. Our responsibilities for the several programs enumerated in Section 102(b) of EO 11490 pertaining to continuity of government are described below. In developing plans to implement these responsibilities, arrangements should be made such that the emergency plans are capable of being implemented during times of escalating crises as well as during actual transattack periods.

a. Essential Uninterruptible Functions must be determined and such plans and actions developed as may be necessary to assure that NRC will be able to perform these essential functions and continue as a viable part of the Federal Government during any emergency that might conceivably occur.

b. Succession to Office lists are to be officially recorded and appropriately disseminated; they are to include all Executive-level appointees plus such other professional staff executives as are necessary to provide leadership at locations from which national authority may be exercised. For national succession, a depth of at least 12 is recommended and, when possible, at least 5 of these should be outside the D.C. area. Where a suitable field

structure exists, the successors outside D.C. should include all Regional Directors. Succession for key headquarters officials (other than the Chairman) and key field officials should be provided and should be given to a depth of three where policy and directional functions are carried out. To this end, NRC must:

- (1) Maintain and publish lists of successors, (for key headquarters officials) with corrections made as changes occur and issue new lists at least annually. Such lists should be made a part of the agency's vital records.
- (2) Include in the succession procedures, the conditions under which succession will take place, methods of notification and tenure of authority.
- (3) Maintain a training and informational program to orient and indoctrinate regularly the successors in the authorities and responsibilities they would have, should they succeed to the designated positions.

Each Federal agency must also submit an annual status report to the FIA on the succession program.

c. Prodelegation of emergency authority is to be officially recorded and appropriately disseminated; it is to include identification of the limits of authority and of accountability, and the circumstances under which the authority is to be exercised. Any exceptions to the authority of designated successors to agency direction should be stated explicitly and should include the authority to redelegate functions and activities.

d. Identification and safekeeping of vital records is to be performed in accordance with policy guidance from FPA and with program guidance

from the National Archives and Records Service, General Services Administration. Records essential for the performance of transattack and immediate postattack functions are to be maintained at each location, national or field, from which national agency authority may be exercised. Records essential for functions in the reconstitution period may be maintained at accessible, dispersed locations.

e. Emergency relocation sites, supported by communications and required services for executive teams, previously described, are to be maintained in accordance with criteria issued by FPA. Arrangements for emergency operations at regular headquarters, both in Washington, D.C. and in the field, are to make maximum use of existing space that is most suitable for the continuous performance of essential functions. Cooperation between agencies in the co-location of functionally related organizations is desirable.

f. Emergency action steps are to be established and published for distribution to all appropriate personnel. These steps should include identification of emergency assignments, emergency duty stations, alerting or notification procedures, and other actions and measures to be taken under various Defense Conditions, Conditions of Warning, actual attack, or official orders, including those related to agency reconstitution. Relevant civil defense instructions and procedures for reporting postattack availability are also to be included.

g. Alternate headquarters are to be officially designated; and the order in which the headquarters may assume control, the circumstances

under which the presence of higher authority relieves another headquarters, and the necessary verification procedures are to be specified.

h. Protection of Government resources, facilities and personnel is to be given continuing attention. This can be accomplished, in part, by taking advantage of opportunities to disperse resources or facilities; by achieving redundancy of essential equipment; by increasing the protective capabilities of facilities in the design stage; by informing and training personnel in personal and family measures; by periodic readiness exercises; and by training in emergency duties.

i. Reports on the status of the programs listed above are to be furnished annually to FPA. Rosters of successors and copies of agency directives issued, together with current changes, are to be enclosed so that FPA may maintain appropriate records.

j. Specific Responsibilities. Specific NRC responsibilities with respect to the national level emergency planning are stated in the functional statement for NRC submitted to the FPA for inclusion in a forthcoming revision to EO 11490 (reference SECY 75-699). Based upon the general statements of responsibilities stated above, the NRC must develop plans and procedures to maintain these specific responsibilities. For example, we should examine the need to prepare, or have prepared, a set of relaxed Technical Specifications under which licensees would be permitted to operate their nuclear facilities to provide essentially needed power to the national electrical grid in time of national emergency. In addition,

means and conditions for implementing these technical specifications would have to be developed.

7. Implementing Actions Required of NRC. The following actions are required for the NRC to begin to implement its role in national level emergency planning. This list is not all inclusive but represents a start at this implementation. As a new agency, considerable time and effort will be required before we are able to implement our role completely.

- a. Reaffirm our agency category (A) to FPA;
- b. Define NRC's essential uninterruptible functions in event of a national emergency;
- c. Determine the composition of the various emergency executive teams to carry forward NRC's emergency activities;
- d. Prepare official line of succession lists to NRC leadership;
- e. Review or reevaluate requirements on licensees during national emergencies;
- f. Study and investigate the availability of emergency relocation facilities at the headquarters and regional levels; acquire these necessary relocation facilities at both headquarters and regional levels; study the need for acquisition of any other required facilities;
- g. Prepare plans to implement requirements of Executive Order 11490 as they relate to regulatory responsibilities and contingency plans.
- h. Identify the vital records of NRC and make arrangements for their storage at several locations;
- i. Prepare a "Predelegation of Authority" list for use in national level emergencies for both headquarters and regional level designees.

- j. Prepare emergency action steps for use by NRC personnel;
- k. Prepare annual reports to the FPA on the status of our program;
- l. Participate in "REX" exercises such as the upcoming (March 1976) REX 76 drill; currently, we are not prepared to participate in this drill except in an "observer" status;
- m. Establish a test and exercise program to evaluate NRC's national and emergency plans and preparedness.
- n. Direct that all major offices within NRC cooperate in providing the necessary information and support needed in establishing the NRC national level emergency preparedness program.

Attachment to Enclosure 1 - SECY 75-699



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 8 1975

Major General Leslie W. Bray, Jr.
Director
Federal Preparedness Agency
General Services Administration
18th & F Streets, N.W.
Washington, D.C. 20405

Dear General Bray:

Pursuant to your request of September 19, 1975, we are enclosing a proposed Functional Statement for the U.S. Nuclear Regulatory Commission to be included in the forthcoming revision to Executive Order 11490 (assigning Emergency Preparedness Functions to Federal Department and Agencies).

Recognizing that the NRC is a new agency, and also recognizing that we are still in the process of defining our overall role in the national level emergency preparedness program, we would like to reserve the option to propose at a later date any necessary revision to our Functional Statement resulting from the completion of Commission consideration of this matter.

Sincerely,

(Signed) Lee V. Gossick

Lee V. Gossick
Executive Director
for Operations

Enclosure
As stated

Attachment to
Enclosure 1

PROPOSED FUNCTIONAL STATEMENT FOR
THE NUCLEAR REGULATORY COMMISSION
IN REVISION TO EXECUTIVE ORDER 11490,
PART II, FEDERAL REGISTER VOL. 34, NO. 209
ASSIGNING EMERGENCY PREPAREDNESS FUNCTIONS
TO FEDERAL DEPARTMENTS AND AGENCIES

PART ____ NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission shall prepare national emergency plans and develop emergency preparedness programs and procedures for the continuing conduct of the nuclear regulatory activities of the Federal Government as specified in the Atomic Energy Act of 1954, as amended and the Energy Reorganization Act of 1974. These emergency preparedness plans and programs shall be designed to develop a state of readiness under conditions of national emergency including emergencies related to the national defense. The Commission shall:

1. Regulation. Continue or resume in an emergency (a) controlling the possession, use, transfer, import, and export of licensed nuclear materials and facilities; and (b) authorizing the operation or continued operation of key facilities important to the national defense, or ordering the suspension of operation of licensed facilities and activities as necessary; and (c) authorize the recapture from licensees of special nuclear materials where necessary to assure the use, preservation, or safeguarding of such materials for the common defense and security.
2. Health and Safety. Order the suspension or limitation of operation, if required, of Commission licensed nuclear facilities and activities which could otherwise constitute an unnecessary additional hazard to public health and safety; and assure the development and maintenance of emergency preparedness programs by licensed facilities and activities.
3. Contingency Plans. Develop, in consultation and coordination with ERDA, contingency plans for dealing with threats, thefts, and sabotage relating to special nuclear materials, high-level radioactive wastes, and nuclear facilities resulting from all activities licensed under the Atomic Energy Act of 1954, as amended, implement these plans for the licensed materials and locations specified, and

participate in the execution of the plans where necessary to protect the public health and safety and the common defense and security.

4. Facility and Nuclear Materials Security and Safeguards. Assure the continued maintenance by licensees of security and safeguards programs at licensed facilities and for nuclear materials to provide physical protection to the facilities and their nuclear materials against thefts and sabotage.
5. Scientific and Technical Information. Organize, reproduce, and disseminate essential scientific and technical reports and information to interested Government agencies, the scientific and technical communities, the public and approved, friendly, and cooperating foreign nations regarding the regulation of the construction and operation of nuclear facilities and the use of nuclear material.
6. State Relations. Maintain, in consultation with other cognizant Federal agencies, general liaison with the several States concerning the Agreement States materials licensing program and the radiological incident emergency planning program, to assure that these programs are effectively maintained to protect public health and safety.
7. International Liaison. Maintain, in consultation with the Department of State, essential liaison with foreign nations with respect to the export licensing program and other activities of mutual interest involving nuclear energy.
8. Priorities and Allocations. Plan for the administration of any priorities and allocations authority delegated to the Nuclear Regulatory Commission.

General Services Administration

OFFICE OF PREPAREDNESS READINESS QUESTIONNAIRE

This questionnaire has been prepared to assist Federal departments/agencies in surveying tasks to be accomplished in achieving optimum emergency preparedness to meet general war type situations. It will provide one of the bases for establishing a general war readiness profile of the Federal non-military establishment by OP/GSA in meeting its assigned responsibilities for establishing policy and planning and programming for non-military preparedness.

It is anticipated that the questionnaire will be used by OP/GSA and selected departments and agencies as a basis for annual direct consultation.

It should be noted that the questionnaire does not cover all aspects of readiness in that it mainly addresses conflict crises as opposed to non-defense related-crises, such as those involving threats to the United States economy.

Suggestions for improvement of the questionnaire should be addressed to the Director, OP/GSA.

Leadership and Authority.

1. What provisions have been made by the department/agency for accomplishing direction, control, and coordination of the non-military readiness preparedness program in the assigned area of responsibilities? Describe how Executive direction has been involved. (National Plan for Emergency Preparedness, Chapter 1, Page 5).

2. What are the department/agency emergency authorities? Are they considered adequate to carry out the department/agency assigned responsibilities for preparedness? If not, what additional legislation, revision of Executive Order 11490, or other corrective action is appropriate.

3. Is the latest succession to agency leadership list current? Are key officials on that leadership list distributed through Executive Teams A, B, and C? (OEP Circular 9100.2, April 12, 1972, Paragraphs 8a and 9; Continuity of the Executive branch of the Federal Government; OEP Circular 9110.1A, January 6, 1967, Emergency Successions to Key Officials of Federal Departments and Agencies).

4. What predelegations of emergency authority have been made. Are they complete and current? (OEP Circular 9130.1, October 5, 1966, Predelegation of Emergency Authority, Executive Order 11490, Section 102 (b) and Section 3012; OEP Circular 9100.2, April 12, 1972, Paragraph 8b, Continuity of the Executive Branch of the Federal Government).

Enclosure 2

Emergency Organization and Functions.

5. Are plans in being for an emergency organization(s) for your department/agency? If so, what staffing is provided? Provide organization charts, manning tables and functional statements. Describe the actions/circumstances under which the emergency organization would be implemented. (The National Plan for Emergency Preparedness, Chapter 1, Pages 5, 7; Executive Order 11051, Section 302, Executive Order 11725, Section 3 (13)).

6. Have essential, uninterrupted preattack and transattack functions of the national headquarters, regional headquarters, and their components been determined and approved by the department/agency head? List and describe these functions by levels of responsibility. (Executive Order 11490; Section 102b; OEP Circular 9100.2, April 12, 1972, Paragraph 5b, OEP Circular 9100.4, June 27, 1973, Paragraph 6).

7. Have three emergency executive teams or complements been designated, and do the executive team members know they have been designated? (OEP Circular 9100.2, April 12, 1972).

a. Is space provided at each site/location for the head of department/agency with each team? (OEP Circular 9100.2, April 12, 1972, Paragraph 7a).

b. Do teams have a balanced capability in terms of executive direction and operational support? (OEP Circular 9100.2, April 12, 1972, Paragraph 7a).

c. Have personnel and physical space allocations for all executive teams been satisfactorily resolved? How many personnel spaces have been allocated to each team?

d. Have provisions been made to designate and train individuals as alternate members of the executive complements or teams required by Paragraph 7, OEP Circular 9100.2? Are such designations periodically reviewed?

e. Are up-to-date personnel rosters for each designated emergency executive team available? Have copies been provided OP/GSA? Is a copy of the current personnel roster for executive team B on file at the OP/GSA Special Facility? Have members of executive team B been processed for OP/GSA Special Facility picture passes? (See SOD Order 604.1A).

f. Do the executive team members know their assigned functions? Have they been trained and exercised in the performance of these functions? Give specifics. (OEP Circular 9100.2, April 12, 1972, Paragraph 9g; OEP Circular 9130.1, October 5, 1966, Paragraph 4; OEP Circular 9110.1A, January 6, 1967, Paragraph 6).

g. When did emergency executive team personnel last visit alternate facilities for Teams Bravo and Charlie for briefing and orientation purposes? How many of the currently designated executive team members have had this experience? (OEP Circular 9110.1A, January 6, 1967, Paragraph 5c).

8. Has your department/agency participated in the OP regional program for the identification of potential Federal Regional Reconstitution areas (FRRAs)? Has your regional representative to the Regional Preparedness Committees (RRC) consulted you concerning the progress being made in identifying these areas? (OEP Circular 9100.3, June 27, 1973, Paragraph 6b).

9. Have the head of your department/agency and other responsible officials been advised of the responsibilities and functions of the Interagency Emergency Coordinating Group (IECG) and the Interagency Emergency Policy Board (IEPB)? (OEP Circular 9130.3, dated February 8, 1973).

Emergency Operating Procedures and Training.

10. Describe briefly Standing Operating Procedures (SOP's) that have been developed to cover such matters as institutional and individual response to warning, personnel alerting, reporting instructions, and emergency identification of personnel. (OEP Circular 9100.2, April 12, 1972, Paragraph 8e).

11. Have department/agency plans been developed for implementing that portion of Plan D applicable to your department/agency and have senior staff members been briefed on this plan? (Plan D, March 1970, Promulgation).

12. If applicable, when was the department/agency head last briefed on the central locator system?

13. Have the supporting fact sheets in the Federal Civil Emergency Actions Guidelist applicable to your department/agency been completed and submitted to OP/GSA for inclusion in the next revision? (Federal Civil Emergency Actions Guidelist, May 1973, Paragraph 3, Introduction).

14. Was a regular program of training and orientation in emergency action procedures for personnel, including new employees, is conducted? What records are available to document this training? (OEP Circular 9100.2, April 12, 1972, Paragraphs 8e and 8g; OEP Circular 9130.2, September 1, 1967, OEP Circular 9410.1C, January 19, 1973, Paragraph 13; OEP Circular 9700.2B, May 9, 1972, Paragraph 10).

15. When were personnel last drilled or tested in their emergency duties? When is the next drill scheduled? (OEP Circular 9100.2, April 12, 1972, Paragraph 8g; OEP Circular 9700.2B, May 9, 1972 Paragraph 10c; National Plan for Emergency Preparedness, Chapter 1, Page 6).

16. Is there an intraagency emergency measure checklist? Does it identify officials responsible for considering the requirement for each emergency measure? (OEP Circular 9100.2, April 12, 1972, Paragraph 8; OEP Circular 9410.1C, January 19, 1973, Paragraph 13). (OP/GSA Emergency Measures Checklist, AFR 2430.1, December 12, 1973, is available on request as an example).

17. Has guidance on the civil readiness levels been disseminated to personnel? (OEP Circular 9410.1C, January 19, 1973, Paragraph 13).

Emergency Operating Facilities.

18. What primary and alternate facilities are available at national and regional levels for emergency operations other than the OP/GSA Special Facility (situation centers, facilities, equipment, etc.)? Describe briefly, including adequacy for emergency use. Description should include type and quantity of supplies and equipment, provisions for pure air, water, food, sanitation, security, billeting, communications, emergency power, etc., at primary as well as at other locations. (National Plan for Emergency Preparedness, Chapter 1, Page 6; OEP Circular 9140.1, May 1, 1964, Paragraphs 3 and 4; OEP Circular 9400.2, November, 1966).

19. Are there personnel located permanently at alternate facilities who are familiar with your emergency plans and operations? (OEP Circular 9400.2, November, 1966, Page 7).

20. Are appropriate personnel familiar with the requirements for positioning vital records and documents as set forth in OEP Circular 9400.2, November, 1966, Page 23 and in FPMR 101-11, Federal Vital Records Program, 1968 (particularly, see Appendix A-Vital Records Checklist)?

21. What provisions have been made for supporting intraagency emergency communications at the primary and alternate facilities? How often is the communications equipment exercised? Is cross-training or other provision made for depth in qualified communicators? (OEP Circular 9400.2, Section IIA, November, 1966).

a. Have communications requirements not fulfilled as part of the program been provided?

b. Is the ICS training facility, Federal Agency Communications Section (FACS), used for training and retraining of personnel.

c. Are current communications capabilities for emergency operations considered adequate? If not, explain.

5.

d. Have procedures been developed for internal processing of messages/correspondence during emergency periods? Date of last test?

e. Are appropriate personnel familiar with the Defense Coordinating Network (DEFCON)? Is DEFCON equipment properly positioned to best serve responsible officials? (OEP Circular 9150.3D, January 19, 1973).

f. What types of record communications facilities exist which enable inter-communication with the Federal agencies/departments?

g. What discrepancies, if any, were noted in the last communications security inspection? (OEP Circular 9150.2, November 12, 1963).

22. What provisions for emergency transportation of personnel and things have been made? At the National level? At the Regional level? When was this standby capability last tested? (OEP Circular 9400.2, November 1966, Page 37).

Data Processing, Analysis and Projection (Emergency Information System).

23. Describe manual or computer based department/agency Provisions for obtaining and processing information required in the performance of essential, uninterruptible functions in the preattack, transattack and immediate postattack periods. (National Plan for Emergency Preparedness, Chapter 1, Page 9; Executive Order 11490, Sections 3001(3) and 3002(2)).

24. Is the data base available to the department/agency current and sufficiently comprehensive for resource analysis before and after attack? What use of the data base is planned? Have plans for its use been tested? (Executive Order 11490, Section 3001 (3)).

25. If the agency data base is computerized, what capability exists for alternative computer support or manual backup in the event the primary computer is rendered inoperative? (National Plan for Emergency Preparedness, Chapter 1, Page 9).

26. Will there be special needs for data for analyses in general war (e.g. industry, State and local, damage assessment) that the present data available to the department/agency does not provide? Has planning taken into consideration how these needs will be met? (OEP Circular 15 J.5, August 12, 1966, Sections C and D).

Resource Mobilization Plans.

27. Identify the elements of the industrial or resource sector(s) of the economy which are directly related to the department/agency general war readiness mission and responsibilities. (Executive Order 11490, Section 3008(1)).

28. Does the department/agency maintain a viable and continuing surveillance of the supply-requirements situation with respect to resources needed in times of national emergency? What are the mechanics involved? Describe briefly. What data are collected and maintained, and how are they used? (DMD 8600.1B, April 11, 1973 - General Policies for Strategic and Critical Materials Stockpiling).

29. What, if any, problem areas have been identified by the department/agency with respect to the maintenance of adequate levels of (a) defense-related production, or (b) supply of essential survival items, in times of national emergency? What action is being/has been taken with regard to deficiencies noted (e.g., stockpiling, identification of substitutes, development alternate sources)? (Executive Order 11490, Section 3001(3), Section 3005; National Plan for Emergency Preparedness, Chapter 1, Pages 8 and 9; Executive Order 10480, Part III; Executive Order 11051; DMD VII-7; DMD 8500.1A).

30. What plans, policies, and procedures have been developed for the exercise by the department/agency of its responsibilities as either a Federal resource agency or a Federal claimant agency? Furnish copies of pertinent issuances. (National Plan for Emergency Preparedness, Chapter 12; OEP Circular 8500.4A; OEP Circular 8500.5; Executive Order 11051, Section 203, Executive Order 10480; Executive Order 11490, Sections 3001 and 3003(2)).

31. Have these plans, etc., been submitted to OEP/GSA for review and determination of their compatibility with national policy on resource mobilization in times of national emergency? (Executive Orders 11490 and 11051).

32. When were the plans last tested?

33. Who is the custodian of the plans?

34. What interagency agreements concerning claimancy have been consummated? Provide copies. Executive Order 10480, Part V; OEP Circular 8500.5, Page 9).

35. When was the agency head last briefed on the national and agency plans and arrangements for use of priorities, allocations authority, claimancy and central management of resources? (OEP Circular 8500.4A; OEP Circular 8500.5; DMD 8400.1; DMD 8500.1A).

36. When did agency officials responsible for resource mobilization last meet with their counterparts in other resource or claimancy departments/agencies? Is there a regular schedule for such coordination?

Classified Plans.

37. Has the department/agency, as appropriate, taken definitive action to prepare operational plans through all organizational levels pertinent to its emergency functions in support of national-level classified emergency plans? (The response to this portion of the questionnaire should be classified "SECRET.") (Copies of implementing agency actions should be a part of the report rendered on this section of the questionnaire).

38. When were the department/agency implementing plans last tested? What was the result? Has the department/agency made any recommendations to OP/GSA as a result of such tests?

Reference:

Plan D, Annexes B and C.

Decentralization of Planning.

39. What guidance has been issued by the department/agency to regional or other field personnel in implementation of readiness objectives. Provide copies. (National Plan for Emergency Preparedness Chapters 1 and 12; Executive Order 11490; Executive Order 11051).

40. Specifically, have regional level authorities implemented the provisions of OEP circulars 9100.3, and 9100.4? If not, what problems exist? Specify.

41. Describe how intra-agency coordination on readiness to meet national emergencies at the regional level is effected? Between regional office and state and local levels? Give assessment of the effectiveness of coordination arrangements, agreements, and suggestions for improvements, if required. (Executive Order 11051, Section 502; OEP Circular 9100.1B).

42. What delegations have been made to regional headquarters to ensure that the National headquarters is rendered inoperative? (Executive Order 11490, Sections 102b and 3012; National Plan for Emergency Preparedness, Chapter 12, Page 102.)

43. Have regional-level tests of plans been accomplished? When was the last such test conducted by each region? What was the result and what of significance devolved from such tests?

Private Sector Preparedness.

44. What has been the department/agency relationship with the associated private sector in furtherance of preparedness to meet national emergencies? Specify. (Executive Order 11490, Section 3002(1)).

45. Have guidance materials been provided or personal contacts been made with the associated elements of the private sector for the purpose of establishing and improving support in this area for department/agency goals? Describe the nature of these events.

46. Have department/agency reports of evaluation of the readiness of their associated elements in the private sector been generated? If so, provide copies of such evaluate reports. If negative, what plans are in development to provide such assessments?

Special Departmental/Agency Problems.

47. What are the department/agency problems regarding readiness to meet general war type national emergencies on which assistance is desired? Have these been brought to the attention of the policy level in the department/agency? What was the result?

September 21, 1976

UNITED STATES
NUCLEAR REGULATORY COMMISSION

SECY-76-483

INFORMATION REPORT

For: The Commissioners
From: Robert G. Ryan, Director, Office of State Programs
Thru: Lee V. Gossick, Executive Director for Operations
Subject: APPOINTMENT OF TASK FORCE ON EMERGENCY PLANNING
Purpose: To inform the Commission of the appointment of a special Task Force on Emergency Planning.

Discussion: Over the past several months, Mr. Aubrey Godwin, Director of the Division of Radiological Health of the State of Alabama, has by correspondence with NRC and EPA, raised certain questions concerning emergency planning and preparedness.

Although a number of the questions raised by Mr. Godwin relate to a variety of emergency planning technical matters, basically Mr. Godwin's concerns are centered about a recommendation drafted by an ad hoc group of the Conference of (State) Radiation Control Program Directors (of which Mr. Godwin is a member) during their May 1976 annual meeting. This recommendation, transmitted to the NRC, reads as follows:

"That the NRC make a determination of the most severe accident bases for which comprehensive radiological emergency plans should be developed by the off-site agencies."

The recommendation refers primarily to power reactors.

Related to the above, and since the publication of the Reactor Safety Study (WASH 1400) late last year, a number of State and local government organizations (including the California Energy Resources & Development Commission) have raised questions concerning the implications of WASH 1400 for emergency planning. Additionally, there are certain differences in emergency planning philosophy between EPA and NRC which are reflected in Enclosure 1 and other documents.

Contact:
H.E. Collins, OSP
Tel: 492-7210

B-16

Emergency Planning

As a result of the above, the Executive Director for Operations has appointed a special NRC Task Force on Emergency Planning, in which we have invited EPA participation, to jointly resolve the concerns of Mr. Godwin and the Conference of (State) Radiation Control Program Directors. Additionally, the Task Force will study and make recommendations concerning the implications of WASH 1400 for emergency planning, and EPA and NRC differences in emergency planning philosophy. Enclosure 1 appoints the Task Force and defines the Task Force Charter, which includes: (1) the basic overall objective of the Task Force; (2) the component tasks to be accomplished, and (3) the end products of the Task Force. Enclosure 2 is a copy of a letter to EPA requesting their participation on the Task Force. Enclosure 3 is a copy of the most recent letter received by NRC from Mr. Godwin and Enclosure 4 is a copy of our response to that letter.

At this time, it is difficult to predict how long it will take for the Task Force to resolve these complex matters but the effort will be geared toward expeditious completion. The Commission will be kept informed of the progress being made by the Task Force.

Coordination:

The appointment of the Task Force has been coordinated between all major program offices and the Office of State Programs.



Robert G. Ryan, Director
Office of State Programs

Enclosures:

1. August 30, 1976 memo from Gossick appointing task force members and defining charter.
2. August 30, 1976 letter from Gossick to EPA requesting participation on task force
3. July 16, 1976 letter from Godwin to Gossick
4. Response to Godwin from Gossick dated August 30, 1976

DISTRIBUTION

Commissioners
Commission Staff Offices
Executive Director for Operations
Secretariat



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20855

AUG 30 1976

Harold E. Collins, Office of State Programs ✓
Brian K. Grimes, Office of Nuclear Reactor Regulation
Leo B Higginbotham, Office of Inspection & Enforcement
C. Vernon Hodge, Office of Nuclear Material Safety & Safeguards
Michael Jamgochian, Office of Standards Development
James A. Martin, Office of Nuclear Reactor Regulation
Ian Wall, Office of Nuclear Regulatory Research

APPOINTMENT OF TASK FORCE ON EMERGENCY PLANNING

You are appointed to a Task Force on Emergency Planning to review and make recommendations on a number of concerns that the States and their local governments have expressed concerning State and local government emergency planning in support of fixed nuclear facilities, particularly power reactors. EPA is being requested to provide representation on this Task Force so that a joint NRC/EPA position can be developed.

Enclosure 1 is a charter for the Task Force. The Task Force should identify any additional issues and component tasks related to the basic overall objective of the Task Force and make recommendations concerning these issues as well as resolving those matters specifically listed.

The Task Force should prepare a schedule and milestones toward completion of the tasks necessary to meet the general objective of providing NRC/EPA guidance to the States.

Enclosure 2 is a list of the Task Force co-chairmen, members and suggested resource consultants.

A handwritten signature in dark ink, appearing to read "Lee V. Gossick".

Lee V. Gossick
Executive Director for Operations

Enclosures:
As stated

Enclosure 1

CHARTER
FOR
TASK FORCE ON EMERGENCY PLANNING

A. BASIC OVERALL OBJECTIVE OF TASK FORCE

To provide a clearer definition of the types of radiological accidents that States and local governments should plan for and develop preparedness programs to support.

B. COMPONENT TASKS

1. Review of correspondence concerning emergency planning between State and local government personnel and the NRC, EPA and other Federal agencies over the past year. Identify, from this correspondence, emergency planning issues which need further resolution between EPA and NRC such as:
 - (a) Differences in emergency planning philosophy and resolution of these differences, EPA considers "accident scenarios in WASH 1400 as one of the viable bases for establishing guidance along with other scenarios such as NRC Safety Evaluation Reports for individual facilities." (Rowe to Godwin (Alabama) letter of July 9, 1976). NRC considers that "the Reactor Safety Study (WASH-1400) was not intended to be a basis for policy on siting, emergency planning, etc. associated with individual plants" (Levine to White (California) letter of June 30, 1976).
 - (b) Impact of EPA Protective Action Guides (PAG's) on NRC Siting Criteria (10CFR100) when EPA guides are formalized and become Federal guidance.
 - (c) Implications of WASH 1400 for emergency planning.
 - (d) Emergency planning implications of non-WASH 1400 type accidents.
 - (e) Other peripheral issues outlined in Conference of Radiation Control Program Directors correspondence and letters from State and local government personnel.
2. Where required, prepare draft joint NRC/EPA policy statement(s) concerning resolution of issues identified in Component Task 1, above.
3. Draft definitive guidance for States and local governments related to the: "Determination of the most severe power reactor accident bases for which comprehensive radiological emergency response plans should be developed by the States and local governments." (Recommendation of the Conference of Radiation Control Program Directors, June 9, 1976).

4. Examine the various emergency planning activities that are on-going or under development in NRC and EPA offices that may have a relationship to the basic overall objective of the Task Force. Make recommendations concerning any modifications to these activities to accomplish the basic objective.

C. END PRODUCTS OF TASK FORCE

1. Make any recommendations concerning revision to NRC and EPA emergency planning guidance publications.
2. Prepare Task Force report transmitting draft joint policy statements, draft definitive guidance, and recommendations related to the basic overall objective of the Task Force.

TASK FORCE ON EMERGENCY PLANNING

NRC

Co-Chairmen

Harold E. Collins, Office of State Programs
Brian K. Grimes, Office of Nuclear Reactor Regulation

Members

Leo B. Higginbotham, Office of Inspection and Enforcement
C. Vernon Hodge, Office of Nuclear Material Safety & Safeguards
Michael Jamgochian, Office of Standards Development
James A. Martin, Office of Nuclear Reactor Regulation
Ian Wall, Office of Nuclear Regulatory Research

EPA

Members

CONSULTANTS TO TASK FORCE

F. D. Anderson, Office of Standards Development
D. F. Bunch, Office of Nuclear Reactor Regulation
R. W. Houston, Office of Nuclear Reactor Regulation



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 30 1976

Dr. William D. Rowe, Deputy Assistant
Administrator for Radiation Programs
Environmental Protection Agency
401 M St., S.W., Room 611
Washington, D.C. 20460

Dear Dr. Rowe:

Over the past several months, Mr. Aubrey Godwin, Director, Division of Radiological Health of the State of Alabama, has by correspondence to your and our agency, raised certain questions concerning emergency planning and preparedness.

Although a number of questions and peripheral issues have been raised by Mr. Godwin, basically Mr. Godwin's concerns are centered about a recommendation drafted by an ad hoc group of the Conference of (State) Radiation Control Program Directors during their May 1976 annual meeting. The recommendation transmitted to the NRC reads as follows:

"That the NRC make a determination of the most severe accident bases for which comprehensive radiological emergency plans should be developed by the off-site agencies."

This recommendation refers primarily to power reactors. Mr. Godwin has a number of other concerns which are documented in the many letters that he has recently written and which do not need repeating here.

I have appointed an NRC Task Force on Emergency Planning to study the implications of the above and related Conference recommendations. I hope that you will agree to provide EPA representatives to this Task Force so that a proposed joint NRC/EPA position can be developed on this matter.

Mr. Harold E. Collins of our Office of State Programs has informally discussed this with your Mr. Floyd Galpin of the EPA Office of Radiation Programs who indicated that EPA would be agreeable to participating in this joint effort. We see no need to involve any other Federal agency at this time. If necessary, other agencies can be consulted as required.

Enclosure 2

Dr. William D. Rowe

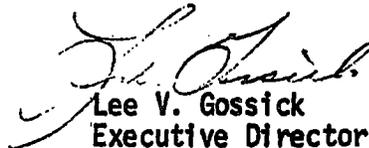
2

Enclosed is a draft scope of work in the form of a charter for the NRC Task Force in which you are invited to participate. It contains the basic objective of the Task Force, the component tasks to be accomplished, and the end product of the Task Force. We would appreciate any input you might care to make to this draft scope of work.

A prospective list of NRC Task Force members is also enclosed. If you agree to this proposal, we would appreciate the assignment of appropriate EPA personnel to the Task Force.

We look forward to your early reply.

Sincerely,



Lee V. Gossick
Executive Director for Operations

Enclosures:
As stated



State of Alabama
Department of Public Health
State Office Building
Montgomery, Alabama 36130



July 16, 1976

RA. L. MYERS, M. D.
STATE HEALTH OFFICER

L. Gossick
Director of Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Gossick:

Enclosed is a copy of Dr. Rowe's letter. In conversation with Mr. F.L. Galpin of his office, I was informed that it indeed was EPA's position that the probability of significant particulate contamination off-site was sufficient to considered detailed emergency planning. Their conclusion was based on information in the Ramassen report and conversation with "research people" in NRC. I have requested more details.

This matter of what accident criteria we are to develop plans for is of extreme concern to states. The failure of two (2) major federal agencies to agree places all officials in an awkward position and is precisely what these various interagency memoranda were to prevent.

If I may be of further assistance, please contact me.

Sincerely,

Aubrey V. Godwin, Director
Division of Radiological Health

AVG:mr

Enclosure



Enclosure 3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
WASHINGTON, D.C. 20460

JUL 15 1976

9 JUL 1976

STATE HEALTH DEPT.
DIV. OF RAD. HEALTH

OFFICE OF
AIR AND WASTE MANAGEMENT

Mr. Aubrey V. Godwin
Director
Division of Radiological Health
State Department of Public Health
State Office Building
Montgomery, Alabama 36130

Dear Mr. Godwin:

I am replying to your letter of June 22, 1976, in which you indicate some of your concerns relative to the establishment of Protective Action Guides and guidance on protective actions.

We appreciate your concerns and perspective with regard to the establishment of PAGs as Federal guidance. Although this has not been done at this time, I should reassure you that, as indicated in my cover letter transmitting the Manual, it is our intention to pursue promulgation of these PAGs as Presidential Federal Guidance. It is our feeling that issues in this format should constitute complete packages relative to particular types of potential exposures. As we have only prepared at this time guidance for the gaseous and radioiodine components of a plume, we felt it was necessary to complete our guidance relative to particulates in a plume so that we would have a complete presentation of guidance on "plume exposure" before we went for Presidential approval. Subsequent packages for which Federal guidance would be issued would be contaminated foods and animal feeds, and recovery operations which would include criteria for land use, reentry, etc.

Concerning your second question of priorities and the consideration of particulates, it is EPA's view, which we feel is supported by the Rasmussen report, that the emission of particulates in the course of an accident is sufficiently probable that PAGs should be established and guidance relative to protective actions should be issued. As we indicate on page 1.9 of the "Manual of

Protective Action Guides and Protective Actions for Nuclear Incidents," we consider accident scenarios in WASH-1400 as one of the viable bases for establishing guidance along with other scenarios such as NRC Safety Evaluation reports for individual facilities.

It is true that we consider gaseous releases more probable than particulates, and it is for this reason that we have prepared guidance on this exposure mode first. As to specific advice as to our estimate of "the accident consequences for which the State of Alabama should expend funds for the development of details in emergency plans," it is our belief that the guidance issued in our Manual is an expression of just such advice as EPA sees it.

I hope that these comments are acceptable as appropriate responses to the questions you raise. If you have further questions, we would be pleased to hear from you. It is only through such exchanges as this that meaningful resolutions can be obtained.

Sincerely yours,



W. D. Rowe, Ph.D.
Deputy Assistant Administrator
for Radiation Programs (AW-458)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 30 1976

Mr. Aubrey Godwin, Director
Division of Radiological Health
State Department of Public Health
State Office Building
Montgomery, AL 36104

Dear Mr. Godwin:

Thank you for your letter of July 16, 1976 concerning your recent communications with Dr. William D. Rowe, Deputy Assistant Administrator for Radiation Programs, U.S. Environmental Protection Agency.

We have received copies of recent correspondence between yourself and Dr. Rowe and, of course, are cognizant of your communications with us regarding a number of emergency planning questions and concerns that you have. Please be advised that NRC and EPA appreciate your concerns in this complex area.

As you are aware, there are some differences of opinion in these areas between certain segments of our respective agencies. We are taking steps to rectify this situation. In cooperation with EPA, we are appointing an NRC Task Force in which we have invited EPA participation to address certain recommendations of the recent Conference of Radiation Control Program Directors ad hoc group on emergency planning and other related peripheral issues discussed in your recent correspondence with our two agencies.

We appreciate your concerns and will try to be responsive to your needs and to the needs of the States.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lee V. Gossick".

Lee V. Gossick
Executive Director for Operations

cc: Mr. G. Parker, Chairman, CRCPD
Ms. M. Reilly, PA (CRCPD)
Dr. W. Rowe, EPA

Enclosure 4

June 20, 1977

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SECY-77-330

INFORMATION REPORT

For: The Commissioners

From: Robert G. Ryan, Director, Office of State Programs

Thru: Executive Director for Operations *Juz*

Subject: REPORT ON EMERGENCY PREPAREDNESS

Purpose: To advise the Commission on the status of the emergency preparedness function within NRC.

Discussion: The Commission received a staff briefing on emergency preparedness, February 8, 1977. At the conclusion of the briefing, the Commission asked that a paper be prepared describing the entire NRC emergency preparedness program. Specific instructions were included in a February 16, 1977 Chilk to Gossick memorandum, Subject: Staff Requirements - Emergency Preparedness Briefing Follow-up (Enclosure 1). A summary report is Enclosure 2 to this memorandum and the basic report with supporting documents is Enclosure 3.

Several salient items relative to the NRC Emergency Preparedness Program are still to be accomplished. They are:

1. A Memorandum of Understanding between the Office of State Programs and the Office of Nuclear Material Safety and Safeguards (similar to the NRR/OSP Memorandum of March 10, 1977) concerning radiological emergency response planning and preparedness relative to the licensing of fuel cycle facilities, is to be developed by the end of June 1977. The current NMSS/OSP Memorandum of Understanding of March 21, 1977 deals with the relationship between safeguards contingency planning and radiological emergency response planning.
2. On February 9, 1977 the Office of Standards Development agreed to initiate a task to evaluate NRC emergency planning regulations in accordance with a request from the Office of State Programs. SD estimates that this task will be completed by June 1978.

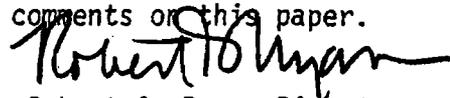
Contact:
Harold E. Collins, OSP
Marshall E. Sanders, OSP
49-27210

b-17
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3. A report to the Commission concerning a program to improve local government radiological emergency planning and preparedness is due by the end of July, 1977.
4. The NRC/EPA Task Force on Emergency Planning is preparing a report providing a clearer definition of the types of radiological accidents for which State and local governments should plan. A status report on this activity is to be presented at the June 20, 1977 annual meeting of the Conference of (State) Radiation Control Program Directors, the State organization which originated a request for this clearer definition. The report itself, which will be submitted to the Commission for approval, is expected to be available by the end of July, 1977.

Coordination:

The following offices have participated in the preparation of the report and have concurred in its content: Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, Inspection and Enforcement, Standards Development and Planning and Analysis. The Office of the Executive Legal Director has also reviewed and concurred in this report. The Office of the General Counsel and the Office of Policy Evaluation have no comments on this paper.



Robert G. Ryan, Director
Office of State Programs

Enclosures:
As stated

DISTRIBUTION

Commissioners
Commission Staff Offices
Exec Dir for Operations
Secretariat



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 16, 1977

MEMORANDUM FOR: Lee V. Gossick
Executive Director for Operations

FROM: Samuel J. Chilk, Secretary *OP*

SUBJECT: STAFF REQUIREMENTS - EMERGENCY PREPAREDNESS BRIEFING
FOLLOW-UP

At the conclusion of the subject briefing on February 8, 1977, during Policy Session 77-12, the Commission asked you to prepare for its review a paper describing NRC's total emergency preparedness planning program. In particular, the paper should address the following subjects:

1. The overall objectives and specific tasks of the program and which offices have lead responsibility for their accomplishment;
2. The major points in the program where interaction between offices is essential and a description of the procedures for and status of these interactions; including but not limited to:
 - (a) the interface between the emergency preparedness planning program and the contingency planning program of NMSS.
 - (b) formal consultation between OSP and NRR/NMSS regarding the emergency preparedness aspects of facility licensing decisions as required by the Commission in item b. of its decision memo to you of January 21, 1976 (attached).
 - (c) the role and actual activities of IE vis-a-vis these other offices in evaluating state and local emergency preparedness capabilities.
3. The purpose and status of changes to the program currently underway (e.g., streamlining of NRC checklist for reviewing state plans).

CONTACT:
Ken Pedersen (OPE)
634-1541

Enclosure 1

4. Recommendations for further modifications to the program, including possible legislative changes.
5. An initial outline of the policy paper on emergency planning requested by the Commission in item 2(c) of the memo from Sam Chilk to Lee Gossick dated January 27, 1977 (attached).

The paper should be submitted to the Commission by March 11, 1977, after which a decision will be made as to whether a follow-on briefing is desired.

Attachment:
As Stated

cc: Chairman Rowden
Commissioner Gilinsky
Commissioner Kennedy
General Counsel
Director, Policy Evaluation
James Hard, OCM

SUMMARY OF REPORT ON
EMERGENCY PREPAREDNESS

INTRODUCTION

Public interest in emergency preparedness related to NRC licensed facilities and materials has been increasing as evidenced by rulemaking and show-cause petitions, a larger number of congressional inquiries and contentions by intervenors at public hearings. The Commission will no doubt become more involved in emergency preparedness matters in the future.

The emergency preparedness function of the NRC is an agency-wide obligation to the public. It involves a wide range of plans and measures that can be accomplished before an emergency occurs aimed at controlling and mitigating the effects of an accident and coping adequately with the consequences. In this context, the NRC emergency preparedness program encompasses several important activities: licensee preparedness (including emergency planning), State and local government preparedness and NRC preparedness for radiological incidents and national emergencies. In addition, some safety and safeguards functions such as safeguards contingency planning, whose goals include the prevention of radiological emergencies, necessarily must interface with the emergency preparedness function.

These program activities are summarized below in terms of authority, status (including accomplishments and potential problems) and NRC office interaction.

LICENSEE PREPAREDNESS

Authority

10CFR50, Section 34 and Appendix E impose emergency planning requirements on applicants for construction permits and operating licenses for nuclear reactors and fuel reprocessing facilities. A part of the Reactor Site Criteria, 10CFR100, Section 3(b) requires a capability to take protective measures on behalf of the public in the low population zone in the event of a serious accident. Recent amendments to 10CFR70 will impose similar emergency planning requirements on applicants for licenses involving processing and fuel fabrication, scrap recovery, and conversion of uranium hexafluoride. Several guidance documents expanding on 10CFR50 emergency planning requirements have been published.

Status

The emergency plans of applicants for nuclear power reactors have been considered adequate at the time of issuance of each reactor operating license. During a 1974-76 review, it was determined that all operating nuclear power reactors have been complying generally with 10CFR50, Appendix E, emergency planning requirements. Specific deficiencies revealed by OIE inspections have been corrected in a timely manner as verified by subsequent inspections.

NRC Office Interaction

NRR provides assistance to NMSS through the review and evaluation of emergency plans for fuel reprocessing plants and fuel fabrication facilities. OIE assesses licensee emergency response capabilities and feeds back information to NRR and NMSS through the inspection report system. Licensee's emergency test exercises are observed at least every two years by OIE personnel.

A formal memorandum between NRR and Office of State Programs was signed March 10, 1977, which will give greater emphasis to State and local emergency preparedness in the licensing process. Consultation during Staff reviews on specific licensing cases at both the construction permit and operating license stages regarding the status of State and local government emergency plans, is a key element of implementing this memorandum.

NRR will be working internally and in coordination with NMSS to develop appropriate interactions between radiological emergency and safeguards contingency plans developed by licensees.

NRR will be formulating emergency preparedness - related research proposals for submission to RES.

STATE AND LOCAL GOVERNMENT PREPAREDNESS

Authority

NRC has "lead agency" role among eight Federal agencies for assisting State and local governments in radiological emergency response planning. The responsibilities of the agencies involved are outlined in a Federal Register Notice promulgated by the Federal Preparedness Agency, December 24, 1975. There is no direct statutory authority for this assistance effort. State and local government cooperation is voluntary.

NRC responsibilities include the issuance of planning guidance to other Federal agencies, State and local governments, review and concurrence in State and local plans, determination of the accident potential at each licensed nuclear facility, and issuance of guidance on emergency radiation detection and measurement. These NRC responsibilities are centered in Office of State Programs.

Status

The basic guidance document for the preparation of State and local radiological emergency response plans (NUREG-75/111) has been in use for over

two years. It has resulted in greater interest and in the production of improved plans. However, as a standard for NRC concurrence, it has proved too demanding. A recent review of the document by its users resulted in identifying what guidance and planning elements should be considered essential for NRC plan concurrence. The Washington State plan has received NRC concurrence based on this new criteria; and other State plans are expected to qualify soon.

Approximately 360 State and local government officials have been trained through a jointly funded and conducted course in radiological emergency response planning. Cooperating Federal agencies with NRC have begun to offer courses to improve operational response capabilities. About 12 offerings are expected during 1977. Continued joint funding of this training is in doubt. Special efforts are being exerted to place it on a more reliable basis. If these are unsuccessful, the Commission may be asked to seek funding for all training as part of our own budget.

There have been 36 visits to the States by Federal interagency cadres to help in planning activities. In 12 of these, exercising of State and local government plans have been observed and critiqued. The new plan concurrence procedures commit the Federal agencies to observe the test of a concurred-in plan once a year. Standard accident scenarios to be used in exercising plans are being developed by Sandia under contract to NRC and should be available this calendar year.

At the request of the States, an NRC/EPA Task Force is working to complete a report providing a clearer definition of the types of radiological accidents for which State and local governments should plan. The report, which is to be submitted to the Commission for approval, is scheduled for completion by the end of July, 1977.

An interagency task force has been working several years to determine requirements for off-site emergency instrumentation. A renewed effort should produce a report that can be used as a basis for issuance of guidance to State and local governments by end 1977.

In carrying out NRC responsibilities, outlined in the December 24, 1975 Federal Register Notice, Office of State Programs has been giving priority attention to the States and fixed nuclear facilities. More attention must now be given to local government emergency planning and guidance for responding to transportation accidents. A report on the former should be ready for the Commission by end of July 1977. Our attempt to assist the Department of Transportation in the latter will not have significant payoff until late 1978 when the results of another Sandia Study are expected. In the meanwhile, interim emergency planning guidance for Transportation accidents as developed by the Western Interstate Nuclear Board under contract to the NRC is being used by the States.

NRC Office Interaction

Since June 1976, when the Office of State Programs was established, there have been numerous meetings and exchanges with NRR, NMSS and OIE. The basic premise of these contacts has been that the NRC is viewed by the public as an entity, and that while the various NRC offices have distinct roles and responsibilities, it is incumbent upon all of us to make sure that the various programs mesh properly.

The highlights of these contacts are:

- (1) The NRR-OSP memorandum of understanding mentioned under Licensee Preparedness.
- (2) A March 21, 1977 memorandum of understanding between NMSS and Office of State Programs concerning safeguards contingency and radiological emergency planning interface.
- (3) A similar memorandum of understanding between NMSS and Office of State Programs on the emergency preparedness aspects of facility and material licensing decisions should be signed by June 30, 1977.
- (4) The Director, OIE has issued instructions to the NRC Regional Offices which commits them to participation in the Federal assistance effort to State and local governments.
- (5) Office of State Programs is a member of the NRC Incident Response Center Team.
- (6) RES, at the request of Office of State Programs, has contracted with Sandia to develop accident scenarios for use in exercising State and local plans, and guidance for the development of plans for responding to transportation accidents involving radioactive materials.
- (7) An Office of State Programs initiative to OSD has resulted in a staff commitment to review the regulations that govern emergency preparedness activities (10CFR50, 70).

SAFEGUARDS CONTINGENCY PLANNING

Authority

Responsibility for safeguards contingency planning for licensed nuclear facilities, materials and high-level wastes rests with the Director of the Office of Nuclear Material Safety and Safeguards, as assigned in Section 204 (b) (2) (B) of the Energy Reorganization Act of 1974.

Status

Safeguards contingency plans are plans to provide guidance to accomplish specific, defined objectives in the event of threats, thefts or sabotage relating to special nuclear material or nuclear facilities. As such, safeguards contingency plans interface with, but do not overlap radiological emergency plans. The nature of the interface (Point 2a of Chilk to Gossick Memorandum, February 16, 1977) may be described as follows: safeguard contingency plan implementing procedures would contain steps which would initiate radiological emergency plan actions in the event it is believed by responsible personnel that a safeguards contingency situation has or is likely to become a situation covered by radio-

logical emergency plans. An example would be a sabotage attempt, which would be dealt with in accordance with safeguards contingency plans, which leads to a release of radioactive material to the environs, which would then invoke protective measures for the public as provided in radiological emergency plans. All NMSS, NRR and IE program activities in this area clearly recognize this interface.

NRC Office Interaction

Responsibilities for licensee level safeguards contingency planning rest, respectively, with the Director, NMSS, for fuel-cycle and transportation licensees, and the Director, NRR, for reactor licensees as a function of each director's safeguards responsibilities under the Energy Reorganization Act of 1974. These responsibilities are discharged in coordination with IE.

NRC PREPAREDNESS

Incident Response Management

The Atomic Energy Act of 1954, as amended, requires that the NRC in its mission to license and regulate, be mindful of the public health and safety. To this end, NRC Manual 0502 sets out the notifications and response actions by the various NRC offices to incidents involving or affecting NRC licensees. The Director, OIE provides direction for this activity. As indicated, during a briefing to the Commission, February 5, 1977, a review and update of the procedures, facilities and equipment related to incident response is in progress. Office interaction is extensive.

National Level Emergency Preparedness

This program, under the leadership of Office of State Programs, deals with plans, measures and procedures for coping with national emergency conditions. Its authority comes from E.O. 11051 which describes the lead role of the Federal Preparedness Agency, GSA, in coordinating the efforts of all Federal agencies, and E.O. 11490 and E.O. 11953 which assigns specific emergency preparedness functions to Federal agencies.

The staff is taking implementing actions on this program as authorized by the Commission, April 1976.

ADDITIONAL OBSERVATIONS

In addition to the foregoing, the following items are worthy of note:

- (1) An NRC Staff Coordinating Group on Emergency Preparedness has been established for the purpose of identifying, discussing and clarifying substantive issues in the emergency preparedness area.
- (2) At its first meeting, this group addressed the outline of a policy paper, requested by the Commission on the role of emergency planning in reactor siting policy. The outline is included in this report.
- (3) Two other NRC offices, in addition to those responsible for the principal program elements, play significant roles in the emergency preparedness activities.
 - (a) Upon request of the program offices or on its own initiative, OSD takes the lead in developing emergency preparedness regulations, guides and standards and in their revision.
 - (b) RES has been sensitive to the needs of the program offices for emergency preparedness related research. To assist in this area, RES has formed a Research Review group on Emergency Planning.
- (4) We have identified no need for legislative changes at this time but future circumstances might require legislative recommendations to fund the training effort and local government radiological emergency response planning.

We have also prepared an expanded version of the report with supporting enclosures. These should be useful to the Commission in any detailed assessment of the NRC emergency preparedness function.

REPORT ON EMERGENCY PREPAREDNESS ACTIVITIES
OF THE
U.S. NUCLEAR REGULATORY COMMISSION

On February 8, 1977, at Policy Session 77-12, there was a briefing for the Commission on the subject of Emergency Preparedness. This briefing resulted in a Chilk to Gossick memo of February 16, 1977, which asked for a specific paper to address a variety of subjects. This is in response to that request.

INTRODUCTION

The emergency preparedness function of the NRC has two distinct focal points. One focus recognizes the potential for radiological emergencies arising from regulated activities which involve the use of nuclear materials. The emergency preparedness function of NRC in this area includes plans and measures accomplished before an emergency occurs, aimed at controlling and mitigating the effects of an accident and coping adequately with the consequences. This function includes licensee preparedness, primarily Nuclear Reactor Regulation (NRR), Nuclear Material Safety and Safeguards (NMSS), and Inspection and Enforcement (IE) responsibility; and State and local government preparedness, primarily Office of State Programs (OSP) responsibility.

The second focus, recognizes the emergency preparedness posture of the NRC itself. It includes NRC agency preparedness for responding to radiological emergencies involving or affecting NRC licensees. This aspect of agency preparedness is primarily a responsibility of IE with support from other NRC offices. It also includes NRC agency preparedness for National level emergency situations which could affect the ability of the NRC to function effectively as a Federal agency. This aspect of agency preparedness is primarily a responsibility of OSP with support from other NRC offices.

In addition, some safety and safeguards functions such as safeguards contingency planning, whose goals include the prevention of radiological emergencies, necessarily must interface with the emergency preparedness program.

Events of the past year indicate widespread public concern regarding emergency preparedness. For example, four Public Interest Research Group (PIRG) show-cause petitions requested that three facilities be shut down because of alleged inadequacies in emergency plans. A rulemaking petition requests the NRC to require licensees to disseminate emergency preparedness and evacuation information to the public, as well as, to require licensees to conduct actual public evacuation drills annually.^{1/} Also, indicative of growing attention is a GAO report, "Stronger Federal Assistance to States Needed for Radiation Emergency Response Planning." Individual members of Congress such as Senator Ribicoff, Congressmen Dodd, Fish and Udall have made specific inquiries on this subject.

^{1/} All four show-cause petitions have been denied because of invalid contentions by the petitioners. The rulemaking petition is now in the final concurrence stage prior to being forwarded to the Commission.

In addition, emergency planning issues have been items of contention in a number of public hearings over the last few years. With the exception of Seabrook, these challenges called for more extensive emergency planning than recommended by the NRC staff. In the case of Seabrook, the staff wanted to require more emergency planning than the licensee thought necessary. The staff position has been upheld in all but the Seabrook case.

These concerns prompt us to place the principal focus of this report on radiological emergency preparedness, its interfaces with other preparedness activities and programs, and its programmatic management and specific objectives. The NRC radiological emergency preparedness program acknowledges that emergencies could be caused by peacetime malevolent acts, or acts of war, as well as industrial accidents and acts of nature; and that such emergencies could occur at fixed sites, or in the transportation of hazardous materials, and could impact on the activities of the NRC itself. These activities have the broad objectives of protecting the public health and safety and preserving the common defense and security. Many of these take the form of deterrent and preventive measures that are made a part of the design, construction and operation of facilities and in the regulations covering the use of nuclear materials and are included within the framework of safety and safeguards programs rather than an emergency preparedness program. There are also activities which are associated with direct countermeasures to correct an emergency problem at or close to its source. In a programmatic sense, many of these activities are also included within the broad framework of safety and safeguards programs because of their strong coupling to design measures, and in a few cases they have spawned special preparedness programs in their own right. One of these is the fire protection program and another is the safeguards contingency planning program. These programs provide a second line of defense against events having a potential for public health and safety consequences without any planned involvement of the public.

In contrast, radiological emergency response planning incorporates additional measures taken to cope with situations in which the foregoing preventive, deterrent, and countermeasures have not been entirely successful. The imminence or realization of a radiological emergency then focuses attention on planned protective measures. The essence of protective measures is that they involve the public, warnings and instructions given with an expectation of cooperative action on the part of the public to protect themselves and others.

There is an additional class of activities associated with radiological emergencies, restorative measures to alleviate long-term consequences (contamination) to property. Emergency planners do not always regard this as an element of emergency planning since emphasis is usually on the immediate or short term, life saving, damage reduction measures. It is nevertheless an important element of a total emergency preparedness program.

It is fundamental to emergency planning to identify organizational responsibilities. In the text that follows, therefore, the program effort is organized to clarify whose emergency plans are under discussion, beginning with those of NRC licensees, following with those of State and local governments, and concluding with those of the NRC itself.

LICENSEE PREPAREDNESS

Regulatory Requirements

Current regulations (10 CFR 50.34(a)(10) and 50.34(b)(v)) impose emergency planning requirements on applicants for construction permits and operating licenses for nuclear reactors and for fuel reprocessing facilities. The minimum planning elements are identified in Appendix E to 10 CFR 50. In addition, the reactor site criteria of 10 CFR 100 requires a capability for taking protective measures on behalf of the public within the low population zone in the event of a serious accident. The scope and extent of planning for such measures, e.g., evacuation taking shelter, is explicitly identified (100.3(b)).

Recently the Commission has approved for publication amendments to 10 CFR Part 70 which will impose similar emergency planning requirements (by referencing Appendix E (IV) of 10 CFR 50) upon applicants for licenses involving processing and fuel fabrication, scrap recovery, or conversion of uranium hexafluoride.

It is relevant to note that one of the elements of Appendix E (IV) identifies "agreements reached with local, State, and Federal officials and agencies for the early warning of the public and for public evacuation or other protective measures should such -- become necessary or desirable --."

It is primarily this element of Appendix E which forms a bridge to, and calls into question the response capabilities of State and local governments.

Guidance to license applicants has been published, as follows:

1. "Guide to the Preparation of Emergency Plans for Production and Utilization Facilities" December 1970
2. Standard Review Plan, Section 13.3, September 1974 (NUREG 75/087)
3. Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants Section 13.3, Regulatory Guide 1.70 (NUREG 75/094) September 1975
4. "Emergency Planning for Nuclear Power Plants" Regulatory Guide 1.101 Revision 1, March 1977

License Conditions

The administrative controls section of nuclear power plant licensees' Technical Specifications (standard version) contains periodic review, biennial audit, and implementing procedures requirements for emergency

plans. A number of special nuclear material licensees have had license conditions imposed on plans for coping with emergencies (similar to the elements of Appendix E to Part 50).

NRC Office Responsibilities and Interactions

NRR has the principal review responsibility for reactor applicants' and licensees' emergency plans as described in Safety Analysis Reports. NMSS has the principal review responsibility for fuel cycle plant applicants' and licensees' emergency plans. NMSS has consulted with and requested technical assistance from NRR for the review and evaluation of emergency plans of fuel reprocessing plant applicants and, more recently, of fuel fabrication facilities in connection with license renewal applications. Through its inspection program IE assesses licensee emergency response capabilities and feeds back information to NRR/NMSS through its inspection report system. The assessment is made against the plans as described in the SAR and in accordance with inspection procedures modules prepared by IE. Licensees' emergency test exercises are observed at least every two years by IE personnel.

The Office of State Programs and its predecessors have been informally consulted in the past relative to the status of State and local government emergency plans in support of nuclear facilities. A formal consultation agreement (Attachment 1) between NRR and OSP has recently been concluded, as directed by the Commission which provides for giving greater attention to State and local preparedness capabilities during the licensing process.

Upon request of the program offices or on its own initiative, OSD takes the lead in developing regulations, guides and standards. It obtains concurrences routinely and formally from each principal office during the preparation of proposed regulations and guides.

Status of Licensee Preparedness

In its review of applicants' proposed emergency plans, the staff has determined that an adequate state of emergency preparedness existed at the time of issuance of each reactor operating license. A review effort in 1974-76 involving the operating nuclear power plants concluded with a determination that all of these plants have been essentially complying with Part 50, Appendix E requirements. Inspections by IE have from time-to-time revealed certain problem areas, e.g.,

- a lack of onsite decontamination facilities and equipment,
- a lack of documentation of the agreements between the licensee and offsite agencies who will provide support in emergency situations (fire department, law enforcement, hospitals, etc.),

- an apparent lack of coordination or misunderstanding between the licensee and offsite support agencies (hospitals, State Police, fire department, etc.),
- training of personnel of offsite agencies not conducted by the licensee (training such as familiarization with licensee facility),
- emergency drills not conducted by the licensee as frequently as required by licensee emergency plan, and
- licensee procedures to implement various parts of the emergency plan not available.

Generally similar observations have been made with respect to those fuel cycle licensees who have been required to have emergency plans.

Items of noncompliance and problems have been corrected in a timely manner by licensees, and corrective actions have been verified by subsequent inspections.

STATE AND LOCAL GOVERNMENT PREPAREDNESS

The Federal responsibilities for assisting State and local governments in planning for responses to radiological emergencies are spelled out in the Federal Register Notice of December 24, 1975, which assigns "lead agency" responsibility to the Nuclear Regulatory Commission. Seven other Federal agencies are assigned responsibilities by the Notice. The responsibilities assigned to NRC are centered in the Office of State Programs.

In carrying out these responsibilities, primary emphasis is given to the preparation and issuance of guidance, training, field assistance, review and concurrence in State and local plans, emergency radiation instrumentation requirements and the type and size of accidents for which emergency response plans should be prepared. Details of these activities are included in the Office of State Programs' Statement of Objectives and Tasks in Attachment 2. Some of the accomplishments and perceived difficulties are summarized below.

Accomplishments

1. The basic guidance document for the preparation of State and local government radiological emergency response plans has been in use as an AEC and NRC publication (now NUREG 75/111) since December 1974. It has resulted in significant increased interest in State and local radiological emergency preparedness and in the production of improved plans. This "Guide and Checklist" has been reviewed recently in the context of its use in carrying out the NRC responsibility to concur in State and local plans. This is discussed below under "Perceived Difficulties."

2. To date, a jointly developed and funded training effort has resulted in the training of approximately 360 State and local officials in radiological emergency response planning. The cooperating Federal agencies with NRC have recently begun to offer courses to develop operational response capabilities. Priority is being given to radiological emergency response teams and coordinators, and medical personnel. Approximately twelve offerings to this type of course will be made during this year.
3. There have been 36 visits to the States between 1974 and March 1977 by Federal interagency field assistance cadres to help in their planning activities and to observe and critique exercises that test their emergency plans.
4. An NRC/EPA Task Force on Emergency Planning has been organized to provide a clearer definition of the types of radiological accidents that State and local governments should plan for and develop preparedness programs to support (see Attachment 3). The Task Force report is scheduled for completion by the end of July 1977. Some of the States have expressed deep concern about this, and the Conference of (State) Radiation Control Program Directors specifically requested NRC and EPA to make this determination.
5. Office of State Programs has recently reactivated the Interagency Central Coordinating Committee (Radiological Emergency Preparedness) and put other agencies on specific timetables and schedules for fulfilling their responsibilities under the Federal Register Notice of December 24, 1975.
6. Testing of plans under simulated emergency conditions is one of the best ways to determine their adequacy. Office of State Programs and other Federal representatives have observed and critiqued twelve such tests. To provide greater realism to these tests, the Office of State Programs arranged for the Office of Nuclear Regulatory Research to contract with Sandia Laboratories to develop accident scenarios for use in exercising State and local plans. We expect a report from Sandia this year.

Perceived Difficulties

1. Funding of Training

One of the continuing problems in the area of emergency response training has been the funding issue. The current arrangement whereby the line agencies which signed the Federal Register Notice of December 24, 1975 contribute a pro-rata share of these costs is not satisfactory. For

example only two agencies (NRC and HEW) are providing training funds for FY 77. The other involved agencies have indicated that they will try to obtain funding for FY 78. Recently, the Office of Management and Budget has informally discussed with the Office of State Programs and the NRC Controller, the desirability of NRC funding the entire radiological emergency response training program for State and local government personnel. A decision should be made shortly concerning this matter. The GAO report on emergency preparedness of March 18, 1976, suggested the line-item NRC budget approach as a possible solution to funding difficulties.

2. Inadequate Emphasis on Local Government Radiological Emergency Response Plans

Even though the December 24, 1975 Federal Register Notice is applicable to local government planning, the main emphasis has been on State plans. This approach is justified to the extent that the States give adequate attention to the preparedness status of their local jurisdictions. In the States where inadequate attention or resources is given to the local level, greater effort is needed for two reasons: the initial response to any radiological emergency affecting the public health and safety usually comes from the local level; there is increasing public concern about the local capabilities to respond to such an emergency. Also, in recent months there have been two licensing board hearings where intervenors have raised questions concerning the cost of developing a local government emergency plan. To improve our knowledge of local government radiological response preparedness and to support any future recommendations to the Commission concerning this area, the Office of State Programs will examine it from the point of view of costs to the community, the capability of the community to perform the function, and the assistance local communities can expect from the licensees of the NRC, from the States and Federal agencies. This is an area that may require additional Federal legislation for authority to provide financial assistance to the States for upgrading their planning under appropriate standards and guidelines. In any event, funding assistance will probably be required to achieve a significant improvement in local government radiological emergency preparedness. A report on this matter should be ready for the Commission by the end of July 1977.

3. Concurrence in State and Local Radiological Emergency Response Plans

The Office of State Programs has formal responsibility to review and concur in State plans. However, of the 42 State plans submitted to date, only one (Washington) has been formally concurred in.

During two years' experience with the NRC guidance publication for State and local government radiological emergency response plans (NUREG 75/111) many of the users recognized the need for review of the document, because NRC concurrence in State and local plans was made contingent on adequate coverage of all of the guidance elements in the document. Recognizing that this was an unreasonable standard, the Office of State Programs received recommendations from Federal, State and local government users of NUREG 75/111 as to what guidance and planning elements should be considered essential for NRC plan concurrence. The consensus developed in this process was acted on by the Commission on March 8. Office of State Programs distributed a supplement to NUREG 75/111, dated March 15, which identified the essential elements for plan concurrence. They now number 70 instead of 154. Having concurred in the first plan (Washington) under this revised criteria, we hope to concur in several more State plans in the months ahead.

4. Transportation Accident Guidance

The December 24, 1975, Federal Register Notice covers assistance to State and local governments in relation to transportation accidents involving radioactive material as well as fixed facilities. Most of our effort has gone into the latter. The Department of Transportation (DOT) was assigned responsibility for providing guidance on the preparation of plans pertaining to transportation accidents. In order to assist the DOT in this area, OSP enlisted the services of RES. The contract with Sandia mentioned above, includes a task to develop guidance for use in transportation accident response plans. Since the "accident scenario" portion of the contract is receiving first attention, the "transportation accident" guidance will not be available until late 1978. In the meantime, the States have for their use an interim "Guide and Example Plan for the Development of State Emergency Response Plans and Systems for Transportation - Related Radiation Incidents." This was prepared by the Western Interstate Nuclear Board and a Federal Interagency Regional Training Committee (Region VII) under contract to NRC.

5. Regulation Review

All of the affected offices recognize that there is a need for review of the regulations that govern the emergency preparedness activities of the NRC. This review has been initiated. A November 26, 1976, memorandum (Ryan to Minoque) suggests thirteen specific areas of inquiry in to 10 CFR 50 and 10 CFR 70 emergency planning regulations.

In a memorandum of February 9, 1977, (Mattson to Ryan) SD agreed to initiate a task to evaluate these regulations. (See Attachment 4)

6. Off-Site Instrumentation Guidance

One of the responsibilities assigned to NRC, EPA, ERDA, HEW and DCPA by the Federal Register Notice of December 24, 1975, relates to the determination of, and issuance of guidance on, effective systems of emergency radiation detection and measurement. This responsibility has been assigned to an interagency task force on off-site instrumentation. The initial draft report was not a satisfactory basis for preparation of guidance. There has been a renewed effort recently, and a report is expected before the end of 1977. Currently, States have a variety of radiological monitoring instruments, which vary in type and capability from State to State. This effort is directed at providing uniform guidance for the proper selection and use of appropriate radiological emergency monitoring instrumentation, which might be used by the States and local governments in assessing any off-site radiological consequences resulting from a nuclear facility accident.

Relationship Between the Office of State Programs and Other NRC Offices on Emergency Preparedness Matters

Point 2 of the Chilk/Gossick memorandum of February 16, 1977 requested information on the interaction between NRC offices on emergency preparedness matters, specifically with respect to:

- the emergency preparedness planning program and the contingency planning program of NMSS;

- formal consultation between OSP and NRR/NMSS on the emergency preparedness aspects of facility licensing decisions;

- and the role and activities of IE vis-a-vis other offices in evaluating State and local emergency preparedness capabilities.

Since the Office of State Programs came into existence in June 1976, there have been numerous meetings and exchanges between NMSS, NRR and SP involving Directors and staff.

These discussions all began with the stated premise that NRC is judged by the public as an entity and that, while individual offices within NRC had distinct responsibilities and roles, the public interest could best be served by making sure that the various programs mesh properly and where there are differences or overlaps that they be clearly identified and understood. To this end on March 10, 1977, Nuclear Reactor Regulation and Office of State Programs entered into a formal memorandum of understanding, a copy of which is attached as Attachment 1. On March 21, 1977, a formal memorandum of understanding between Nuclear Materials Safety and Safeguards and Office of State Programs was executed concerning the

contingency planning/emergency planning interface (Attachment 5). Work on a similar memo of understanding between Nuclear Materials Safety and Safeguards and Office of State Programs on the emergency preparedness aspects of facility licensing decisions should be signed by the end of June 1977.

Since June 1976 there have been many discussions between Inspection and Enforcement and the Office of State Programs on the whole question of emergency preparedness. On February 14, 1977, the Director of the Office of Inspection and Enforcement dispatched formal instructions to the NRC Regional Offices which committed IE participation at the regional level in the Federal interagency field assistance effort with State and local agencies in helping these agencies develop adequate emergency plans. These instructions were a cooperative understanding between the two offices for closer work in the future.

In addition, the Office of State Programs receives information resulting from IE's inspection program. IE inspectors visit certain State and local agencies identified in licensee emergency plans to obtain assurance that the licensee has made arrangements and coordinated with those agencies that will render onsite and offsite assistance if it becomes necessary.

Any apparent problems or other areas of interest identified by IE inspectors related to State and local agency emergency planning are summarized by the Regional Office and transmitted to the Office of State Programs for information or action, as may be appropriate.

Also, in November 1976 the Offices of State Programs and Inspection and Enforcement entered into a understanding whereby the Office of State Programs has been made a permanent member of the Incident Response Center team. In the event of an incident at a licensed facility which would require activation of NRC's Incident Response Center (IMC), OSP would provide assistance in any liaison, coordination or contact with officials of State and local agencies required at the Headquarters level. OSP maintains a duty officer roster to assure timely response.

EMERGENCY PLANNING ROLE IN SITING POLICY

Paragraph 5 of the February 16, 1977, Chilk to Gossick memorandum asks for an initial outline of the policy paper on emergency planning which is to be prepared for the Commission as part of the study on Reactor Site - Evaluation Policy requested in a January 27, 1977, Chilk to Gossick memorandum. This policy paper will have implications for both the licensee preparedness and State and local government preparedness areas. The initial outline is included as Attachment 6.

SAFEGUARDS CONTINGENCY PLANNING

Responsibility for safeguards contingency planning for licensed nuclear facilities materials and high-level wastes rests with the Director of the Office of Nuclear Material Safety and Safeguards, as assigned in Section 204 (b) (2) (B) of the Energy Reorganization Act of 1974.

Safeguards contingency plans are plans to provide guidance to accomplish specific, defined objectives in the event of threats, thefts or sabotage relating to special nuclear material or nuclear facilities. As such, safeguards contingency plans interface with, but do not overlap radiological emergency plans. The nature of the interface (Point 2a of Chilk to Gossick Memorandum February 16, 1977) may be described as follows: safeguard contingency plan implementing procedures would contain steps which would initiate radiological emergency plan actions in the event it is believed by responsible personnel that a safeguards contingency situation has or is likely to become a situation covered by radiological emergency plans. An example would be a sabotage attempt, which would be dealt with in accordance with safeguards contingency plans, which leads to a release of radioactive material to the environs, which would then invoke protective measures for the public as provided in radiological emergency plans. All NMSS, NRR and IE program activities in this area clearly recognize this interface.

Responsibilities for licensee level safeguards contingency planning rest, respectively, with the Director, NMSS, for fuel-cycle and transportation licensees, and the Director, NRR, for reactor licensees as a function of each director's safeguards responsibilities under the Energy Reorganization Act of 1974. These responsibilities are discharged in coordination with IE.

NRC PREPAREDNESS

Incident Response Management

Notifications and response actions by the various NRC offices to incidents involving or affecting NRC licensees are detailed in NRC Manual Chapter 0502. The Director, Office of Inspection and Enforcement provides direction for this activity. Most of the staff operating elements and some of the support elements of the staff are involved with IE. A review and revision of the Manual Chapter, as well as other upgrading actions in procedures, facilities and equipment related to incident response is currently underway as indicated in the briefing to the Commission on February 15, 1977.

National Level Emergency Planning

The NRC national level emergency preparedness program deals with plans, measures and procedures for coping with national emergency conditions. The program is based on two Executive Orders. E.O. 11051 describes the lead agency responsibilities of the Director of the Federal Preparedness Agency, GSA, in coordinating the efforts of all Federal agencies. E.O. 11490 assigns specific emergency preparedness functions to Federal agencies, and E.O. 11953 assigns such functions to Nuclear Regulatory Commission and Energy Research and Development Administration.

The Commission assigned this emergency preparedness responsibility to the Office of State Programs in April 1976, authorized staffing and directed that implementing actions be started. A full-time professional was hired in mid-August, a temporary professional has been on board since February 1977. A calendar for milestones is included as Attachment 7.

The Nuclear Regulatory Commission staff has made inputs and provided comments to various drafts of the Federal Response Plan for Peacetime Nuclear Emergencies (FRPPNE), an "umbrella" plan for responding to a wide range of possible radiological emergencies. The Federal Preparedness Agency has recently circulated the plan as interim guidance. The plan charges the Nuclear Regulatory Commission with insuring the development of operational response plans in relation to licensed facilities and materials. We are already complying with much of the guidance in the FRPPNE. Some plans for special situations may be required.

OBJECTIVES AND SPECIFIC TASKS

Item one of the February 22, 1977, Chilk to Gossick memorandum calls for a statement of the "overall objectives and specific tasks of the program and which offices have lead responsibility for their accomplishment." The previous sections cover this requirement in large measure. This section provides some additional information on recent interoffice coordination in emergency preparedness matters and current and planned tasks of the some individual offices.

Emergency Preparedness Staff Coordination

An NRC staff Emergency Preparedness group has been established to provide an informal forum for the discussion of emergency preparedness matters that cut across the lines of office responsibilities and concerns (Attachment 8).

A Research Review Group on Emergency Planning has also recently been formed to provide a forum for assisting RES in the direction of research programs in this area.

Individual Office Objectives and Tasks

Office of Nuclear Reactor Regulation

NRR currently has underway a task to reassess its policy and program objectives relative to emergency preparedness. This task is expected to result in recommendations to the Office Director by July 1, 1977. Issues of primary concern to the NRR staff which are under study in this reassessment include the following:

1. Emergency Planning Role in Siting Policy
2. Relation of Part 50, Appendix E requirements to Part 100 Siting Criteria
3. Role of Emergency Planning in Early Site Reviews
4. Scope and depth of licensing requirements at OL stage and relation to State/local government capabilities
5. Possible need for post-OL requirements
6. Emergency planning for non-power reactors
7. Role of licensees relative to transportation emergencies
8. Research needs to improve response capabilities
9. Coordination within NRR to insure compatibility between licensee safeguards contingency plans and radiological emergency plans.
10. Incident response.

Office of Standards Development

1. Current rule development for prospective waste management facility licensees identifies emergency planning requirements for certain facilities - 10 CFR 60.
2. Evaluation of petition for rulemaking of PIRG's (PRM 15-14).

3. Evaluation of changes to 10 CFR 50 relative- to requiring periodic update of emergency plans, as well as requiring research reactors to submit emergency plans for evaluation.

RECOMMENDATIONS FOR PROGRAM MODIFICATION AND LEGISLATIVE CHANGES

In response to Item 4 of the Chilk/Gossick memorandum, we offer no formal recommendations for further program modifications or proposals for legislative changes at this time. However, there are two items discussed above which, after some future analysis, may result in legislative recommendations: 1) the whole question of funding for the emergency preparedness training effort for States and local governments and 2) funding of local radiological emergency response planning, a subject to be included in the Office of State Programs' report for the Commission by July 1977.

MEMORANDUM OF UNDERSTANDING BETWEEN THE OFFICE OF NUCLEAR REACTOR
REGULATION AND THE OFFICE OF STATE PROGRAMS CONCERNING CONSULTATION
BETWEEN NRR AND OFFICE OF STATE PROGRAMS ON STATE/LOCAL GOVERNMENT
EMERGENCY PREPAREDNESS CAPABILITIES

On establishing the Office of State Programs, the Commission directed that "In carrying out (its) licensing functions NRR (—), will in each case formally consult with the State Programs Office regarding pertinent State and local emergency response capabilities." This memorandum sets forth elements of understanding between the Office of Nuclear Reactor Regulation and the Office of State Programs to implement this directive. It also provides for the coordination of related emergency preparedness matters of mutual concern to the two offices. The contents of the memorandum are not intended to represent a delegation of statutory or other authority of either office to the other.

I.. Consultation during Staff Reviews on Specific Licensing Cases

(A) Construction Permit Stage

Following acceptance of each PSAR for docketing after the date of this memorandum, NRR will submit a written request to OSP to provide or verify information on relevant State and local government agency emergency preparedness responsibilities. NRR will also request OSP to urge appropriate State and local government agencies to participate with NRR and other NRC personnel in an early emergency planning meeting with the applicant in the vicinity of the proposed site.

Prior to the conclusion of the staff review of a PSAR, OSP, with NRR concurrence, will request written commitments (or written verification of commitments made to the applicant) from the State in which the proposed site is located, and from appropriate local government authorities, to develop radiological emergency response plans which ultimately put in place the agreements contemplated by NRC regulations.

(B) Operating License Stage

Following acceptance of each FSAR for docketing after the date of this memorandum, NRR will submit a written request to OSP to provide in writing an assessment of the State and local government emergency preparedness capabilities identified by NRR as necessary to put into place the agreements contemplated by NRC regulations.

Beginning as soon as practicable after the date of this memorandum, prior to the issuance of an operating license for a unit at any new site, NRR will assure that the license applicant has made provisions for the active participation of relevant State and local government organizations in an emergency test exercise. OSP will be notified of this test at an early date and will use its influence as necessary to encourage the full participation of these organizations. NRR will submit a written request to OSP to provide a written critique of the performance of the State and relevant local government agencies in such test exercises.

(C) Operating Stage

At periodic intervals during the operating lifetime of each nuclear power plant, NRR will submit a written request to OSP to provide an updated assessment of State and local government emergency preparedness capabilities, including a critique of their performance in a test exercise.

The provisions of this part shall apply for each site at which one or more nuclear power plants are licensed to operate as of and after the date of this memorandum.

II. Accident Potential Statements

Pursuant to the Federal Preparedness Agency's Federal Register Notice of December 24, 1975, NRR and OSP recognize NRC's responsibility for the "Determination of the accident potential at each licensed fixed nuclear facility." NRR agrees to take the lead to implement this determination by preparing for each nuclear power reactor site a summary analysis and statement which addresses the accident potential at that site in both generic and site specific terms which relate to emergency planning. NRR will provide copies of such statements to OSP and OSP agrees to distribute copies to those other Federal agencies participating in the interagency emergency planning effort and to the involved State and local governments.

NRR expects to utilize the report of the current joint NRC/EPA Task Force effort as part of the basis for the generic part of such statements. NRR will also develop a schedule for the preparation and issuance of these statements for each site at which a nuclear power plant is now operating or is expected to operate in the future, including provisions for routine preparation and issuance of such statements to OSP soon after the issuance of each new construction permit for applications tendered after the date of this agreement.

III. Coordination and/or Concurrence on Related Matters

NRR and OSP each agree to notify the other promptly when matters arise involving State and/or local government emergency preparedness relative to nuclear power reactor sites, either specifically or in general. Such matters may include public hearings, correspondence from interested or concerned citizens, meetings arranged by OSP, NRR, or other Federal agencies, or by State or local governments, and plans for the conduct of drills or test exercises initiated by State or local governments or by licensees. In addition, OSP agrees to seek the concurrence of NRR prior to the formal issuance of new or modified emergency preparedness guidance documents which relate to licensed nuclear reactor facilities, and NRR agrees to seek the concurrence of OSP prior to the issuance of new or revised Standard Review Plans to the extent that they relate to State and/or local government emergency preparedness.

IV. Training of Offsite Personnel

NRR and OSP will coordinate the requirements for training State and local government and other offsite personnel who might contribute to a radiological emergency response at a nuclear power reactor. Along with OSP, NRR will undertake to examine the nature and scope of licensees' responsibility for training of State and local emergency response personnel, to judge the practical effect and adequacy of such training as is now provided, and, if necessary, to recommend changes in regulatory requirements.

V. Federal Interagency Central Coordinating Committee (Radiological Emergency Preparedness)

NRR will be included in the membership of this Committee at once and will be invited by OSP to participate in its deliberations and activities.

Executed this 10th day of March 1977.



Robert G. Ryan, Director
Office of State Programs



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

STATE AND LOCAL GOVERNMENT
EMERGENCY PREPAREDNESS PROGRAM

The purpose of the Emergency Preparedness program in the Office of State Programs is to assist State and local governments in planning for emergency responses to radiological incidents. The Federal responsibilities in this area are spelled out in the Federal Register Notice of December 24, 1975 which assigns "lead agency" responsibility to the Nuclear Regulatory Commission in the area of radiological emergency response planning in support of fixed nuclear facilities and the transport of radioactive materials. These functions are carried out in cooperation with the Environmental Protection Agency, Energy Research and Development Administration, Department of Transportation, Department of Health, Education and Welfare, Defense Civil Preparedness Agency, and Federal Disaster Assistance Administration of the Department of Housing and Urban Development, and is under the general monitorship of the Federal Preparedness Agency/GSA.

One of the major goals of the Office of State Programs is to carry out NRC's lead agency responsibilities and to assist State and local governments in this important area. The office encourages other Federal agencies to discharge their responsibilities under the Federal Register Notice and issues guidance to them for providing assistance to State and local governments. The office manages and provides leadership for the Federal interagency training program for State and local governments, and coordinates the Federal Interagency Field Assistance Program, which provides onsite help to State and local governments for developing and improving their plans. It chairs the Federal Interagency Central Coordinating Committee which coordinates the work on guidance prepared by other agencies. The office also provides definitions of the types of radiological accidents for which State and local governments should plan, and accident scenarios for drills and exercises to test the plans.

The objective of the program is to make sure that every State and local government has an operative radiological emergency response plan suitable for the circumstances peculiar to that State or local government.

As lead agency under the terms of the Federal Register Notice, NRC's principal responsibilities are:

1. Issuance of guidance to other Federal agencies concerning their responsibilities and authorities in radiological incident emergency response planning and in providing planning assistance to State and local governments.
2. Development and promulgation of guidance to State and local governments in coordination with other Federal agencies for the preparation of radiological emergency response plans.
3. Review and concurrence in such plans. (Proper correlation among State, local government, licensee, and national plans is an element of this review.)
4. Determination of the accident potential at each licensed fixed nuclear facility.
5. Issuance of guidance for establishment of effective systems of emergency radiation detection and measurement.

Other agencies were assigned specific responsibilities. This program is in support of NRC's role in licensing, nuclear facilities. NRC requires that all applicants for an operating license must develop a facility emergency plan. The regulations stop short of requiring that a plan be developed by the State and local government. This program is intended to help the State and local agencies to improve their response capabilities.

This is done in several ways:

Training

A formal training program designed to teach State and local government personnel how to develop or improve their radiological response plans has been established by the NRC at the Defense Civil Preparedness Agency Staff College at Battle Creek, Michigan. Over 360 State and local government personnel have attended this one-week course since its inception in March 1975. Additionally, NRC, and other Federal agencies, have developed a Radiological Emergency Response Operations Course for State and local government personnel. A number of other training activities are also being developed.

Guidance and Review

In December of 1974 a guidance document was published and distributed to all States. It was titled "Guide and Checklist for the Development and Evaluation of State and Local Government Radiological Emergency Response Plans in Support of Fixed Nuclear Facilities (NUREG 75/111)." In practice, this guidance document is a set of "standards" used by the NRC's Office of State Programs and other Federal agencies to review and evaluate the adequacy of State plans. It is not a Regulatory Guide. Review and Evaluation of State plans can only be accomplished if the State voluntarily submits its plan and asks for a review.

Other Federal agencies are developing companion guidance to NUREG 75/111 some of which has been completed. Specifically, in September, 1975, the Environmental Protection Agency distributed its initial version of several chapters of its "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." The current issue of the manual deals with airborne releases at nuclear power facilities. Similar guidance on other types of accidental releases of radioactivity are under development and will be issued by EPA and HEW as a part of the manual in the future. The Defense Civil Preparedness Agency has developed additional planning guidance for local government emergency planning personnel as a part of its "Disaster Operations Handbook."

Field Assistance Effort.

The NRC's Office of State Programs heads up the "Federal Interagency Field Cadres" which provides assistance to State and local governments in developing and improving their plans. A cadre is composed of headquarters and/or regional Federal personnel from the involved agencies. A cadre, at the request of a State, also observes emergency response exercises conducted by State and local governments and provides evaluations to the State and local governments. These are used as another basis for improving the plans.

Interagency Coordinating Committee Activities

A committee to coordinate the various activities of the Federal agencies in this area has been established. It is chaired by the Director, Office of State Programs, and consists of representatives of each of the agencies mentioned in the Notice. The committee coordinates the development of policy concerning guidance, planning assistance and training for State and local governments.

Two Task Forces have been established by the committee. The "Federal Interagency Task Force on Training and Exercises," chaired by a representative of the Defense Civil Preparedness Agency, has developed a training program in radiological emergency response planning and is developing the training program for radiological emergency response operations for State and local government personnel. The "Federal Interagency Task Force on (Offsite) Emergency Instrumentation for Nuclear Incidents - Fixed Facilities," is developing guidance needed to establish emergency offsite radiation and detection and measurement systems and to select the appropriate instrumentation for these systems.

NRC/EPA Task Force on Emergency Planning

The National Conference of State Radiation Control Program Directors has raised certain questions concerning emergency planning and preparedness. At its 1976 annual meeting, the Conference adopted a recommendation that "NRC make a determination of the most severe accident bases for which comprehensive radiological emergency plans should be

developed by the offsite agencies." Related to this, and since the publication of the Reactor Safety Study, a number of State and local government organizations (including the California Energy Resources Conservation and Development Commission) have raised questions concerning the implications of the Safety Study for emergency planning. In addition, there are certain differences in emergency planning philosophy between NRC and EPA.

As a result of this, the Executive Director for Operations has appointed a special NRC Task Force on Emergency Planning, in which the EPA has been invited to participate, to resolve the concerns of the State and local governments (for more information, see SECY 76-483). The Task Force has held several meetings but have not yet come to any agreement on the size and nature of an accident it would recommend for planning purposes. We expect some agreement can be reached and a report submitted to the Commission by the end of July 1977.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555



AUG 30 1976

Harold E. Collins, Office of State Programs
Brian K. Grimes, Office of Nuclear Reactor Regulation
Leo B Higginbotham, Office of Inspection & Enforcement
C. Vernon Hodge, Office of Nuclear Material Safety & Safeguards
Michael Jamgochian, Office of Standards Development
James A. Martin, Office of Nuclear Reactor Regulation
Ian Wall, Office of Nuclear Regulatory Research

APPOINTMENT OF TASK FORCE ON EMERGENCY PLANNING

You are appointed to a Task Force on Emergency Planning to review and make recommendations on a number of concerns that the States and their local governments have expressed concerning State and local government emergency planning in support of fixed nuclear facilities, particularly power reactors. EPA is being requested to provide representation on this Task Force so that a joint NRC/EPA position can be developed.

Enclosure 1 is a charter for the Task Force. The Task Force should identify any additional issues and component tasks related to the basic overall objective of the Task Force and make recommendations concerning these issues as well as resolving those matters specifically listed.

The Task Force should prepare a schedule and milestones toward completion of the tasks necessary to meet the general objective of providing NRC/EPA guidance to the States.

Enclosure 2 is a list of the Task Force co-chairmen, members and suggested resource consultants.

A handwritten signature in dark ink, appearing to read "L. V. Gossick".

Lee V. Gossick
Executive Director for Operations

Enclosures:
As stated

CHARTER
FOR
TASK FORCE ON EMERGENCY PLANNING

A. BASIC OVERALL OBJECTIVE OF TASK FORCE

To provide a clearer definition of the types of radiological accidents that States and local governments should plan for and develop preparedness programs to support.

B. COMPONENT TASKS

1. Review of correspondence concerning emergency planning between State and local government personnel and the NRC, EPA and other Federal agencies over the past year. Identify, from this correspondence, emergency planning issues which need further resolution between EPA and NRC such as:
 - (a) Differences in emergency planning philosophy and resolution of these differences, EPA considers "accident scenarios in WASH 1400 as one of the viable bases for establishing guidance along with other scenarios such as NRC Safety Evaluation Reports for individual facilities." (Rowe to Godwin (Alabama) letter of July 9, 1976). NRC considers that "the Reactor Safety Study (WASH-1400) was not intended to be a basis for policy on siting, emergency planning, etc. associated with individual plants" (Levine to White (California) letter of June 30, 1976).
 - (b) Impact of EPA Protective Action Guides (PAG's) on NRC Siting Criteria (10CFR100) when EPA guides are formalized and become Federal guidance.
 - (c) Implications of WASH 1400 for emergency planning.
 - (d) Emergency planning implications of non-WASH 1400 type accidents.
 - (e) Other peripheral issues outlined in Conference of Radiation Control Program Directors correspondence and letters from State and local government personnel.
2. Where required, prepare draft joint NRC/EPA policy statement(s) concerning resolution of issues identified in Component Task 1, above.
3. Draft definitive guidance for States and local governments related to the: "Determination of the most severe power reactor accident bases for which comprehensive radiological emergency response plans should be developed by the States and local governments." (Recommendation of the Conference of Radiation Control Program Directors, June 9, 1976).

4. Examine the various emergency planning activities that are on-going or under development in NRC and EPA offices that may have a relationship to the basic overall objective of the Task Force. Make recommendations concerning any modifications to these activities to accomplish the basic objective.

C. END PRODUCTS OF TASK FORCE

1. Make any recommendations concerning revision to NRC and EPA emergency planning guidance publications.
2. Prepare Task Force report transmitting draft joint policy statements, draft definitive guidance, and recommendations related to the basic overall objective of the Task Force.



UNITED STATES
NUCLEAR REGULATORY COMMISS
WASHINGTON, D. C. 20555

FEB 9 1977

MEMORANDUM FOR: R. G. Ryan, Director, Office of State Program

FROM: R. J. Mattson, Director, Division of Siting,
Health and Safeguards Standards, SD

SUBJECT: ACTIONS CONCERNING INFORMAL STAFF LEVEL REVIEW OF NRC
EMERGENCY PLANNING REGULATION (10 CFR 50, 10 CFR 70)

In response to your memorandum dated November 26, 1976, SD will initiate a task to evaluate NRC's Emergency Planning regulations (10 CFR 50 and 10 CFR 70).

It is necessary that a preliminary value/impact assessment be made prior to the approval of the task initiation form. We intend to use this assessment in the Commission paper on Reactor Siting Policy required by May 16, 1977. This Commission paper was requested in Mr. Chilk's memorandum to Mr. Gossick dated January 27, 1977.

SD's task leader will be Michael Jamgochian. He will keep your Emergency Preparedness staff informed of all activity involved with this task as well as requesting their input to the value/impact assessment and the regulation evaluation.

A handwritten signature in cursive script that reads "Roger J. Mattson".

Roger J. Mattson, Director
Division of Siting, Health
and Safeguards Standards
Office of Standards Development

cc: W. Dircks, EDO
B. Riordan, PLA
B. Rusche, HRR
H. Collins, SP
T. Rehm, EDO



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 26 1976

MEMORANDUM FOR: R. B. Minogue, Director, SD
FROM: R. G. Ryan, Director, OSP
SUBJECT: INFORMAL STAFF LEVEL REVIEW OF NRC EMERGENCY PLANNING REGULATIONS (10 CFR 50, 10 CFR 70)

The attached April 15, 1976 memorandum, dealing with an informal review and commentary by selected staff members of IE, OSP, NRR and SD for improvements to NRC emergency planning regulations, has not been subjected to any formal review or action. Because it deals with a matter of continuing importance to NRC, licensees, State and local governments and the public, we believe that a "task initiation" should be generated by SD to consider these suggestions.

This "task initiation" could include more recent suggestions for revising these regulations. It could also include consideration of a variety of related emergency planning activities, ongoing or being generated within NRC and other involved Federal agencies, for example, the NRC/EPA Emergency Planning Task Force activities, contract studies in emergency planning and preparedness, and changes in Regulatory Guides dealing with emergency planning.

The Office of State Programs recommends that the regulations (10 CFR 50, 10 CFR 70) be made more explicit concerning the requirements for licensee interaction with local and State government in emergency planning and response matters. Our eight specific suggestions are recited as part of Enclosure 2 attached.

Our Emergency Preparedness staff is ready to assist you in this effort.


Robert G. Ryan, Director
Office of State Programs

cc w/encl: KChapman, NMSS
SLevine, RES
BRusche, NRR
EVolgenau, IE
HShapar, ELD
LGossick, EDO
LDircks, AEDO
BRJordan, PLA



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 15, 1976

W. J. Dircks, Assistant Executive Director for Operations

THRU: J. D. Lafleur, Jr., Acting Director, Office of International
and State Programs

INFORMAL STAFF LEVEL REVIEW OF NRC EMERGENCY PLANNING REGULATIONS
(10 CFR 50, 10 CFR 70)

At your direction, and pursuant to the meeting on March 5th concerning NRC emergency planning and preparedness activities as they relate to licensed fixed nuclear facilities, certain involved members of the NRC staff have informally reviewed NRC's emergency planning regulations, to identify possible problem areas within the Regulations and to suggest ways in which they might be improved. The opinions expressed in the enclosure are those of the individuals involved and do not necessarily represent "office" positions on this matter.

ISP's informal review of the Regulations was conducted primarily from the standpoint of offering some suggestions for improving their clarity with respect to the details of the supportive interface that the Regulations indicate should exist between the nuclear facility and local government, State, Federal and private sector organizations who may be called upon to either: (1) assist the facility directly (onsite) in the event of an emergency or accident at the facility or (2) respond to any offsite effects which may occur as a result of an accident at the facility. ISP's comments are included in the enclosure.

I&E Headquarters staff members sought opinions from their involved regional staff I&E personnel concerning the adequacy or inadequacy of the emergency planning Regulations from the viewpoint of their scope and enforceability. Their comments are included in the enclosure.

The informal comments of the NRR staff member with principal responsibilities for facility emergency plan review are included in the enclosure.

The informal comments of the SD staff member primarily involved in emergency planning standards and guidance activities are included in the enclosure.

Informal staff comments from MS and RES were not solicited since these offices bear no major responsibilities for radiological emergency response planning with the exception that: (1) MS requires that emergency plans developed by Part 70 licensees conform to Part 50 requirements for emergency

April 15, 1976

plans, and (2) RES is involved in the administration of a forthcoming emergency planning research contract with ERDA's Sandia Laboratory. This contract concerns the development of drill and exercise scenarios to test radiological emergency response plans and the development of emergency planning guidance for States and local governments for transportation accidents involving radioactive materials.

Finally, many of the comments indicate a possible need to expand the Regulations to clarify and add certain emergency preparedness (operational) requirements for the licensee. As it stands now, the Regulations are primarily interpreted as being solely related to the content of facility emergency plans developed by the applicant.

You may wish to consider further formalized review of these Regulations by establishing a formal Task Force whose task would be to make formal recommendations concerning the Regulations and then to rewrite the Regulations in accordance with these recommendations.

original signed by
Harold E. Collins

Harold E. Collins
Emergency Preparedness
Office of International
and State Programs

Enclosure:
As stated

NRC STAFF OPINIONS CONCERNING THE ADVISABILITY OF OR NECESSITY FOR,
REVISING NRC EMERGENCY PLANNING REGULATIONS

Inspection & Enforcement

The five Regional Offices were requested to provide comments and suggestions on how the Regulations and specifically Appendix E of 10CFR50 could be revised to improve the area of emergency planning. Their replies were unanimous in regards to the need for an explicit regulatory requirement for implementing Emergency Plan commitments. This addition is needed to enhance the regulatory basis for enforcement actions by I&E. Suggestions for improvements in Appendix E, however, ranged from no change necessary to the opinion that Appendix E should closely track the Standard Review Plan and the proposed Regulatory Guide 1.101.

Other suggestions related to emergency planning included the following:

1. Clarify the applicability of the requirements to all Part 50 licensees. Specifically, if research reactors require a lesser depth of preparedness, this should be spelled out.
2. Backfit the same emergency planning requirements for plans and implementing procedures on facilities licensed prior to the effective date of Appendix E.
3. Impose similar emergency planning requirements on licensees licensed under other than Part 50 (e.g. industrial manufacturers/users).

International & State Programs

The ISP Emergency Preparedness staff has informally reviewed the NRC Emergency Planning Regulations and offers the following example suggestions. The suggestions deal with the details of the supportive interface that the Regulations indicate should exist between the nuclear facility licensee and local, State and Federal organizations who may have to respond to an emergency at these facilities.

1. Establish a requirement for formalizing the interface between the nuclear facility applicant/licensee and the Federal, State and local government agencies who will support the facility in the event of an emergency. The common practice of having "letters of agreement" to accomplish this should be formally required by the Regulations.
2. Modify that section of the Regulations that requires that the emergency plans contain "provisions for training other persons whose assistance may be needed in the event of a radiation emergency" such that the licensee be required to periodically provide appropriate training to appropriate offsite emergency response personnel. The type of training to be provided should be specified in the Regulations such as: site familiarization for fire fighting personnel and basic radiological safety for medical support and fire fighting personnel.

3. Modify the section of the Regulations that require that the emergency plans contain provisions for testing of emergency plans by periodic drills or exercises. Include a requirement that the licensee exert every effort to involve all appropriate offsite emergency response support organizations in at minimum, a comprehensive annual emergency response exercise.
4. Establish the specific requirements or bases for notifying local, State and Federal government emergency response support organizations in the event of an accident or other situation at a nuclear facility with potential for causing an offsite radiological release or which requires onsite assistance by offsite emergency organizations.
5. Develop and establish the requirements for defining an "Emergency Planning Zone" or "Protective Action Zone" around the nuclear facility. Make clear by new Regulations that the "Emergency Planning Zone" is not necessarily congruent with the "Low Population Zone" (and its attendant definition) in the Siting Criteria Regulations 10CFR100 and establish requirements for what emergency response capabilities must exist for the "Emergency Planning Zone."
6. Establish a requirement for formal critique of drills and exercises by qualified observers selected from the licensee organization and from appropriate local, State and Federal government. Establish a requirement that any weaknesses revealed by the drill or exercise will be analyzed and resolved by appropriate personnel.
7. Modify that section of the Regulations that require the applicants' emergency plan to contain "means for determining the magnitude of the release of radioactive materials." Establish a requirement for the licensee to demonstrate to, and discuss with offsite emergency response organizations, (on an annual basis) the radiological assessment methods he intends to employ in the event of an accident.
8. Establish requirements for the licensee to establish effective emergency communication links with offsite emergency response organizations and establish requirements for testing these links at least monthly.

Nuclear Regulatory Research

R. W. Houston, Chief, Industrial Security & Emergency Planning Branch, NRR, had the following observations concerning this matter.

1. In general, he sees no need to revise Appendix E to 10CFR50. He recognizes, however, that certain parts of Appendix E could be modified and be made more explicit. However, any modifications also have the potential for creating new problems of interpretation.

2. NRR recommended in June 1975 that the Office of Standards Development take on a task of producing a staff paper for modifications to 10CFR50 which would provide for continued maintenance of a state of emergency preparedness throughout the lifetime of a licensed facility, i.e., ensuring that the licensees and offsite support organizations maintain their emergency preparedness or operational response posture and capability. As it stands now, the Regulations deal with the requirements for the applicant's emergency plan. Although the task was initiated (Green Book SD-608-1), it has not been active. NRR is currently requesting resumption of effort and resolution of its request.

Standards Development

Telephone conversation with an SD representative (M. Jamgochian) working in the emergency planning area, indicated that SD was currently involved in finalizing interim Regulatory Guide 1.101, "Emergency Planning for Nuclear Power Plants" after receiving comments on the interim version published in November 1975. The SD representative indicated that the thrust within SD was to replace the old AEC December 1970 "Guide" that is referenced in NRC Emergency Planning Regulations 10CFR50 - Appendix E, with essentially three separate Regulatory Guides in the emergency planning area. One Regulatory Guide (1.101) would deal with the nuclear power plants themselves; a second would deal with research reactors (Division 2); and a third would be a "General Guide" (Division 10) dealing with other facilities such as industrial facilities manufacturing, using or handling large quantities of radioisotopes.

The SD representative further advised that he was of the opinion that the emergency planning regulations would be amplified by the issuance of these guides. However, he was also of the opinion that the regulations do need improvement to clarify the requirements for a supportive interface between State and local governments and the licensees.

MEMORANDUM OF UNDERSTANDING BETWEEN OFFICE OF NUCLEAR MATERIAL SAFETY
AND SAFEGUARDS AND OFFICE OF STATE PROGRAMS ON EMERGENCY PLANNING AND
PREPAREDNESS CONSULTATION

The Office of Nuclear Material Safety and Safeguards and Office of State Programs recognize that NRC as an agency has an obligation to the public to develop comprehensive plans and to detail measures that can be accomplished before an emergency occurs aimed at preventing, controlling, reducing the hazards, mitigating the effects and if the emergency actually occurs, coping adequately with effects of that emergency. This preparedness function necessarily involves both safeguards contingencies planning and radiological emergency response planning. This memorandum is intended to recite the relationship of our Offices in these respective areas of responsibility.

Safeguards contingency planning is preventive in nature and is implemented to prevent certain events. An event in this context refers to any occurrence which poses an actual nuclear-induced hazard to health and safety. These events may result from the culmination of a threat to sabotage, the culmination of a theft of material via a radioactive dispersal, or the culmination of a theft of material via the detonation of a weapon fabricated from that material. In any case, these events usually have results analogous to safety accidents which may be caused by operational or natural disasters.

Radiological emergency response planning involves the development and preparation of emergency plans. Radiological emergency response preparedness involves the development and implementation of measures, procedures, acquisition of resources, and the training of personnel to provide prompt and effective actions and responses to cope with radiological emergencies.

A radiological emergency is an actual or potential release of radioactivity resulting from an operational accident or natural phenomenon affecting a nuclear facility or nuclear material or from the culmination of a safeguards contingency.

As a safeguards contingency situation involving NMSS licensed activities escalates, it is incumbent upon NMSS to notify appropriate radiological emergency response organizations, including the Office of State Programs, of the potential radiological emergency, so that some preliminary assessments can be made and so that prudent protective actions can be considered. This notice can be made directly or through the emergency mechanism of Incident Management Center.

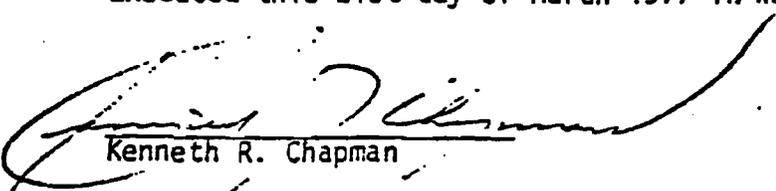
There is a clean and logical differentiation between safeguards contingencies and radiological emergencies. Responses to safeguards contingencies are carried out primarily by security personnel; they are directed against thinking adversaries; they are preventive in nature; and, if safeguards fail, their objectives are to recover any stolen SNM and to restore protection to remaining nuclear material. In contrast, responses to radiological emergencies are carried out primarily by health physics and medical personnel; they are directed chiefly against accidents; they are restorative/corrective in nature; and, if engineered safeguards and safety procedures fail, their objectives include the rendering of medical assistance to injured persons, implementing protective measures, and the cleaning up of any radiological contamination. Nevertheless while agreeing that the response in these respective categories should be separately planned and executed, we agree that there should be coordination between the two categories.

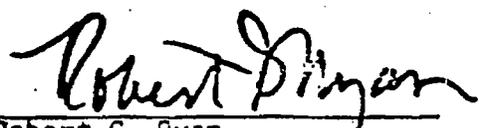
We recognize that there are situations where overlap exists between safeguards contingency planning and radiological emergency response planning, such as in the case of sabotage to cover the theft of nuclear material. We jointly recognize the need to minimize unnecessary alarm to the public in these situations. While the response for safeguards contingencies and radiological emergencies should be distinct and separate, the respective plans must recognize the potential for a safeguards contingency culminating in a radiological emergency, or for a radiological emergency posing security risks to special nuclear material. Because of this, the two offices recognize the need for a continuing exchange of information and detailed assessments of each others plans to identify areas of common concern and cooperation. We stipulate the mutual obligation of each office to give the other office prompt notice of any developments affecting this overlapping area of concern.

Each office undertakes to forge coordinated links and to see to it that each group has adequate working knowledge of the others functions. The two offices will encourage communication between and among safeguards and radiological emergency response organizations and institutions.

Because of the recognized need for closer working relationships between our offices, Office of State Programs will immediately make Office of Nuclear Material Safety and Safeguards a member of the Federal Interagency Central Coordinating Committee on Radiological Emergency Response Preparedness which is chaired by Office of State Programs.

Executed this 21st day of March 1977 in Washington.


Kenneth R. Chapman


Robert G. Ryan



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 14 1977

MEMORANDUM FOR: B. J. Riordan, Director
Planning and Analysis

FROM: R. J. Mattson, Director
Division of Siting, Health
and Safeguards Standards
Office of Standards Development

SUBJECT: STAFF REQUIREMENTS - EMERGENCY PREPAREDNESS BRIEFING
FOLLOW-UP

At the conclusion of the subject briefing on February 8, 1977, during Policy Session 77-12, the Commission asked you to prepare for its review a paper describing NRC's total emergency preparedness planning program. In particular, the paper was to include an initial outline of the policy paper that Standards Development is preparing on emergency planning requested by the Commission in item 2(c) of the memo from Sam Chilk to Lee Gossick dated January 27, 1977.

Your paper was to be submitted to the Commission by March 11, 1977. The attached information description of the scope and content of our May 16 policy paper is forwarded for your use in preparing your paper.

Roger J. Mattson
Roger J. Mattson, Director
Division of Siting, Health
and Safeguards Standards
Office of Standards Development

Attachment:
As Stated

cc: W. Houston
D. Skovholt
H. Collins
L. Gossick
T. Carter
L. Higgenbotham

AREAS FOR EVALUATION IN POLICY FORMATION IN
EMERGENCY PLANNING RELATING TO REACTOR SITING

The following areas in emergency preparedness should be evaluated for policy formation. These areas will be further amplified and developed in the policy paper which is to be submitted to the Commission by May 16, 1977. This May 16th paper will (a) contain an analysis of what the recommended statement confirms, clarifies or changes, and (b) describe available alternatives, with pros and cons, and supporting value/impact analyses.

1. Should NRC determine the degree to which State and local government radiological emergency planning should be part of the nuclear facility and materials licensing process. Should commitment to adequate State and local radiological emergency response plans be a precondition to issuance of a license, construction permit, or early site approval?

 2. How does the emergency response capability of the state and local governments factor into the overall judgement of no undue risk to the public?
 - 2.a. Should criteria be established to determine what is an acceptable commitment from the State(s) and local government in order to determine that a site is suitable?

 - 2.b. Should criteria be established to determine acceptable geographic and demographic characteristics of the site location in analyzing the effectiveness of emergency preparedness protective actions?
-

2.c. Should criteria be established to determine when a licensee's emergency plan should include arrangements for extending emergency actions for the protection of persons located outside the LPZ?

SCHEDULE FOR NATIONAL LEVEL EMERGENCY PREPAREDNESS PROGRAMNRC Emergency Preparedness Functions

- assignment of functions under EO.11490 (NRC provided statement to FPA December 1975, which was included in E.O.11953 signed by the President January 7, 1977)
- Develop NRC essential uninterruptible functions (Draft submitted to Emergency Preparedness contacts within NRC for comments. Meeting before end of January to discuss comments and decide on draft for formal NRC office review. Target date for completion: March 15, 1977.)
- Using these essential functions as a base, determine emergency responsibilities of major constituent offices within NRC (June, 1977)
- Develop plans for performing these essential functions
 - Guidance by OSP (September, 1977)
 - Plans by designated program office (June, 1978)

NRC Emergency Organization

- Designation of emergency executive teams A,B, and C needed to perform NRC essential functions during national emergencies (June, 1977)
 - Notification of team members (June, 1977)
 - Assignment of responsibilities to team members (July, 1977)
 - Briefing of team members (August-September, 1977)
 - Assignment of team members to emergency operating locations (Dec. 1977)
-

- Establish succession to office within NRC for national emergencies (April, 1977)
- Predelegate emergency authority to designated officials, (October, 1977)
- Develop supporting emergency organization.
 - at Headquarters NRC (January, 1978)
 - at Regional NRC offices (1978)

NRC Emergency Facilities

- Evaluate requirement for emergency operating facilities, including relocation centers, at Headquarters and Regional levels (September, 1977)
- Designate and acquire access to such facilities/centers (December, 1977)
- Arrange for communications and other equipment and supplies for the EOF's. (June, 1978)

NRC Vital Records

- Set up program for identification of vital records needed in national emergencies to cover:
 - Existing records (March, 1978)
 - Future records (March, 1978)
 - Arrange for storage of vital records at Emergency Operating Facilities (June, 1978)

NRC National Emergency Procedures for:

- Warning conditions
- Notifications and reporting instructions

- Alerts
- Carrying out essential uninterruptible functions
- Emergency measures checklist
- Reports during emergencies
(Draft: October, 1977, Final; October, 1978)

NRC National Level Emergency Preparedness Plan

(To include most of foregoing and other appropriate elements)

- Outline, (June, 1977)
- Draft, (October, 1977)
- Final, (October, 1978)

NRC Emergency Communications

- Develop communications ANNEX to National and as appropriate, Regional emergency plans; (outline, July 1977; draft, November 1977, final, November 1978)
- Develop and disseminate emergency communications procedures (Tentative October 1977, firm, December, 1978)
- Identify, and acquire as necessary, communications equipment for use in national emergencies (Late 1978 - Early 1979)

Private Sector Emergency Preparedness

- Determine role of utilities and other private users and producers of nuclear materials in national level emergency preparedness (June 1978)
- Issue guidance based on this determination (December 1978)
- Evaluate the need for establishing a National Defense Executive

Reserve contingent in NRC (December 1978)

- Develop program if indicated by this evaluation (1979)

NRC Regional Office Emergency Preparedness

- Determine degree of involvement (June 1977)
- Issue guidance (September 1977)
- Visit and brief each Region (October-December 1977)

Tests and Exercises

- Participate in National (FPA/DOD sponsored) emergency exercises (annually)
- Develop and conduct tests of NRC Emergency Plan (s) (annually starting in 1979).

NRC Emergency Preparedness Training

- Develop training course on emergency duties and procedures (December 1979)
- Establish schedule and conduct course (Starting 1979)

Resource Management Plans

- Develop Emergency priorities and allocations system for production, distribution and use of resources which NRC licenses (1978)
- Assemble and evaluate resource requirements, under emergency conditions, of facilities and materials under NRC license or jurisdiction. (1978)
- Prepare plans to claim from appropriate agencies the resources needed

to carry out NRC's essential emergency functions (1979).

- Develop programs with other agencies to insure availability of such resources in emergencies (1979).



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Attachment 8

MAR 1 1977

MEMORANDUM FOR: K. Chapman, Director, Office of Nuclear Material Safety and Safeguards
S. Levine, Director, Office of Nuclear Regulatory Research
R. Minogue, Director, Office of Standards Development
E. Volgenau, Director, Office of Inspection and Enforcement
R. Ryan, Director, Office of State Programs
H. Shapar, Director, Office of the Executive Legal Director

FROM: Ben C. Rusche, Director, Office of Nuclear Reactor Regulation

SUBJECT: FORMATION OF AN NRC STAFF COORDINATING GROUP ON EMERGENCY PREPAREDNESS

As a result of a number of recent activities and discussions on emergency planning and preparedness matters of concern to NRR licensing activities, it has become apparent to me that a mechanism for improved staff coordination among several NRC offices would be valuable. To this end I am suggesting the formation of an Emergency Preparedness Group reflecting the interests and responsibilities of our several offices to meet periodically as an informal forum for identifying, discussing, and clarifying substantive issues in the emergency preparedness area, particularly those having a need for coordination of interfacing interests among offices. Such a group, through a written record of its discussions, should materially assist in focusing management attention on significant issues requiring policy attention.

I have asked R. W. Houston of my office to take the lead in organizing such a group and invite you to send one or two members of your staff to the first meeting, in P-114 at 1:00 p.m. on Friday, March 4, 1977, to discuss the Emergency Planning Role in Siting Policy, which relates to the paper due the Commission on March 11, 1977. If you do not have background material on this issue, Dr. Houston's office will be glad to provide it. (X-27441)

- 2 - MAR 1 1977

By copy of this memorandum, I am also extending this invitation to each NRR Division Director.



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

cc: L. V. Cossick
W. J. Dircks
S. H. Hanauer
E. G. Case
H. R. Denton
V. Stello
R. E. Heineman
R. S. Boyd
NRR Assistant Directors
NRR Branch Chiefs

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Central Files

April 28, 1978

SECY-78-231

INFORMATION REPORT

For: The Commissioners

From: Robert G. Ryan, Director, Office of State Programs

Thru: Lee V. Gossick, Executive Director for Operations *W. J. D.*

Subject: NRC/EPA TASK FORCE DRAFT REPORT ON EMERGENCY PLANNING

Purpose: To advise the Commissioners of the draft Task Force report on emergency planning, alert them that their consideration of the final report will be requested, and inform them of the candidate issues for discussion in the staff paper accompanying the final report.

Issues: An NRC/EPA Task Force on Emergency Planning has prepared a draft Task Force Report which, if its recommendations are adopted, could influence NRR and SP and implicitly NMSS emergency planning reviews. In particular, emergency planning outside of the Low Population Zones, the degree to which specific plant engineered safety features are taken into account in establishing planning distances, and the way in which "Class 9" accident consequences are taken into account for emergency planning purposes may be affected. The degree of separation between reactor siting policy and emergency planning could also be affected.

Discussion: On June 9, 1976, the Conference of Radiation Control Program Directors, a national organization of State Radiological Health Officers supported financially by NRC, EPA, and HEW, passed a resolution at their annual meeting requesting the NRC to - "make a determination of the most severe accident basis for which radiological emergency response plans should be developed by offsite agencies." The resolution stemmed from State uncertainty regarding the extent of planning and

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HECollins, OSP
Tel: 492-7210
BKGrimes, NRR
Tel: 492-7415

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Emergency Plans

the level of operational preparedness needed to cope with radiological emergencies. Additionally, over the past few years, the NRC and EPA received correspondence from a few States, and in one or two instances from a local government relating to this recommendation.

In August 1976, a Task Force consisting of NRC and EPA representatives was appointed by the EDO (with cooperation from EPA) to address this Conference resolution and related issues. The Task Force completed its initial work in November of 1977 and prepared their draft report (Draft NUREG 0396) which is attached as Enclosure 1. The guidance contained in this report would be primarily oriented toward providing State and local government emergency preparedness organizations with an improved basis for planning protective measures in the environs of light water nuclear power plants. This guidance would be supplemental to the emergency planning guidance already published by the NRC and EPA and recommends the adoption of a PROTECTIVE ACTION ZONE concept, the object of which is to plan for dose savings. This concept is distinct from the concept of LOW POPULATION ZONES which are established for site and reactor acceptability using predetermined exposure guidelines. The draft Task Force report also recommends separation of emergency planning and siting considerations, and reiterates that emergency plans not be based on any single accident scenario.

Although the report as it is now written covers only light water reactors, its recommendations could also affect the licensing activities for fixed site nuclear fuel cycle facilities, since emergency planning requirements for these facilities are related to those for reactors.

The Task Force report is currently being reviewed by Federal agencies involved with the NRC in assisting the States in their radiological emergency preparedness activities and by a limited number of State representatives of the Conference of Radiation Control Program Directors, the National Association of State Directors

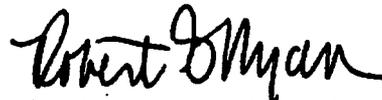
for Disaster Preparedness, and the U.S. Civil Defense Council (local governments). The outside review and comment on the document will be completed by early May, 1978.

The recommendations in the report if adopted by NRC and EPA will have many and far-reaching implications for existing and future nuclear facilities; the more important issues are set out in Enclosure 2. This matter was discussed at two meetings with the interested NRC offices on December 15, 1977, and on March 22, 1978. A copy of my memorandums asking for the meetings is attached as Enclosures 3 and 4. The Task Force membership is listed in Enclosure 5; all major NRC offices were represented on it as well as EPA's Office of Radiation Programs.

After the comments from NRC staff offices, other Federal agencies and the States are analyzed and treated by the Task Force - either by assimilation into the report or otherwise, another draft of the report will be prepared for review and final comment by Federal and State agencies and organizations. A major policy issue paper for the Commission will then be prepared and an oral presentation to the Commission will be scheduled as close to the end of August, 1978 as possible.

Coordination:

All major program offices and the ELD have concurred in forwarding this information paper to the Commission.



Robert G. Ryan, Director
Office of State Programs

Enclosures:

1. Draft Task Force Report, NUREG-0396 (Commissioners, SECY, PE, & GC only)
2. Issues (with attachment)
3. Memorandum, Director SP, 12/6/77
4. Memorandum, Director SP, 3/9/78
5. Task Force Membership

DISTRIBUTION:

Commissioners
Commission Staff Offices
Exec. Dir. for Ops.
Secretariat

ENCLOSURE 2

POSSIBLE SIGNIFICANT POLICY ISSUES RELATING TO
THE DRAFT REPORT, "A MODIFIED PLANNING BASIS FOR
THE DEVELOPMENT OF STATE AND LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY RESPONSE PLANS IN SUPPORT
OF LIGHT WATER NUCLEAR POWER PLANTS," (NUREG 0396)
NOVEMBER 1977

ENCLOSURE 2

POSSIBLE SIGNIFICANT POLICY ISSUES RELATING TO
THE DRAFT REPORT, "A MODIFIED PLANNING BASIS FOR
THE DEVELOPMENT OF STATE AND LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY RESPONSE PLANS IN SUPPORT
OF LIGHT WATER NUCLEAR POWER PLANTS," (NUREG 0396)
NOVEMBER 1977

- A. Issues discussed in the Task Force Report.
1. Whether and to what extent "Class 9" accidents should be considered in emergency planning.
 2. Whether there is a need to plan beyond the LPZ.
 3. Whether there is a conflict between Protective Action Guides and dose criteria for siting and design of nuclear power facilities.
- B. Other issues identified by the Co-Chairmen of the Task Force after consultation with the NRC task force members which must be addressed by NRC staff offices before the final report is presented to the Commission.
1. Whether the approach to emergency planning guidance to the States should be endorsed by the Commission. What would be the probable effects of such an approach on the licensing process?
 2. Whether existing regulations would require modification given this endorsement or whether additional regulations or guides are desirable. This would include a discussion of the relationship of the Task Force guidance to States to the Commission's policy on reactor siting (Part 100) and the Commission's policy on emergency planning (as expressed for license applicants in Part 50, Appendix E).
 3. The degree to which the guidance should be implemented on operating reactors and any impacts on States, local governments, or licensees.
- C. Other emergency planning issues identified by NRC Members or Consultants to the Task Force as possible issues to be discussed.
1. The relationship between the Federal Interagency Program of radiological emergency preparedness assistance to State and local governments in which NRC has the lead agency role and the statutory responsibility of the NRC to carry out a regulatory program.

2. The weight to be given to the response capabilities of State and local governments in the licensing decision process.
3. Whether present Federal guidance to the States with regard to scoping accidents for development of emergency plans (NUREG 75/111 at 2., p. 4, copy attached) is sufficient.
4. What should be the split between Federal, State, local and licensee emergency preparedness and response efforts?
5. To what extent should "Class 9" accidents be considered in plant design? Should there be a relationship between engineered safety features and emergency planning? Are tradeoffs acceptable?
6. Part III of Appendix E to 10 CFR Part 50 requires a demonstration that Emergency Plans "...provide reasonable assurance that appropriate measures can and will be taken in the event of an emergency to protect public health and safety and prevent damage to property." Is "reasonable assurance" sufficient? Or should "beyond a reasonable doubt" apply?
7. A principal issue is whether a generic emergency planning distance, such as proposed by the Task Force report (PAZ's), which is established without regard to the specific plant design features or site characteristics used by NRC to determine site suitability and licensability of a facility, is appropriate. Will a conflict exist between guidance to the States regarding the generic distances and the regulatory requirements on the Licensee regarding site suitability distances as related to emergency plans?
8. Difference between realistic assumptions used in WASH-1400, "realistic" assumptions to be used in Environmental Reports and Environmental Impact Statements and the "conservative" assumptions used for Safety Evaluation Reports to derive distances.
9. The use of Protective Action Guides (EPA/FRC), Site Criteria Dose Guideline Values (Part 100) and realistic consequence levels and the relationship of these levels with radiation protection standard limits given by ICRP, FRC and in NRC regulations.

Attachment: Excerpt from NUREG-75/111, ("Guide and Checklist for the Development and Evaluation of State and Local Government Radiological Emergency Response Plans in Support of Fixed Nuclear Facilities")

ATTACHMENT TO ENCLOSURE 2

2. Magnitude of the Accident.

A considerable amount of information of potential importance to emergency planners is made available during the licensing process. The evaluation of sites and plant designs, required testing programs, and quality assurance for the operation of such facilities all provide substantial assurance that accidents with serious consequences to the public health and safety are not likely to occur. Nevertheless, highly unlikely sequences of events are postulated and their potential consequences analyzed by the applicant in the Safety Analysis Report which accompanies each application and by the AEC staff in its Safety Evaluation Report for each plant. The AEC considers that it is reasonable, for purposes of emergency planning relative to nuclear facilities, to prepare for the potential consequences of accidents of severity up to and including the most serious design basis accident analyzed for siting purposes. However, the AEC's expectations as to the likely consequences of accidents on a realistic basis are represented in the Final Environmental Statement which is prepared and published by the AEC Regulatory staff for each plant.

The AEC recognizes that accidents with more severe potential consequences than design basis accidents can be hypothesized. However, the probability of such accidents is exceedingly low. Emergency plans properly designed to cope with design basis accidents would also provide significant protection against more severe accidents, since such plans provide for all of the major elements and functions of emergency preparedness. An added element of confidence can be gained, however, if States and local governments assure that their plans for responding to radiological emergencies are coordinated with their plans for dealing with floods, earthquakes, or other disaster situations which might necessitate large scale displacement of people and the provision of shelter, food, medical aid, and other emergency services. Communications, traffic control, evacuation, public notification and other emergency responses will tend to be the same whether or not the emergency involves radiological considerations.

The AEC's Radiological Assistance Program (RAP), the Federal Interagency Radiological Assistance Plan (IRAP) and other Radiological Emergency Assistance Plans, which are a part of the Federal capability, provide significant additional emergency resources in the event of a serious accident.

ENCLOSURE 3

MEMORANDUM DATED 12/6/77
SUBJECT: BRIEFING MEETING CONCERNING DRAFT
NRC/EPA TASK FORCE REPORT ON EMERGENCY PLANNING



ENCLOSURE 3

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 0 6 1977

MEMORANDUM FOR: E. G. Case, Acting Director, NRR
W. J. Dircks, Assistant Executive Director for Operations
S. Levine, Director, RES
R. B. Minogue, Director, SD
H. K. Shapar, Executive Director, ELD
C. V. Smith, Director, NMSS
E. Volgenau, Director, IE

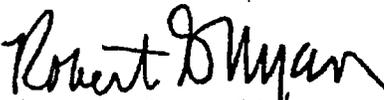
FROM: Robert G. Ryan, Director
Office of State Programs

SUBJECT: BRIEFING MEETING CONCERNING DRAFT NRC/EPA TASK FORCE REPORT
ON EMERGENCY PLANNING

On August 30, 1976, Director Gossick appointed NRC representatives to a joint NRC/EPA Task Force on Emergency Planning with instructions to recommend a "clearer definition of the types of radiological accidents at LWRs for which States and local governments should plan and develop preparedness programs." Enclosed is a list of the Task Force members and consultants.

The Task Force has now completed its deliberations and its draft report, a copy of which is enclosed. We plan to send the report to the State and local government organizations next month for review and comment and it will be forwarded to the Commission sometime in March.

We would like to invite you or your representative to attend a briefing session on this important document on Thursday, December 15 at 1:30 P.M. in Room 372 of the East West Towers.


Robert G. Ryan, Director
Office of State Programs

Enclosures:

- (1) Task Force members
- (2) Task Force Draft Report

cc w/encl: L. V. Gossick, EDO

ENCLOSURE 4

MEMORANDUM DATED 3/9/78
- SUBJECT: MEETING CONCERNING NRC/EPA TASK FORCE
ON EMERGENCY PLANNING DRAFT REPORT, NUREG-0396

ENCLOSURE 4



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 9 1978

MEMORANDUM FOR: Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Saul Levine, Director
Office of Nuclear Regulatory Research

Robert B. Minogue, Director
Office of Standards Development

Clifford V. Smith, Director
Office of Nuclear Material Safety
and Safeguards

Ernst Volgenau, Director
Office of Inspection & Enforcement

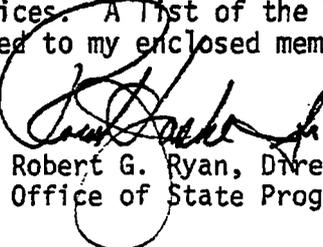
Howard K. Shapar, Executive Director
Office of the Executive Legal Director

FROM: Robert G. Ryan, Director
Office of State Programs

SUBJECT: MEETING CONCERNING NRC/EPA TASK FORCE ON EMERGENCY
PLANNING DRAFT REPORT, NUREG-0396

My memorandum of February 17, 1978 indicated that we would like to schedule a meeting with you and your involved representatives concerning the subject report and its implications. A copy of this memorandum is enclosed. The most convenient day for the majority of involved staff and major program Office Directors works out to be March 22, 1978. Therefore, I am scheduling the meeting for 10:00 a.m., in Room 6110, Maryland National Bank Building on that date.

I ask that you try to attend the meeting personally, along with at least the Task Force representative from your office and consultants to the Task Force that were provided by some offices. A list of the Task Force membership and consultants is attached to my enclosed memorandum.


Robert G. Ryan, Director
Office of State Programs

Enclosure:
As stated

cc: L.V. Gossick, EDO
W.J. Dircks, AEDO
NRC members of the Task Force
NRC consultants to the Task Force

ENCLOSURE 5

MEMBERSHIP LIST
NRC/EPA TASK FORCE
ON EMERGENCY PLANNING

ENCLOSURE 5

NRC/EPA TASK FORCE

ON

EMERGENCY PLANNING

Membership on the Task Force on Emergency Planning, which was formed for the purpose of providing a clearer definition of the types of radiological accidents for which States and local governments should plan and develop preparedness programs, was drawn from both the United States Nuclear Regulatory Commission and the United States Environmental Protection Agency and is listed below.

Co-Chairmen

Harold E. Collins, Assistant Director for Emergency Preparedness, State Programs, NRC

Brian K. Grimes, Chief, Environmental Evaluation Branch, Nuclear Reactor Regulation, NRC

Members

Harry W. Calley, Chief, Protective Action Planning and Investigation Branch, Office of Radiation Programs-EPA

Floyd L. Galpin, Director, Environmental Analysis Division, Office of Radiation Programs-EPA

Leo B. Higginbotham, Acting Director, Division of Fuel Facilities and Materials Safety & Inspection, Inspection & Enforcement, NRC

C. Vernon Hodge, Transportation Branch, Nuclear Material Safety & Safeguards, NRC

Michael T. Jamgochian, Site Designation Standards Branch, Standards Development, NRC

Joe Logsdon, Protective Action Planning and Investigation Branch, Office of Radiation Programs-EPA

James A. Martin, Emergency Planning Branch, Nuclear Reactor Regulation, NRC

Jerry Swift, Technology Assessment Division, Office of Radiation Programs-EPA

Ian B. Wall, Deputy Director, Probabilistic Analysis Staff, Nuclear Regulatory Research, NRC

Consultants to Task Force

Fredric D. Anderson, Site Designation Standards Branch, Standards Development
NRC

Roger M. Blond, Probabilistic Analysis Staff, Nuclear Regulatory Research
NRC

Delbert F. Bunch, Chief, Accident Analysis Branch, Nuclear Reactor Regulation,
NRC

R. Wayne Houston, Chief, Emergency Planning Branch, Nuclear Reactor Regulation,
NRC

Legal Consultants Acquired by the Task Force

Joseph Scinto, Office of the Executive Legal Director, NRC

Royal J. Voegeli, Office of the Executive Legal Director, NRC

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 11, 1977

SECY-77-426

INFORMATION REPORT

For: The Commissioners

From: Robert G. Ryan, Director
Office of State Programs

Thru: Executive Director for Operations *TR*

Subject: ANALYSIS OF COMMENTS RECEIVED ON NUREG-0195,
"IMPROVING REGULATORY EFFECTIVENESS IN
FEDERAL/STATE SITING ACTIONS"

Purpose: To inform the Commission of the status of
comments received on the subject report
since its formal release in June, and to
provide information useful in making
judgments on proposed legislation.

Discussion: In October 1976, the Commission directed the
staff to examine the matter of regulatory
activity in environmental decisionmaking
and to suggest what steps could be used to
improve it. The study was assigned to the
Office of State Programs.

A study plan was derived (NUREG-0128 -
Efficiency in Federal/State Siting Actions)
and forwarded to the Governors over the
Chairman's signature. The Office of State
Programs, using the Governors' comments
and support of the National Governors'
Conference, completed the study and made
it available to the Commissioners on May 23, 1977.

On June 10, 1977, the Commission reviewed
the study team report and directed distribution
for comment to State Governors, Federal agencies,
industry and the public. Congressional offices
were provided with copies of the report for
information.

Contact:
Robert G. Ryan, SP
492-8170

*L41
pt. 100
Site Conference*

Discussion:

Requests for comments on the study were made in a series of letters from this agency. Chairman Rowden's letter to the Governors dated June 16, 1977 requested comments from the States. Fifteen States have responded to NRC of which eleven made specific comments on the report. In addition, 3 States have forwarded comments to the National Governors' Conference. All State comments have been summarized in Enclosure "A".

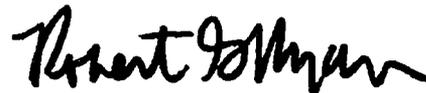
Nine Federal agencies have responded either to Chairman Rowden's letter of June 30, 1977, or to the distribution letter signed by the Director, Office of State Programs dated June 23, 1977. Commerce, Agriculture and EPA have promised comments, others have informally advised us of comments being developed. No specific comments to Chairman Rowden's letter have been received.

No formal responses have been received from any Congressional offices in response to Chairman Rowden's letter of June 29, 1977.

It must be assumed that the information available is still fragmentary, although the summary of State responses in Enclosure "A" may be a fair sampling of expected remarks.

The comments by Federal, industry and the public are summarized in Enclosure "B". Twenty-three contacts have been received to date.

We plan to prepare a summary of comments after September 15 when we judge the majority of States, agencies and other interested parties will have responded. This summary would be available to interested parties for the fall session of Congress.



Robert G. Ryan, Director
Office of State Programs

Enclosures:

1. Enclosure "A"
State Comments
2. Enclosure "B"
Other Comments

DISTRIBUTION:

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Commission Staff Offices
Executive Director for Operations
Secretariat**

ENCLOSURE "A"

Summary of State Comments on NUREG-0195 - Improving Regulatory Effectiveness in Federal/State Siting Actions as of August 9, 1977

States responding to NRC (14)

Virginia, Iowa, South Dakota, Arizona, West Virginia, Louisiana, New York, Hawaii, Georgia, Maine, Wyoming, Connecticut, Ohio and Rhode Island.

States responding to National Governors' Conference (3)
Florida, Ohio and South Carolina

Seven States - Iowa, South Dakota, Arizona, Hawaii, Wyoming, Florida and Ohio endorsed early and open disclosure of plans by utilities. Of these, Ohio was not convinced that inclusion of fossil facilities planning with nuclear was supportable as part of a Federally managed process, but believed that advanced disclosure of planning information on nuclear sites was essential. Florida did not wish to see Federal funding of power planning activities.

Six States - Virginia, Iowa, Arizona, Wyoming, Florida and Ohio supported the concept of State performance of NEPA assessments and some form of delegation to qualified States. Iowa's support was cautious revealing concern over funding and continuity of staff.

Three States - Arizona, Florida and Wyoming made specific reference to site certification by States, separately and in advance of facilities licensing. Ohio preferred an optional system. Iowa saw problems in funding for banked sites out of the present rate base.

Five States - Virginia, Arizona, New York, Maine and Florida made special mention of the importance of State determination of need for power being final and binding on the Federal government.

Seven States - Virginia, Iowa, Arizona, New York, Maine, Wyoming and Florida endorsed the need for improved Federal/State coordination outlined in the report. Iowa and New York was especially supportive of joint proceedings. Maine was interested in a higher degree of Federal coordination in Federal agencies with planning missions. Wyoming was especially interested in the concept of State participation in Federal coordinating councils proposed in the report.

Ten of the eleven States providing some detailed commentary were generally in support of the principal recommendations of the report, especially those features which recognized State and regional diversity.

Finally, South Carolina endorsed the report to the extent of providing a long proposed resolution to the National Governors' Conference for their consideration and forwarding to the Congress. It favors all substantive items listed in Chairman Rowden's letter to the Governor of South Carolina.

Five Governors - West Virginia, Louisiana, Georgia, Connecticut and Rhode Island indicated that their comments would be coming shortly.

ENCLOSURE "B"

Summary of Federal, industry and public comments on NUREG-0195 -
Improving Regulatory Effectiveness in Federal/State Siting Actions

A. Federal Agency Comments (7)

FEA: Mr. O'Leary's letter to the National Governors' Conference supports greater State involvement as proposed by Governor Straub's testimony of June 14, 1977 before the Udall Committee.

Commerce, Agriculture and EPA indicated that the report was under study and comments were forthcoming.

OTA: The Office of Technology Assessment strongly endorsed the regional planning concepts of the report. Regional diversity should be recognized.

HUD: Housing and Urban Development opposes State certification of sites and need for power findings as binding on Federal agencies. In addition, they oppose separation of radiation health and safety from NEPA issues. HUD strongly supports regional planning and agency coordination and would support a system of State signoffs on planning adequacy of power facilities.

BPA: Informal memoranda from BPA saw serious problems in addressing regional issues involving need for power without a strong Federal review.

B. Industry Comments (9)

A number of utility executives have orally commented favorably on the scope of the study recommendations. They tend to favor open and early disclosure, but oppose public interest group participation in early planning outside of established governmental channels.

Bechtel Corporation - Their letter supports State (or regional) approval of plans, State environmental review and certification, pre-certification of sites and improved Federal coordination as proposed in the report. They oppose inclusion of fossil planning with Federal overview and entrance of public interest groups into the early planning process.

Commonwealth Edison (meeting with R.T. Jaske) supports open and advance disclosure of plans, but opposes public participation in the planning process. They support state certification of need for power and of State environmental assessments.

Mississippi Power and Light (letter) supports the five points in Chairman Rowden's letter to the Governors, but opposes public participation in the planning process outside of established agencies.

The Atomic Industrial Forum is studying the report, but believes it a substantive contribution and source study for a wide group of interested parties.

C. Public Comments (7)

Mr. Roisman has publically stated his opposition to any form of NEPA delegation to States.

Mr. Nassikas who served as Chairman of the Need for Power Panel opposes actions by States which would be binding on the Federal Government.

Mr. E.B. Moore of Olympic Engineering Corporation (formerly with State of Minnesota) pleads for clearer Federal understanding of the difference between planning and licensing.

Mr. Kloman of National Academy of Public Administration strongly supports a formal regional planning entity which includes both fossil and nuclear generation.

Others were supportive of the study, but made no special points.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

March 15, 1976

SECY-76-148

INFORMATION REPORT

CO. 15 1976
Wargo
Briefing
scheduled
3/18/76
cancelled

For: The Commissioners
Thru: Executive Director for Operations *Jens*
From: Barrett J. Riordan, Director
Office of Planning and Analysis
Subject: ISSUES OF MAJOR IMPORTANCE TO THE COMMISSION
Purpose: To inform the Commission of major issues.

Discussion: In response to the Commission's request, attached is a list representing the updated Issues of Major Importance to the Commission. The Issues are divided into two areas:

- A. Fuel Cycle Issues
- B. Issues Excluding Fuel Cycle

The list is presented for Commission consideration.

Coordination: This paper has been reviewed with all contributing offices.

Barrett J. Riordan
Barrett J. Riordan, Director
Office of Planning and Analysis

Attachment:
List of Major Issues of
Importance to the
Commission

SECY NOTE: This paper covers information to be discussed at a Briefing scheduled for March 18, 1976.

Contact: H. Bassett
492-7575

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Secretariat

B-19

March 1976

A. FUEL CYCLE ISSUES OF MAJOR IMPORTANCE TO THE COMMISSION

March 1976

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URANIUM MILL TAILINGS

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
7. Assure long-term management of uranium mill tailings.	a. NRDC petition for (1) preparation of generic environmental impact statement on milling; (2) delaying affected mill licenses until EIS has been issued, and (3) regulations by NRC and Agreement States to require bonding for tailings piles maintenance and monitoring after mill shutdown.	Mill tailings exist in large quantities. If not stabilized and maintained, tailings piles are eroded by wind and water, spreading radioactivity. Some tailings piles at closed mills are not adequately stabilized and maintained. If licensing actions are delayed until the EIS is published as NRDC petitions, 11 mills will be affected.	Petition published in FR for public comment. 60-day comment period ended July 14, but was extended to August 28.	Decision on 3 items of NRDC petition.	Bishop FC:WM

(See diagram page 3)

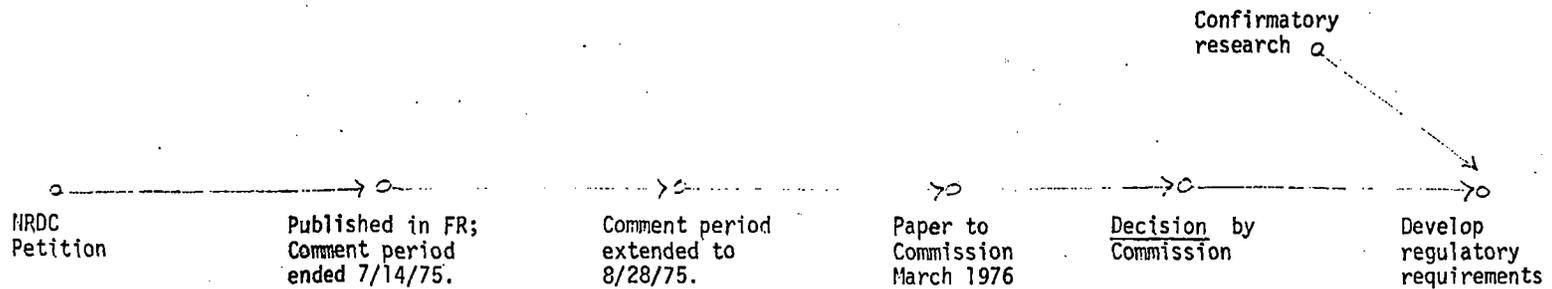
URANIUM MILL TAILINGS

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
1. Mill tailings management (Continued)	b. What requirements should be imposed on uranium mill licensees	Present requirements may not effectively assure that tailings piles at closed mills will be adequately stabilized and maintained.	Issues need to be resolved in connection with anticipated expansion of milling. Completion of ERDA-EPA research program will provide some data on existing tailings piles and post-operation stabilization methods.	Decision on means of long-term care.	Bishop FC:WM
	c. Need for greater regulatory authority to control mill tailings post operation of mills.	At present, NRC does not have regulatory control over mill tailings (because they contain less than 0.05% thorium or uranium, or combinations thereof) after termination of operating license but relies on NEPA authority to establish controls over tailings.	Further research is needed to establish criteria for changes in regulatory requirements.	Decision on need for new statutory authority.	Bishop/ELD FC:WM

(See diagram p. 3)

URANIUM MILL TAILINGS

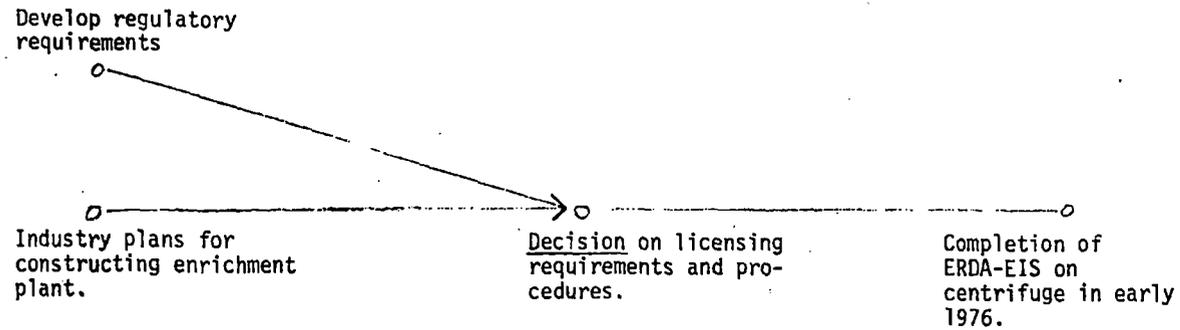
<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
1. Mill tailings management (Continued)	d. Reevaluate role of Agreement States in control of mill tailings.	Presently some Agreement States have laws requiring stabilization of tailing piles. Other Agreement States are considering changes in their State laws requiring stabilization and maintenance of tailing piles.	Depends upon development of new tailings control criteria.	Agreement States role in long-term care.	Bishop/Kerr FC:WM/FC:SA



March 1976

ENRICHMENT

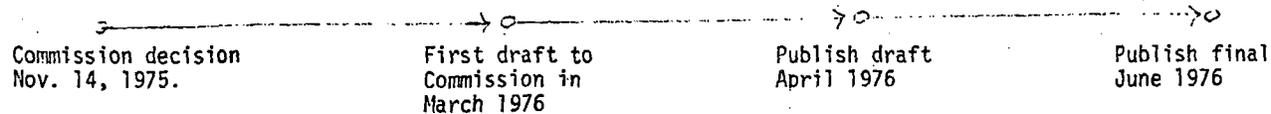
<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
2. Be prepared to license private industry enrichment plants.	Develop regulatory requirements and licensing procedures for enrichment plants.	Private industry applications for enrichment plant license possible in fiscal year 1977.	Policy paper on licensing requirements and procedures being prepared.	Decision on direction to take in licensing enrichment facilities.	Nixon FC:PF



March 1976

PLUTONIUM RECYCLE

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
3. Establish interim Safeguards rules for the interim use of PU in the LWR MOX fuel cycle.	<p>a. What regulatory approach should be adopted?</p> <p>b. What should be the scope of material and facilities coverage of the interim rules?</p> <p>c. What are the NRC implementation implications of the interim rules?</p> <p>d. How will the interim rules relate to the widescale recycle rules so that there is no foreclosure of Safeguards alternatives?</p> <p>e. What are the industrial and societal impacts of the interim rules?</p>	To provide the opportunity to plan for the recycle of Pu while knowing what are adequate Safeguards.	Nov. 14, FRN stated draft rules would be published in early 1976, final rules in mid-1976.	Decision on proposed draft interim rules.	Eisenstein NMSS:SG



PLUTONIUM RECYCLE

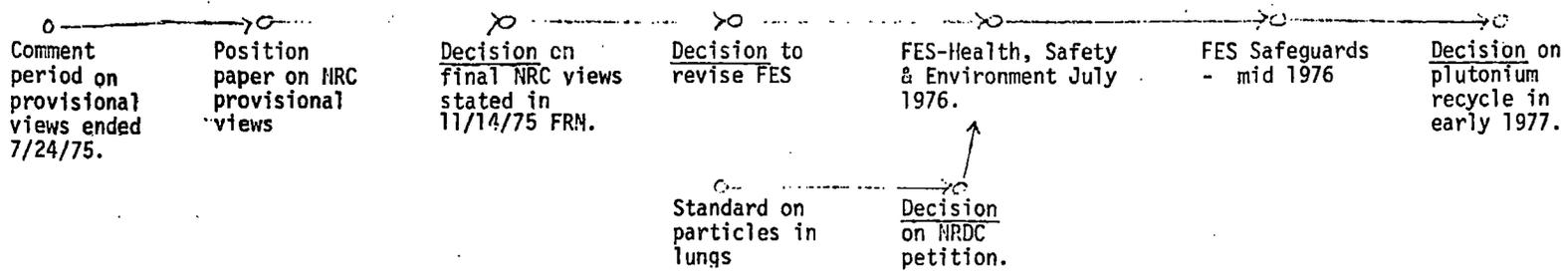
<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
4. Commission decision on NRDC petition on "Hot Particles".	Standard related to radioactive particles in lungs (NRDC petition). SECY-R-74-252)	Decision has an important bearing on safety standards applied to plutonium.		Decision on NRDC petition pending before Commission (SECY-75-447) August 14, 1975	Mattson/Lowenberg SD/FC:PD
5. Final Environmental Statement on plutonium recycle in LWR fuels	a. FES revision to reflect projections of low growth of nuclear power and no breeder with other cases considered parametrically. b. With delay for revisions it may be desirable to combine the health, safety and environmental FES and the safeguards supplement FES into a single report.		Public commitment to issue FES early in 1976. Battelle Northwest computer programs being revised and rerun to forecast environmental effects, cost/benefit ratios, sensitivity analyses and material flows. BNWL's computer output data needed before revisions can be made.	Approval of plan to revise FES before publication	Lowenberg, FC:PD

(See diagram page 7)

MAR 1976

PLUTONIUM RECYCLE

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
6. Final Commission decision on use of mixed-oxide fuel.	<ul style="list-style-type: none"> a. Rules concerning health, safety & environment for widescale use of recycled plutonium. b. Rules concerning safeguards for widescale use of recycled plutonium. c. Public hearings (legislative). d. Need for adjudicatory hearings. 	Industry needs to know decision as soon as practicable for planning purposes.	Dates refer to time of FES publication: <ul style="list-style-type: none"> a. Early 1976 b. Mid 1976 c. Mid 1976 d. Mid to late 1976 	Decision to allow or prohibit recycle of plutonium in mixed oxide fuel for LWR's.	Lowenberg/ FC:PD



Comment: Interrelationship between "Hot Particle" petition decision & plutonium recycle decision.

March 1976

ALARA

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
7. Determine ALARA values for fuel cycle.	ALARA rules for releases or radioactive materials in effluents from fuel cycle plants.	Cost effective ALARA values needed for plant design and operation (taking into account the state of technology and equipment costs).	Completion of contract studies of radioactivity reduction processes, costs and doses.	Decision on issuance of amendments or technical reports for public comment. Paper to Commission being circulated for concurrence which recommends issuance of technical reports in lieu of rule changes at this time for re-processing plants, UO ₂ enriched fuel fabrication plants, mixed oxide fabrication plants and uranium mills.	Steyer, SD/ Kastner, SD

○—————→○

Contract studies. Decision on rule change in FY 1976.

TRANSPORTATION

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
Define NRC's mutual responsibilities with DOT and ERDA.	a. Revise Memorandum of Understanding between NRC and DOT to reflect recent changes in each agency and define respective roles of NRC and DOT. b. Define relationship between ERDA, NRC and DOT.	Need to prevent overlap between NRC and DOT and ensure loopholes do not exist in present review, inspection, and enforcement programs. Need to define ERDA role as an NRC license exempt agency.	Ready for Commission consideration in May 1976.	Decision on revised Memorandum of Understanding between NRC, ERDA & DOT.	Schwartz, I. Nussbaumer, NMSS:MF

Update Memo of Understanding with DOT April 1976.

Ready for Decision May 1976.

TRANSPORTATION

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
• Certify to JCAE that safe containers have been developed for air shipment of plutonium.	a. Define design criteria. b. Test & evaluate. c. Verification of design criteria & containers.	Public Law (PL 94-79) prohibits shipment of plutonium by air, with some exceptions, until a safe container has been developed.	a. Draft of criteria - March 1976. b. Test containers - July 1976. c. Evaluate test results & test criteria - July 1976. d. Certify containers - August 1976.	Decision on certification to JCAE.	Nussbaumer NMSS:FC



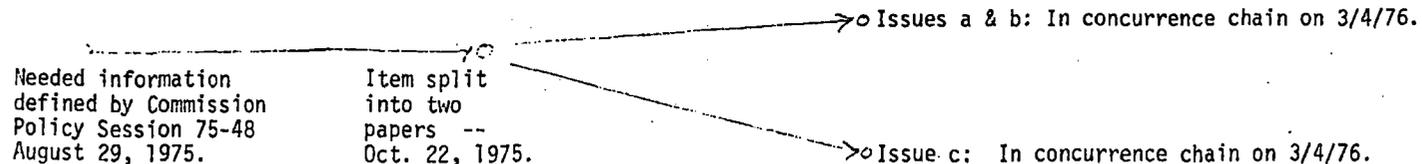
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SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
18. Review procedures for physical security of SNM in transit.	a. Protection of transient shipments coming to the U.S.	Information required by Commission at Policy Session 75-48 on August 29, 1975	Decision paper to Commission October 22.	Decision on Issues	Eisenstein NMSS:SG
	b. "Gaps" in protection prior to transfer of export/import shipments.				
	c. Possible licensing of freight forwarders.				

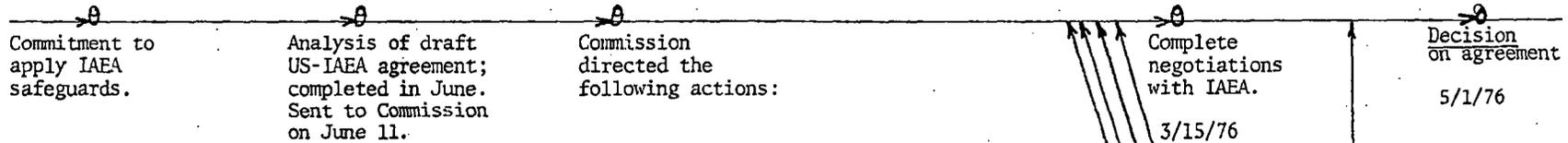
Comments: Paper was delayed beyond October 22, 1975 owing to the complexity of the questions. Issues a and b are covered in a paper in the concurrence chain as of March 4, 1976. Issue c will be covered in a paper to be completed before April 1, 1976.



March 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
19. Conclude US-IAEA Safeguards Agreement	Analysis of draft agreement at Commission direction.	Presidents (3) have offered to place U. S. civilian nuclear activities under IAEA safeguards when NPT agreements are implemented in other industrialized nations.	Commission briefed on June 19.	Decision on recommendations of analysis. Decision on US-IAEA Agreement when negotiations by US Mission are completed.	Eisenstein NMSS:SG



Comment:

Determine implications to US/IAEA safeguards agreements of decision of Japanese Diet to postpone vote on notification of NPT. Done July 8.

Develop interagency agreement for implementing US/IAEA agreement. Discussed with Dept. of State, ACDA, and ERDA July 8. Will complete by April 15, 1976.

Arrange a small industry meeting to allow licensees to comment on proposed provisions of the agreement. Meeting held August 20.

Revise wording of the agreement to assure that mutual determination by IAEA and US that IAEA procedures are not discriminatory toward facilities that are similarly situated. Completed July 8.

Information paper on these four items sent to Commission July 29, 1975.

March 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
14. To review and evaluate indicated significant inventory anomalies at NFS-Erwin in relation to material control procedures.	A scheduled inventory of nuclear material which began on 27 October 1975, indicated that more high-enriched uranium was found in the production plant at the facility than was shown on the records.	Material control procedures must be evaluated to insure that unauthorized access to or acquisition of nuclear materials is being prevented.	The initial draft report is due to Director NMSS by February 15.	Decide on any recommendations forwarded by Director NMSS.	Page SG

Visit
NFS-Erwin
Jan 12-15

Visit B&W
Apollo & Parks
Township PA
for comparison
purposes.
Jan 27-29

Prepare initial draft
report. Feb 15.

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
15. Inventory discrepancy (MUF) limits (10 CFR 70)	Rule to require re-inventory of SNM whenever LEMUF is exceeded by a stated percentage.	Minor impact on practice; provides regulatory rule basis for enforcement.	Proposed rule change published in Federal Register on July 17, 1975. Public comment period expired on September 15, 1975.	Consider publication of rule in effective form. Rule in draft and leaving SD for final office concurrences in 2/76.	Solem, SD

●—————→●—————→○
Rule change by the Commission for publication in FR May 30, 1975.

Proposed rule change on reinventory of SNM published in Federal Register on July 17, 1975

Decision on rule change.

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
16. Evaluate existing material control and accounting requirements for safeguarding SNM. (specifically LEU)	Whether present MUF and LENUF accounting requirements contained in 10 CFR 70 are cost effective.	Major Program Review.	Analyze present requirements by April 1, 1976. Staff paper to Commission proposing amendments to regulations, standards or procedures by June 15, 1976.	Approval of staff recommendations.	Eisenstein NMSS:SG
	Complete Staff analysis February 15, 1976.		Approval of staff recommendations June 15, 1976.		

March 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
17. To obtain better nuclear materials information for NRC.	Office of Policy Evaluation has identified short-falls in the NRC nuclear materials information system.	Resolution of future issues such as GESMO and safeguards could influence information needs.	Decisions must be made that will influence the FY '78 budget preparations.	Decide on any recommendations for major new reporting requirements.	Thayer SG
Identify the information now available against current needs.		Briefed Commissioners on the present Nuclear Materials Information (NMIS) system. December 1975	Staff studies for future requirements Spring 1976	Briefing on proposed system Summer 1976	Decide on recommendations. Fall 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
1. Define those categories of sensitive safeguards information that should be withheld and study means to accomplish.	<p>The Commission recommended to the NSC that:</p> <ul style="list-style-type: none">a. inventory discrepancy data be classified for a six month period.b. certain sensitive safeguards information (fuel cycle facility physical protection plans) be classified.c. further study is needed on how to protect LWR security plans.d. the Executive Branch reexamine the question of EO 11652 covering the classification of information generated by third parties.	<p>Prompt action will be required as soon as a directive is received from NSC relative to implementing the Commission's recommendations.</p>	<p>Implementation of classification program as soon as possible after receipt of NSC directive.</p>	<p>Decision on staff recommendations relative to implementing the NSC Directive.</p>	<p>Classification program: NWSS/SG - McCorkle Admin/Sec. - Brady Study LWR Question: PLA - Riordan</p>
			<p>Commission recommendations to NSC on 12/19/75.</p>	<p>Commission advised (Jan. 1976) of scope of required actions if NSC accepts recommendations.</p>	<p>Planning in progress awaiting NSC response.</p>

March 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
11. Evaluate effectiveness of Safeguards at Licensee facilities having 5000 formula grams of HEU or PU	a. Can in place safeguards prevent the theft of more than 5 formula kgs of SNM by an employee?	Determine effectiveness of safeguards against a defined threat and indentify needed improvement.	This step in the evaluative process should be completed as soon as possible.	Decide on any recommendations forwarded by Director NMSS	Brightsen SG
	b. Are present safeguards sufficient to prevent the theft of more than 5 formula kgs of SNM by a well planned assault by three persons (one of whom may be an employee in collusion)?				
	Site visits begun 2/9/76.	70 Site visits completed 4/25/76.	70 Individual site evaluations and actions & continuing process during entire period.	Completed action and report to Commission.	

March 1976

SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
40. Strengthen safeguards for protection of SNM from theft or sabotage.	Should NRC regulations require licensee guards to take positive delaying action, including the use of firearms, to protect SNM?	Provides additional protection against theft or sabotage of SNM. Clarifies intent of regulation.	Paper has been prepared and transmitted to EDO on September 23.	Approval of letter to licensees concerning actions of on site guards.	Eisenstein SG

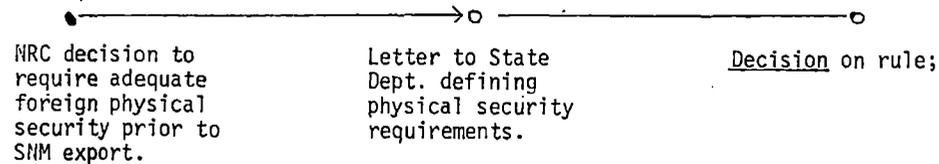
Need to clarify intent of existing regulation concerning actions of guards in protecting SNM. SECY-75-226 dated May 15, 1975.

Approval of letter to licensees in October.

Action complete. Letter sent to licensees November 17, 1975. However, Commission requested analysis of licensees' responses before April 5, 1976.

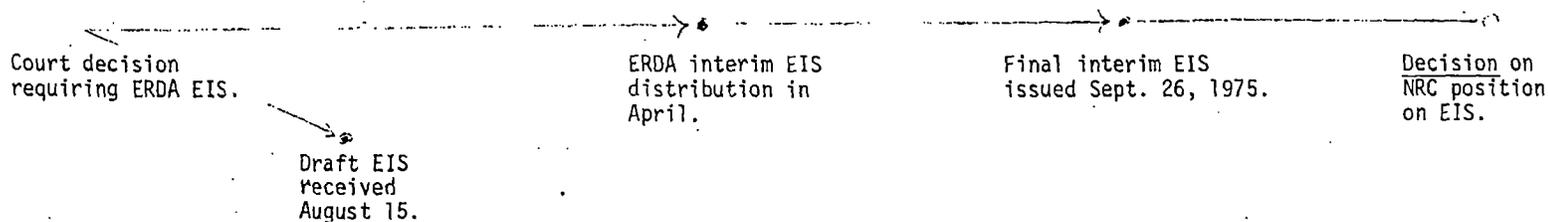
SAFEGUARDS ISSUES EXCLUDING GESMO

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
21. Establish criteria to serve as the basis for supporting export license applications involving more than 2 kgs of Pu or U-233 or more than 5 kgs of U-235 enriched to 20% or more by weight.	Require adequate physical security, as defined by the NRC Exec. Branch by foreign countries prior to issuance of export license for significant quantities of SNM.	Implementation of National Security Council decision to require, prior to commitment to supply significant quantity of SNM to another country, that country must agree to provide adequate physical security.	Types of information to be used by Exec. Branch must be provided by NRC before rule change is ready for consideration. Consideration being given to inclusion in rulemaking of broader scope.	Approval of State Dept. letter on security requirements. Decision on proposed rule change for public comment.	Becker, ELD



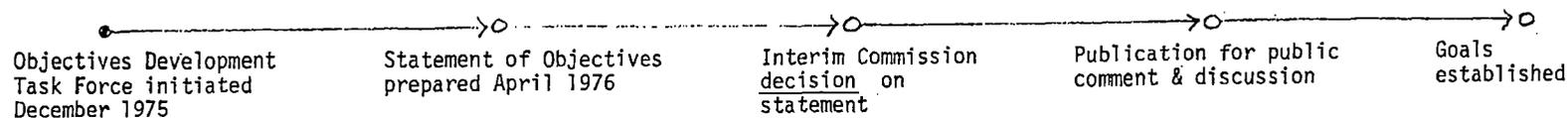
EXPORT PROGRAM ISSUES

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
22. Clarify environmental and safeguards requirements for export program.	a. LWR export program environmental impact statement.	Court Decision requires ERDA to have final EIS by August 3, 1975. Continuation of export of LWR program depends on results of EIS.	Draft interim EIS distributed in April. Final interim statement issued Sept. 26, 1975.	Establish NRC position on ERDA's programmatic EIS. Action paper SECY-75-604 (10-14-75) and SECY-75-604A (12-19-75)	Nussbaumer/Ke FC:SA

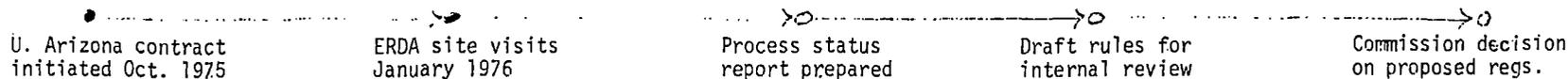


WASTE MANAGEMENT

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
23. a. Develop long term waste management goals.	Acceptable performance goals (technical, social, environmental) for ERDA & industry waste management programs.	Necessary to establish planning base for ERDA & industry.	Long term project. Initial task group effort to be completed by Apr. 1976.	Interim decisions on proposed goals.	Bishop FC:WM



b. Develop solidification criteria for high level wastes.	Acceptable form to packaging requirements for high-level wastes shipped to a federal repository.	Necessary for ERDA & Industry guidance in handling wastes from fuel reprocessing.	Proposed criteria ready for publication by Jan. 1977.	Decision on publication of proposed criteria for public comment.	Bishop FC:WM
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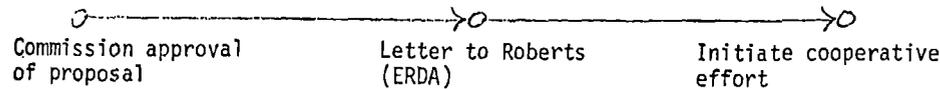


WASTE MANAGEMENT

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
13. c. Obtain Commission approval on broad NRC waste mgt. program	a. Active vs. passive role for NRC b. Preparation of GEIS	Prompt decision essential to entire waste management effort.	Decision essential for program direction.	Decision on recommendations in SECY-75-526.	Bishop FC:WM



d. Implement coordination plan with ERDA on EIS.	To what extent is inter-agency cooperation compatible with maintaining independent NRC regulatory view.	Some form of cooperation needed to minimize duplication of effort between agencies.	Proposal went to Commission in February 1976.	Decision on procedure for cooperative effort.	Bishop FC:WM
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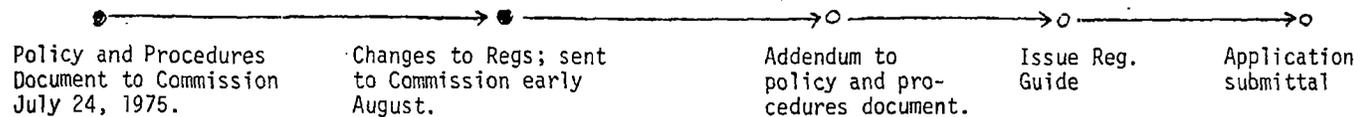


March 1976

B. MAJOR ISSUES EXCLUDING FUEL CYCLE

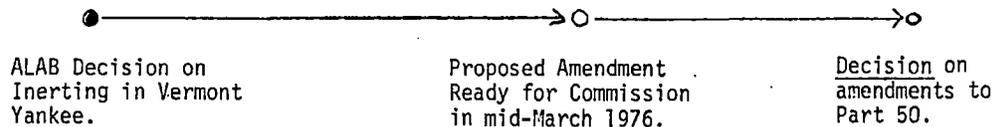
REACTOR LICENSING REQUIREMENTS

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
24. Develop an early site review.	Adoption of a policy and procedure document in the absence of requested legislation.	Interest has been expressed by industry. Will emphasize the opportunity for staff review of sites for plants which have been deferred or delayed because of financing problems and other new sites.	Two applications (Wood and Haven) have now been submitted. Other utilities are considering this approach. Meetings with Commission on August 6 and on Oct. 21 raised questions on the proposed policy and procedure document. Addendum to the paper was issued on Sept. 30, 1975. New Commission paper was submitted in late February.	Decisions on: Policy and procedures document; and proposed reg. changes. Reg. charges to Commission.	Boyd, RL Haass, RL Shapar, ELD
		Several states and regions have authorized siting organizations.		Regulatory guide on format and content; issue when interim early site review regulations are issued in effective form.	Roberts, SD



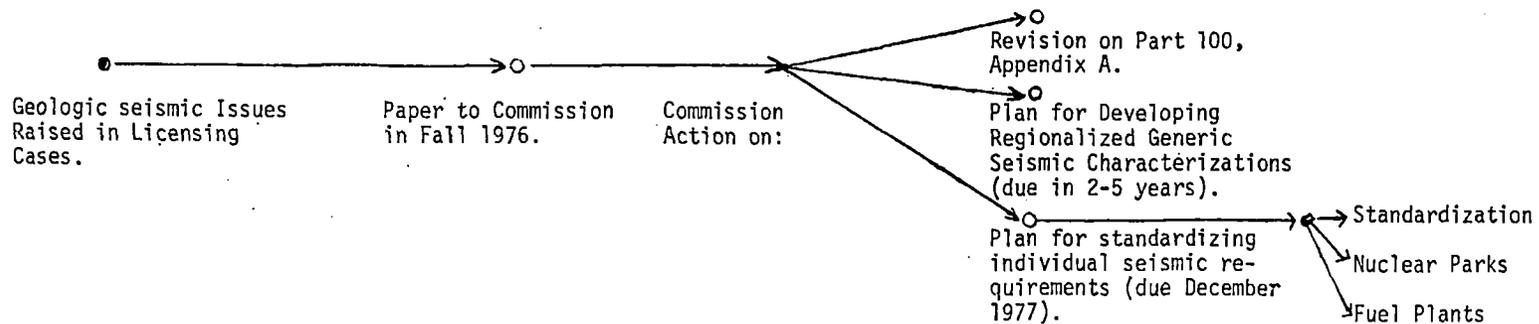
REACTOR LICENSING REQUIREMENTS

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
25. Refine reactor operating requirements.	Regulations establishing requirements on inerting of containment.	Appeal Board decision in Vermont Yankee case indicated need to clarify requirements.	Proposed amendment ready for consideration mid-March 1976.	Decision on proposed amendments to Part 50.	Weiss, SD/ Shapar, ELD



REACTOR LICENSING REQUIREMENTS

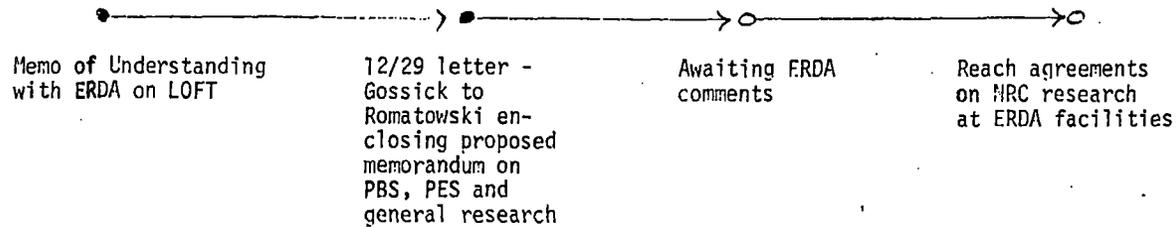
<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
26. Clarify reactor seismic design requirements.	Interpretation of Part 100, Appendix A requirements.	Integrity of systems important to safety and optimal return to operation without undue conservatism. Several licensing actions being delayed due to interventions involving staff interpretation of Appendix A. One petition to clarify Appendix A has been docketed.	Issue in current licensing cases. SD will submit a policy paper to the Commission on this issue in Fall 1976.	Consider plan for developing regionalized generic geologic seismic characterizations. Consider plan for fixing sections of Appendix A that are subject to interpretation.	Roberts, SD



REACTOR RESEARCH

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
27. Approve the methods by which NRC will control general research and technical assistance programs.	The extent to which NRC will have technical direction of contract efforts.	To assure the independence and objectives of information developed within NRC programs.	Differences with ERDA are under negotiation.	None, assuming provisions parallel to the LOFT memorandum.	Kouts, RES/ Gossick, EDO

EDO has provided NRC language to ERDA on memorandum covering PBF, PFE, general research, and technical assistance.



REACTOR RESEARCH

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
28. Determine scope and direction of research program.	Review of recommendations of American Physical Society report on reactor safety as they may affect the safety research program.	APS has recommended expansion of the RSR program. In response to these recommendations, the FY 1977 proposed program has been expanded in the areas of concern to APS. Partial implementation in FY 77 Budget.	Development of FY 1978 budget recommendations.	Decision on whether to implement additional parts of the recommended program.	Kouts, RES

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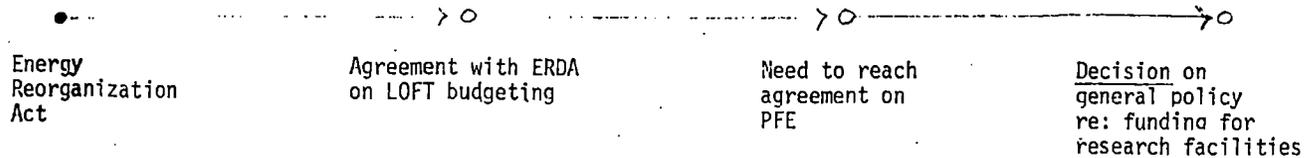
Publication of
ATS Report on
reactor safety
4-28-75.

Partial implementation
in FY '77 Budget

Decision on staff
recommendations
re: further
implementation

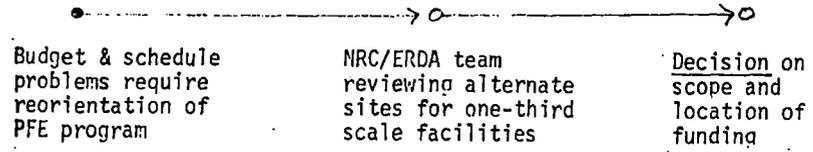
REACTOR RESEARCH

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
29. Determine how major facilities needed for the conduct of NRC research programs are to be funded.	The Energy Reorganization Act specified that NRC will not build its own research facilities; however, the Act does not specify how such facilities should be budgeted. ERDA has budgeted to complete the LOFT facility but has indicated reluctance to assume this role in general.	The immediate importance is related to the need for PFE funding in FY 1978.	Fiscal 1978 budget cycle.	Resolution of this problem will require discussions between the NRC Chairman and the ERDA Administrator.	Kouts, RES



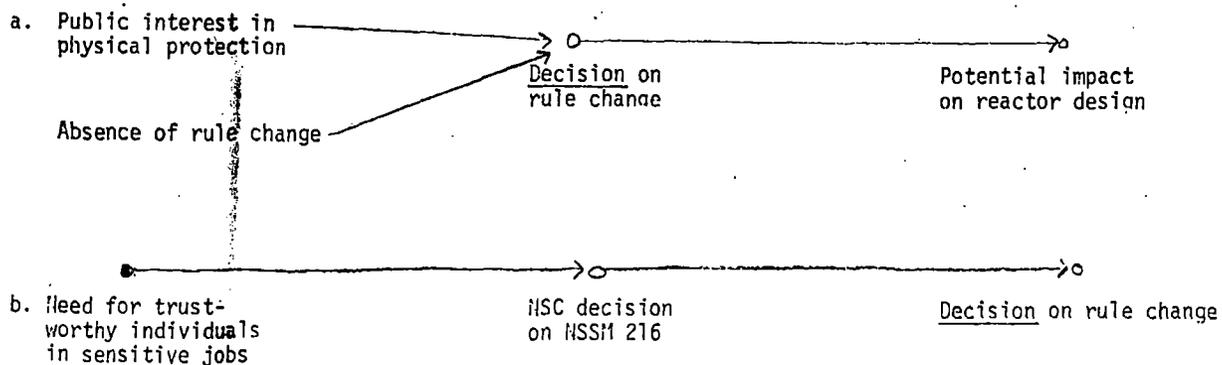
REACTOR RESEARCH

<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
30. Institute modified PFE program.	Need to achieve balance between completeness and timeliness of research results.	Information from the PFE program is needed to support the ECCS rule. Furthermore, PFE is a very costly program.	The PFE program should be reoriented during this fiscal year.	Review options and adopt policy for future conduct of program.	Kouts, RES



REACTOR SAFEGUARDS

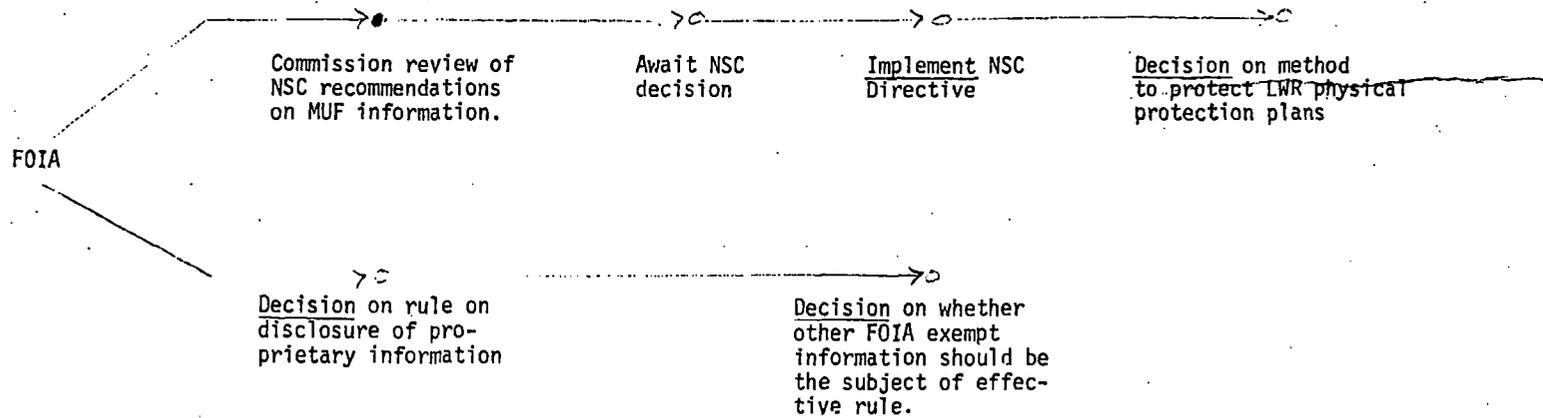
<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
31. Improved reactor safeguards.	a. Rule significantly strengthening requirements for physical protection of nuclear power reactors against industrial sabotage.	High level of public interest on issue. No present detailed regulation for physical protection.	Proposed rule change published for comment; effective rule ready for Commission in March 1976.	Decision on Effective Rule Change.	Jones, SD
	b. NRC clearance of personnel for access to special nuclear material	Necessary to require industry to limit sensitive jobs to trustworthy individuals.	Proposed rule change ready for Commission in April 1976.	Decision on proposed rule change for public comment.	Costanzi, SD



DISCLOSURE OF INFORMATION IN THE PUBLIC INTEREST

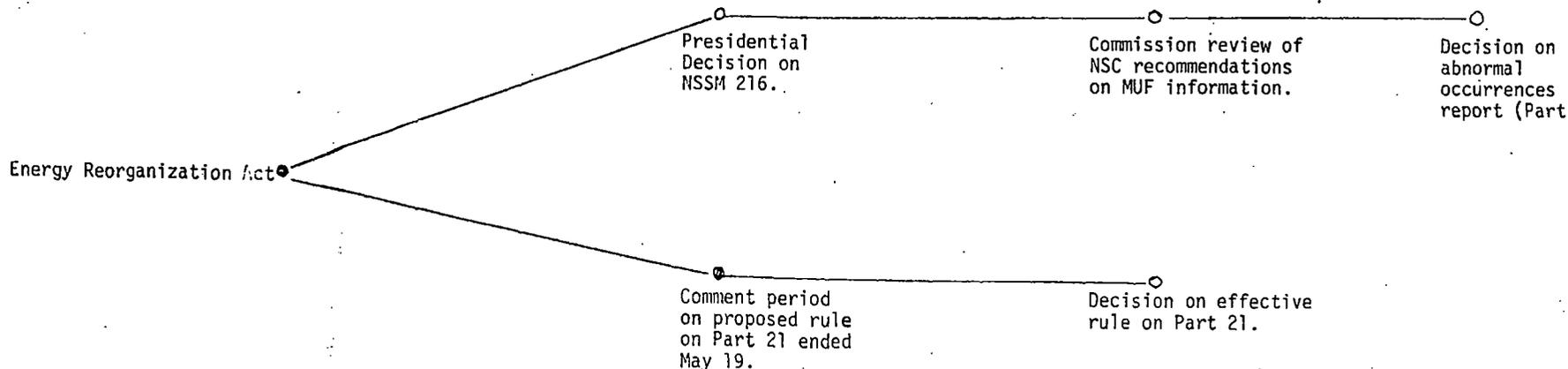
<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
32. Develop policy on disclosure of information in the public interest.	a. Withholding sensitive safeguards information from the public.	Release of safeguards details potentially reduces system effectiveness. Freedom of Information Act amendments impacts decision.	Depends on administration decision on NRC recommendations (NSSM 216) submitted to NSC. Recommendations on protection of LWR physical protection plans ready for Commission end of March.	Implement NSC Directive Decision on method to protect LWR physical protection plans.	McCorkle, NM Brady, ADM Fowler, PLA
	b. Amendment of Part 2 pertaining to disclosure of proprietary information	NRC may be subject to challenge of determination to withhold proprietary information received from licensees and others; Freedom of Information Act amendments impose sanctions on improper withholding of such information.	Vulnerability to challenge indicates need for action to define NRC position for public and staff. Comment period ended February 20. Policy paper was presented February 1976.	Approval of effective rule.	Becker, ELD/ Maynard, ELD

32. Disclosure of Information (Cont'd.)



ADMINISTRATION & MANAGEMENT

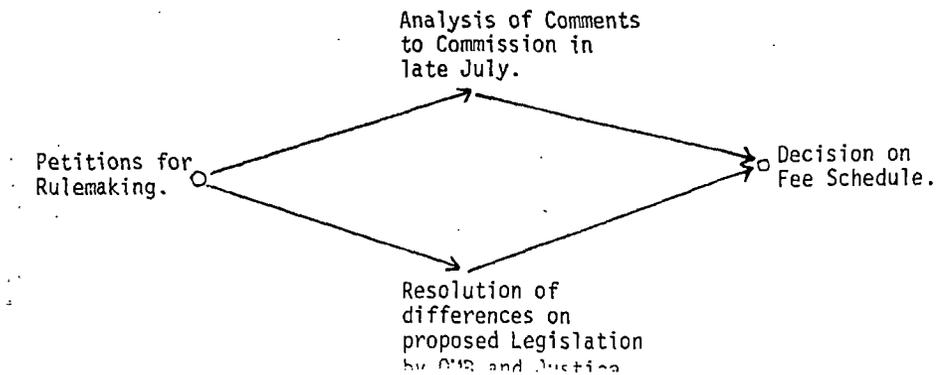
<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
33. Implementation of Energy Reorganization Act.	a. Reporting abnormal occurrences (proposed Part 22). (Also applies to fuel cycle.)	NRC regulations must be updated promptly to meet requirements of Energy Reorganization Act.	MIPC report submitted to Commission in July.	Decision on MIPC report on Part 22.	McDonald, MIP Becker, ELD
	b. Reporting defects (proposed Part 21).	NRC regulation must be issued promptly to meet requirements of Energy Reorganization Act.	Briefing of Commission on June 18, 1975. Commission requested additional information. Paper sent to Commission Feb. 1976. Briefing date to be set.	Determine which alternate proposals are to be implemented in major areas.	Campbell, SD Becker, ELD



ADMINISTRATION & MANAGEMENT

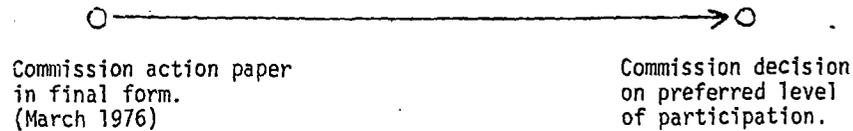
<u>Objective</u>	<u>Issue</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
34. Revised schedule of license fees.	Rule revising schedule. (Petitions for rulemaking are pending.)	Fee formula has budgetary significance and is requested by OMB. Must meet test of recent Supreme Court decisions; could subject NRC to court action.	Budget Projections for FY 75 assumed new schedule would be in effect. Staff discussed issues raised at March 11 briefing and presented new proposed schedule in late July with analysis of comments received. Proposed legislation currently under informal review by OMB and Justice.	Decision on fee schedule.	Donoghue, A Miller, ADM

Comment:



ADMINISTRATION & MANAGEMENT

<u>Objective</u>	<u>Issues</u>	<u>Importance</u>	<u>Time Constraints</u>	<u>Commission Action Required</u>	<u>Responsible Individual</u>
35. Determine NRC participation in IAEA reactor safety missions & technical assistance assignments to developing countries.	Should NRC participate in all missions and assignments to which we are invited or in selected activities? How should manpower, safety responsibility, potential liability, and foreign policy considerations be balanced?	Need to define NRC interests with IAEA and other U.S. agencies involved in IAEA activities.	Ready for Commission consideration in March 1976.	Decision on NRC participation.	LaFleur, I



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 19, 1977

SECY-77-548

INFORMATION REPORT

For: The Commissioners
From: Lee V. Gossick
Executive Director for Operations
Subject: ISSUES OF MAJOR IMPORTANCE

Discussion: The Issues of Major Importance report has been compiled at the request of Commissioner Kennedy. Its purpose is to show specific actions which are to be completed by the NRC offices during the next three months. The activities would be for information, consent or action by the Commission. It is hoped that this information would assist the Commission in its near term planning.

The IMI report is a joint effort of the offices of PLA and MIPC. Its primary source is MBO objectives. Secondary sources are the WITS (Work Item Tracking System) Report prepared by the EDO staff and general knowledge of new matters of concern to NRC. IMI provides the status of all items in the selected timeframe (3 months). The IMI system is capable of sorting the selected information according to due date, responsible office or individual objective or type of Commission action required.

IMI is not intended to be a comprehensive identification of all items that will come before the Commission in a particular timeframe. It is not meant to give a complete view of our MBO efforts; that information is provided in the PAR Book. The MBO Program with all its objectives, tasks and milestones, is brought up to date monthly and published by MIPC. The IMI monthly report shows commitments made by the program and staff offices.

Currently there are a number of efforts underway to identify items requiring Commission attention. There appears to be

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J. Rakowski, PLA
xt. 27721

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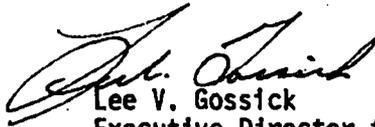
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The Commissioners

- 2 -

some overlap between IMI, WITS, and the Secretariat's monthly calendar of Commission Activities. Our ultimate goal is to develop a single coordinated system which can serve as a planning tool and will allow the Commission to review a subject or issue in its entirety rather than in a fragmented or piecemeal fashion.



Lee V. Gossick
Executive Director for Operations

Enclosure:
Issues of Major Importance

DISTRIBUTION:
Commissioners
Commission Staff Offices
Exec. Dir. for Operations
Secy

ISSUES OF MAJOR IMPORTANCE

DATE AS OF SEPTEMBER 15, 1977

TASK / MILESTONE

RESPONSIBLE OFFICE
INDIVIDUAL

COMMISSION ACTION

SCHEDULE

Objective DEVELOP A PROGRAM FOR LICENSING AND REGULATORY CONTROL OF NUCLEAR WASTE MANAGEMENT FACILITIES

Task PREPARE GENERIC ENVIRONMENTAL
IMPACT STATEMENT (GEIS) FOR THE URANIUM MILL TAILINGS

Milestone ISSUE FINAL URANIUM MILL TAILINGS
TASK FORCE REPORT (NMSS/ANL)

NMSS
P. PAGNE

INFORMATION

09/30/77

STATUS TASK FORCE EFFORT AND ANL CONTRACT HAVE BEEN EXTENDED TO 3/31/78.

Task REPORT TO COMMISSION ON STATUS OF ALL ONGOING MILESTONES
(NMSS)

Milestone STATUS REPORT

NMSS
W. BISHOP

INFORMATION

12/15/77

Task MILESTONES RECOMMENDED FOR INCLUSION IN WASTE MANAGEMENT
OBJECTIVE. NMSS CONCURRENCE TO BE REQUESTED.

Milestone REVISE PROGRAM STATEMENT ON WASTE MANAGEMENT

NMSS
W. BISHOP

ACTION

10/17/77

STATUS RECOMMENDED MILESTONE. FINAL REVISIONS NOW BEING MADE BASED ON COMMENTS RECEIVED

9-1219C30

ISSUES OF MAJOR IMPORTANCE

RUN DATE: 10/14/77

DATE AS OF SEPTEMBER 15, 1977

PAGE: 2

TASK / MILESTONE

RESPONSIBLE OFFICE
INDIVIDUAL

COMMISSION ACTION

SCHEDULE

Objective

DEVELOP A PROGRAM FOR LICENSING AND REGULATORY CONTROL OF NUCLEAR WASTE MANAGEMENT FACILITIES

Task

MILESTONES RECOMMENDED FOR INCLUSION IN WASTE MANAGEMENT OBJECTIVE. NMSS CONCURRENCE TO BE REQUESTED.

Milestone

DEVELOP ACTION PLAN FOR LOW LEVEL WASTE MANAGEMENT

NMSS
R. COMMERFANT

ACTION

08/11/77

STATUS COMMISSION DECISION REQUIRED ON SOME RECOMMENDATIONS OF TASK FORCE REPORT

Milestone

CONDUCT S-3 RULE SUPPLEMENT HEARINGS

NMSS
W. BISHOP

INFORMATION

10/01/77

STATUS HEARINGS NOW EXPECTED TO BEGIN 1/9/78.

R-1219030

ISSUES OF MAJOR IMPORTANCE

RUN DATE: 10/14/77

DATE AS OF SEPTEMBER 15, 1977

PAGE: 3

<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/> DEFINE AND IMPLEMENT REQUIREMENTS AND CONTINGENCY PLANS TO PROVIDE CONTINUED ASSURANCE OF APPROPRIATE LEVELS OF CONTROL AND PROTECTION AT REACTORS AND AT FUEL CYCLE FACILITIES HANDLING SNM <hr/>			
UPGRADE SAFEGUARDS FOR STRATEGIC SPECIAL NUCLEAR MATERIAL (SSNM) IN FUEL FACILITIES AND TRANSPORTATION			
PUBLISH AND IMPLEMENT A CLEARANCE RULE FOR PERSONS HAVING ACCESS TO SSNM			
PUBLISH FINAL RULE	SD R. JONES	ACTION	10/15/77
STATUS MAY BE AFFECTED BY PUBLIC HEARING			
PUBLISH AND IMPLEMENT A PERFORMANCE RULE REQUIRING UPGRADED SAFEGUARDS FOR SSNM IN FUEL FACILITIES AND TRANSPORTATION			
RECEIVE PUBLIC COMMENTS	NMSS R. ERICKSON	INFORMATION	09/19/77
STATUS DELAYED DUE TO EXTENSION OF COMMENT PERIOD			

R-1219C30

ISSUES OF MAJOR IMPORTANCE

RUN DATE: 10/14/77

DATE AS OF SEPTEMBER 15, 1977

PAGE: 4

<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/>			
DEFINE AND IMPLEMENT REQUIREMENTS AND CONTINGENCY PLANS TO PROVIDE CONTINUED ASSURANCE OF APPROPRIATE LEVELS OF CONTROL AND PROTECTION AT REACTORS AND AT FUEL CYCLE FACILITIES HANDLING SNM			
<hr/>			
UPGRADE SAFEGUARDS FOR STRATEGIC SPECIAL NUCLEAR MATERIAL (SSNM) IN FUEL FACILITIES AND TRANSPORTATION			
PUBLISH AND IMPLEMENT A PERFORMANCE RULE REQUIRING UPGRADED SAFEGUARDS FOR SSNM IN FUEL FACILITIES AND TRANSPORTATION			
PUBLISH FINAL RULE	NMSS R. ERICKSON	CONSENT	12/19/77
STATUS DELAYED TO DEC. DUE TO EXTENSION OF COMMENTS			
PUBLISH AND IMPLEMENT RULES GOVERNING LICENSEE ACCESS TO CLASSIFIED NATIONAL SECURITY INFORMATION			
PUBLISH PARTS 25 AND 95 FOR COMMENT	SEC R. BRADY	ACTION	11/01/77
STATUS SLIPPED TO NOV. BECAUSE RESOLUTION OF ISSUES BETWEEN MAJOR STAFF OFFICES WAS REQUIRED BEFORE DRAFT RULES COULD BE WRITTEN			

DATE AS OF SEPTEMBER 15, 1977

PAGE: 5

<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>

DEFINE AND IMPLEMENT REQUIREMENTS AND CONTINGENCY PLANS TO PROVIDE CONTINUED ASSURANCE OF APPROPRIATE LEVELS OF CONTROL AND PROTECTION AT REACTORS AND AT FUEL CYCLE FACILITIES HANDLING SNM			

UPGRADE SAFEGUARDS FOR STRATEGIC SPECIAL NUCLEAR MATERIAL (SSNM) IN FUEL FACILITIES AND TRANSPORTATION			
PUBLISH AND IMPLEMENT RULES GOVERNING LICENSEE ACCESS TO CLASSIFIED NATIONAL SECURITY INFORMATION			
RECEIVE PUBLIC COMMENTS	SEC R. BRADY	INFORMATION	12/15/77
STATUS ASSUMES PUBLICATION OF PROPOSED RULE ON SCHEDULE			

IMPLEMENT SELECTED PROGRAMS TO IMPROVE THE QUALITY AND EFFICIENCY OF NRC MANAGEMENT AND DECISION MAKING			

REDUCE PAPERWORK BURDEN OF LICENSEES AND APPLICANTS			
IMPLEMENT A PAPERWORK REDUCTION PROGRAM			
ATTAIN PRESIDENTIAL PAPERWORK REDUCTION GOAL	PLA J. CLARK	INFORMATION	10/21/77
STATUS INFORMATION LETTER WRITTEN FOR COMMISSION ACTION IN PREPARATION PENDING OFFICIAL REQUEST FROM OMB			

TASK / MILESTONE	RESPONSIBLE OFFICE INDIVIDUAL	COMMISSION ACTION	SCHEDULE
----- FURTHER CLARIFY AND STABILIZE THE PROCEDURES AND CRITERIA FOR EXPORT LICENSING -----			
DEVELOP CONSOLIDATED AND CLARIFIED EXPORT REGULATIONS			
IMPLEMENT (PUBLISH) REVISED EXPORT LICENSING REGULATIONS	IP M. GUHIN	CONSENT	10/09/77
----- STATUS WORK IN PROGRESS; HOWEVER, WILL SLIP DUE TO NATURE OF PUBLIC COMMENTS RECEIVED AND NEED FOR FURTHER STAFF REVIEW -----			
DEVELOP IMPROVED LICENSING CRITERIA FOR MINOR QUANTITIES AND CLASSES OF NUCLEAR EXPORTS			
SUBMIT TO COMMISSION ON PROPOSED RULEMAKING ON REVISED CRITERIA	IP M. GUHIN	CONSENT	10/07/77
----- STATUS SUBMISSION TO THE COMMISSION HAS SLIPPED DUE TO DELAY IN RECEIVING EXECUTIVE BRANCH COMMENTS. COMMENTS ARE THREE OUTSTANDING -----			
ISSUE PROPOSED RULEMAKING FOR PUBLIC COMMENT			
----- STATUS CONTINGENT UPON RECEIPT OF DELAYED EXECUTIVE BRANCH COMMENTS	IP M. GUHIN	CONSENT	10/20/77

R-1219C30

ISSUES OF MAJOR IMPORTANCE
DATE AS OF SEPTEMBER 15, 1977

RUN DATE: 10/14/77

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMPRESSION ACTION</u>	<u>SCHEDULE</u>
<hr/> FURTHER CLARIFY AND STABILIZE THE PROCEDURES AND CRITERIA FOR EXPORT LICENSING <hr/>			
DEVELOP IMPROVED LICENSING CRITERIA FOR MINOR QUANTITIES AND CLASSES OF NUCLEAR EXPORTS			
IMPLEMENT (PUBLISH) PROPOSED REVISED CRITERIA IN EXPORT REGULATIONS	IP M. GUHN	CONSENT	12/02/77
<u>STATUS</u> SLIPPAGE DUE TO DELAY IN RECEIVING EXEC. BRANCH COMMENTS			
<hr/> IMPLEMENT ON A TIMELY BASIS THE RECOMMENDATIONS FORMULATED IN THE REPORT ON THE BROWN'S FERRY FIRE <hr/>			
REVISE REVIEWING PROCEDURES AND REEVALUATE LICENSEES FIRE PROTECTION/PREVENTION PROGRAM			
LICENSEES COMPLETE COMPLIANCE WITH SER REQUIREMENTS ON OPERATING REACTORS			
STATUS REPORT	NRR R. FERGUSON	INFORMATION	09/30/77
<u>STATUS</u> REPORT IN NRR CONCURRENCE CHAIN			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/> IMPLEMENT ON A TIMELY BASIS THE RECOMMENDATIONS FORMULATED IN THE REPORT ON THE BROWN'S FERRY FIRE <hr/>			
STANDARDS GUIDELINES AND CRITERIA			
REPORT TO COMMISSION ON STATUS OF ALL ONGOING MILESTONES			
STATUS REPORT	NRR R. FERGUSON	INFORMATION	09/30/77
STATUS SD-ENCLOSURE SUBMITTED TO NRR ON SCHEDULE FOR ENCLOSURE IN OVERALL STATUS REPORT.			
<hr/> DEVELOP AND IMPLEMENT A MORE EFFECTIVE PROGRAM FOR THE SYSTEMATIC EVALUATION OF OPERATING NUCLEAR POWER PLANTS <hr/>			
INITIATE A SYSTEMATIC EVALUATION PROGRAM AND DEVELOP THE PROCESS FOR ITS IMPLEMENTATION			
COMMISSION BRIEFING ON REVISED LIST OF SIGNIFICANT SAFETY ISSUES	NRR E. CASE	CONSENT	10/19/77
STATUS WORK IN PROGRESS. COMMISSION PAPER UNDER REVIEW BY MANAGEMENT			

I S S U E S O F M A J O R I M P O R T A N C E
D A T E A S O F S E P T E M B E R 1 5 , 1 9 7 7

<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
----- I M P L E M E N T S E L E C T E D P R O G R A M S T O I M P R O V E T H E Q U A L I T Y A N D E F F I C I E N C Y O F N R C M A N A G E M E N T A N D D E C I S I O N M A K I N G -----			
COMPLETE VALUE-IMPACT GUIDELINES AND IMPLEMENT THEIR APPLICATION WHEREVER APPROPRIATE			
DRAFT AGENCY-WIDE V-I GUIDELINES			
RECEIVE COMMISSION COMMENTS AND REVISE	PLA J. SULLIVAN	ACTION	10/14/77
<u>STATUS</u> COMMENT RECEIVED, PAPER NOW BEING REVISED.			
DRAFT AGENCY-WIDE V-I GUIDELINES			
REVISED GUIDELINES TO COMMISSION FOR ADOPTION	PLA J. SULLIVAN	ACTION	10/21/77
<u>STATUS</u> PROCEEDING ON SCHEDULE. INCORPORATING COMMENTS RECEIVED FROM COMMISSION.			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/>			
DEVELOP AND IMPLEMENT A COMPREHENSIVE LONG RANGE TRAINING POLICY			
<hr/>			
DEVELOP A PLAN FOR SELECTING AND TRAINING CANDIDATES FOR FUTURE MANAGEMENT POSITIONS WITHIN NRC			
COMMISSION REVIEW OF THE PROPOSED NRC MANUAL CHAPTER DESCRIBING NRC'S EXECUTIVE DEVELOPMENT PROGRAM	ADM R. ALLEN	ACTION	11/15/77
STATUS MANUAL CHAPTER IN FINAL REWRITE. SCHEDULE DELAYED TO NOVEMBER IN ORDER TO COMBINE ISSUANCE WITH TRAINING POLICY.			
<hr/>			
DEVELOP A COMMON SYSTEM FOR PRESENTING NRC OBJECTIVES AND ISSUES OF MAJOR IMPORTANCE			
<hr/>			
SEND PRINT OUT TO COMMISSION USING THE IMI PROGRAM	PLA J. RAKOWSKI	INFORMATION	10/16/77
STATUS DRAFT SENT TO COMMISSION STAFF 9/21/77.			
<hr/>			
COMPLETE EVALUATIONS OF IMI PROGRAM AND REPORT STATUS AND RECOMMENDATIONS TO THE COMMISSION.	PLA W. KIRVAN	INFORMATION	12/30/77
STATUS REPORT WILL BE DEVELOPED AFTER TWO RUNS OF IMI (OCT. - NOV.).			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<u>ANALYZE POWER REACTOR SITING POLICY AND PRACTICE</u>			
SUBMIT POLICY PAPERS ON PROGRAM ELEMENTS ACCIDENT EVALUATION PRACTICE	SO F. ANDERSON	ACTION	10/30/77
<u>STATUS FIRST DRAFT COMPLETE; OUT FOR FIRST ROUND REVIEW.</u>			
<u>DEVELOP NRC POSITION ON PIRG PETITION FOR POPULATION DENSITY</u>			
ISSUE STAFF PAPER TO COMMISSION	SO F. ANDERSON	ACTION	11/01/77
<u>STATUS DRAFT PAPER IS CURRENTLY IN PREPARATION. DIVISION REVIEW COMPLETED 9/27/77.</u>			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<u>NRC POLICY ON REGULATING THE PRACTICE OF NUCLEAR MEDICINE</u>			
DEVELOP NRC POLICY ON REGULATING THE PRACTICE OF NUCLEAR MEDICINE	SD E. PODOLAK	ACTION	11/15/77
<u>STATUS SLIP TO NOV. DUE TO CHANGE IN SCOPE TO INCLUDE TWO PROPOSED RULES. POLICY PAPER BEING CIRCULATED FOR COMMENTS.</u>			
<u>ISSUE A RULE ON COST-BENEFIT ANALYSIS (FOR REDUCTION OF POPULATION DOSE)</u>			
PUBLISH JOINT (NRC/EPA) NOTICE OF INTENT IN FEDERAL REGISTER	SD H. PETERSON	ACTION	11/01/77
<u>STATUS SLIP TO NOV. DUE TO DELAY IN RECEIPT OF EPA COMMENTS AND NEED FOR INTEROFFICE REVIEW.</u>			
<u>PUBLISH AN NRC RULE ON CLEARANCE OF PERSONNEL FOR ACCESS TO SNM</u>			
HOLD HEARING	COM COMMISSION	ACTION	12/30/77
<u>STATUS ESTIMATED DATE. HEARING DATE TO BE SET BY COMMISSION AT TIME OF COMMISSION DECISION ON RECOMMENDATION FOR HEARING.</u>			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/>			
PU PACKAGE CERTIFICATION PROGRAM			
<hr/>			
PU PACKAGE CERTIFICATION TO JCAE	NMSS C. CHAPPELL	ACTION	12/15/77
<u>STATUS</u>	COMMISSION PAPER NOW BEING PREPARED OUTLINING PROPOSED NEW SCHEDULE.		
<hr/>			
SAFEGUARDS CONTINGENCY PLANNING (NMSS/SG)			
<hr/>			
LICENSE APPLICATION EFFECTIVE RULE			
EVALUATE COMMENTS; DRAFT FINAL RULE	NMSS T. CARTER	ACTION	11/15/77
<u>STATUS</u>	COMMENTS HAVE BEEN EVALUATED AND PROPOSED RULE IS BEING REVISED TO ACCOMMODATE COMMENTS.		

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<u>IMPLEMENTATION US/IAEA AGREEMENT</u>			
DEVELOP RULE CHANGE PUBLISH PROPOSED RULE	NMSS P. MORROW	ACTION	10/01/77
<u>STATUS PUBLICATION DATE NOW PLANNED FOR 12/77.</u>			
<u>CONDUCT A COMPREHENSIVE STUDY TO DETERMINE HOW MUCH AND WHAT TYPE OF INSPECTION AND ENFORCEMENT ACTIVITY IS ENOUGH TO PROPERLY ASSIST NRC IN ACCOMPLISHING ITS MISSION.</u>			
APPLICATION OF STATISTICAL SAMPLING REVIEW PROGRAM AND DETERMINE PROGRAM DIRECTIONS.	IE J. LEDOUX	INFORMATION	10/01/77
<u>STATUS STAFF WORK HAS JUST BEGUN TO DETERMINE THE SPECIFIC TASKS AND SCHEDULING TO BE FOLLOWED.</u>			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>

IMPROVE INCIDENT RESPONSE CAPABILITY OF NRC. DEFINE AND IMPLEMENT IMPROVED ORGANIZATION, EQUIPMENT FACILITIES, AND PROCEDURES FOR INCIDENT RESPONSE			

COMMUNICATIONS CAPABILITY			
ESTABLISH COMMUNICATIONS LINKS (INCLUDING SECURE COMMUNICATIONS) NECESSARY FOR INCIDENT RESPONSE.	IE B. WEISS	INFORMATION	10/30/77
<u>STATUS</u> MILESTONE SLIPPED TO 2/25/78. DEPENDENT ON OBTAINING GSA APPROVAL			

COMPLETE THE IMPLEMENTATION OF THE NUCLEAR PLANT RELIABILITY DATA SYSTEM (NPRDS) FOR ALL NUCLEAR POWER PLANT LICENSES BY APENDING THE NRC REGULATIONS			

STAFF AND COMMISSION ACTION COMPLETE	MIPC L. ANDERSON	ACTION	12/15/77
<u>STATUS</u> STAFF IS PROCEEDING WITH PROPOSALS PENDING COMMISSION DIRECTION			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<u>NEW ITEMS FOR CONSIDERATION - NRR</u>			
DEVELOP STAFF PAPER ON STANDARDIZATION OF NUCLEAR POWER PLANTS	NRR R. BOYD	ACTION	11/30/77
<u>STATUS</u> WORKING ON DRAFT AFTER DISCUSSIONS WITH ACRS.			
<u>NEW ITEMS FOR CONSIDERATION - NNSS</u>			
DEVELOP INTEGRATED PROGRAM PLAN FOR SAFEGUARDS	NNSS R. BURNETT	ACTION	10/31/77
<u>STATUS</u> DRAFT OUT FOR REVIEW BY ALL PROGRAM & STAFF OFFICES.			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<u>NEW ITEMS FOR CONSIDERATION - IE</u>			
BRIEF COMMISSION ON ACTION PLAN FOR CHANGING THE ECCS RULE	HRA D. ROSS	INFORMATION	10/31/77
<u>STATUS</u> DRAFT WILL BE READY FOR COMMISSION ON SCHEDULE.			
<u>NEW ITEMS FOR CONSIDERATION - IP</u>			
REVISE INTERNATIONAL STUDY	IP M. GUNIN	ACTION	10/30/77
<u>STATUS</u> DRAFT DUE TO COMMISSION ON 11/15/77.			
EXPCRY STUDY GROUP REPORT ON SAFETY OF FOREIGN NUCLEAR FACILITIES	IP J. SHEA	ACTION	08/15/77
<u>STATUS</u> SLIPPED TO 10/31/77			
IP REVIEW OF SAFETY STUDY	IP J. SHEA	CONSENT	10/30/77
<u>STATUS</u> MAY SLIP			

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<u>TASK / MILESTONE</u>	<u>RESPONSIBLE OFFICE INDIVIDUAL</u>	<u>COMMISSION ACTION</u>	<u>SCHEDULE</u>
<hr/> NEW ITEMS FOR CONSIDERATION - SP <hr/>			
COMPLETE AGREEMENT STATES STUDY REPORT	SP R. RYAN	ACTION	10/01/77
<u>STATUS</u> FIRST DRAFT IS OUT TO STATES FOR COMMENTS.			
<hr/> NEW ITEMS FOR CONSIDERATION - SD <hr/>			
DETERMINE OVERALL NRC POLICY ON DECOMMISSIONING	SD R. BERNERO	ACTION	10/21/77
<u>STATUS</u> DEVELOPING OBJECTIVE AND SCHEDULES			
RECOMMEND CHANGES TO 10 CFR PART 50 APPENDIX E (ACCIDENT EVALUATION)	SD F. ANDERSON	ACTION	10/30/77
<u>STATUS</u> FIRST DRAFT COMPLETE AND OUT FOR FIRST ROUND REVIEW. WILL SLIP.			
PREPARE A RESPONSE TO COMMISSION ON PUBLIC COMMENTS ON PAT DCWN SEARCH PROVISION	SD R. JONES	ACTION	11/21/77
<u>STATUS</u> REQUIREMENTS FOR PAT DCWN SEARCHES NOW BEING REREVIEWED			

Central File

UNITED STATES
NUCLEAR REGULATORY COMMISSION

September 28, 1977 WASHINGTON, D. C. 20555

SECY-77-513

INFORMATION REPORT

For: The Commissioners

From: Robert G. Ryan, Director
Office of State Programs

Thru: *for* Executive Director for Operations

Subject: STATEMENT ON ENERGY FACILITY SITING BY THE
NATIONAL GOVERNORS' ASSOCIATION

Purpose: To transmit an information copy of a unanimous
statement on siting approved by the State
Governors at their annual meeting in Detroit,
Michigan.

Discussion: The enclosed statement, prepared by Governor
Straub's (Oregon) Subcommittee on Energy Facility
Siting, was approved by the Governors September
9, 1977. It reflects the earlier statement
presented to the Commission by Governor Straub
at a meeting on June 13, 1977 and his testimony
before the House Interior and Insular Affairs
Committee on June 14, 1977. It has been widely
distributed by NGA within the Administration
and on the Hill.

Robert G. Ryan
Robert G. Ryan, Director
Office of State Programs

Contact:
Robert T. Jaske, SP
492-7146

Enclosure:
Statement of September 9, 1977

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Coord.

September 9, 1977

STATEMENT ON
ENERGY FACILITY SITING
BY
NATIONAL GOVERNORS' ASSOCIATION

THE PLANNING, TIMING, AND ANALYSIS OF SPECIFIC SITES FOR MAJOR ENERGY FACILITIES IS PRESENTLY UNNECESSARILY BURDENED BY THE LACK OF NATIONAL ENERGY POLICY, BLURRED LINES OF STATE-FEDERAL RESPONSIBILITY, LACK OF NEEDED ADVANCE PLANNING AND INADEQUATE ARRANGEMENTS FOR STATE INPUT, RESULTING IN DELAY AND DUPLICATION OF EFFORT WHICH IMPACT HEAVILY UPON COST, CERTAINTY, AND TIMELY AVAILABILITY OF NEEDED FACILITIES.

THE INCREASINGLY COMPLEX AND LENGTHY PROCESSES INVOLVED IN PLANNING AND SECURING REQUIRED PERMITS AND LICENSES FOR ENERGY FACILITIES NEED NOT AND SHOULD NOT BE TOLERATED. KEY TO THE RESOLUTION OF MANY OF THE PRESENT DIFFICULTIES IS THE ACCEPTANCE BY CONGRESS AND THE ADMINISTRATION OF THE CAPACITY AND RESPONSIBILITY OF STATE GOVERNMENTS. ALSO, A NATIONAL FUELS POLICY IS URGENTLY NEEDED AND SHOULD BE DEVELOPED THROUGH HEARINGS AND EXTENSIVE CONSULTATION WITH STATES.

WE SPECIFICALLY RECOMMEND:

1. THAT STATES INDIVIDUALLY AND THROUGH REGIONAL ARRANGEMENTS BE CLEARLY GIVEN THE RESPONSIBILITY TO FORECAST THE NEED FOR POWER THROUGH A CLEAR AND OPEN PROCESS INVOLVING PUBLIC HEARINGS AND COMMENT, INCORPORATING BROAD CONSERVATION GOALS AND OBJECTIVES. SUCH DETERMINATIONS SHOULD BE BINDING UPON FEDERAL AGENCIES.

2. PRESENT DUPLICATION OF EFFORTS IN MAKING ENVIRONMENTAL REVIEWS MUST BE ELIMINATED. LEGISLATION SHOULD BE ENACTED BY CONGRESS DELEGATING TO INTERESTED STATES THE RESPONSIBILITY FOR MAKING ENVIRONMENTAL ANALYSES OF PROPOSED ENERGY FACILITIES. ENVIRONMENTAL REVIEWS MEETING MINIMUM STANDARDS PRESCRIBED UNDER FEDERAL GUIDELINES, WHICH SHOULD BE DEVELOPED IN CLOSE CONSULTATION WITH STATES, SHOULD THEN BE ACCEPTED BY FEDERAL AGENCIES. THIS ACTION HAS ALREADY BEEN TAKEN IN REGARD TO FEDERALLY ASSISTED HIGHWAY IMPROVEMENTS AND SHOULD BE EXTENDED TO ENERGY FACILITIES.

3. THAT CONGRESS TAKE ACTION TO EXPEDITE AND ENCOURAGE REGIONAL ARRANGEMENTS OF STATES TO ENABLE JOINT PLANNING EFFORTS WITHOUT MANDATING ANY PARTICULAR METHOD. THE PRE-APPROVAL OF INTERSTATE COMPACTS SIMILAR TO THE AUTHORITY CONTAINED IN THE AMENDMENTS TO THE COASTAL ZONE ACT IS ONE MODEL THAT COULD BE UTILIZED. THE IMPOSING OF FEDERALLY MANDATED, REGIONAL ORGANIZATIONAL FORMS WOULD BE NEITHER WISE NOR PRODUCTIVE. THERE IS BROAD EVIDENCE THAT THE STATES CAN UNITE THEIR COMMON INTERESTS IN DEALING WITH ISSUES OF CONCERN TO THEM. IT IS ALSO VITAL THAT THERE BE POLITICAL ACCOUNTABILITY THROUGH THE GOVERNORS.

4. ADEQUATE OPPORTUNITY FOR PUBLIC PARTICIPATION IN FACILITY SITE PLANNING AND SITE ANALYSIS AT AN EARLY STAGE MUST BE FURTHER DEVELOPED. CITIZENS SHOULD NOT HAVE TO ATTEMPT TO INFLUENCE SITE DECISIONS LONG AFTER ALL IMPORTANT DECISIONS HAVE BEEN MADE. THEREFORE, UTILITIES SHOULD DISCLOSE FACILITY PLANS AT THE EARLIEST POSSIBLE TIME AND AN IMPROVED PLANNING PROCESS AT THE STATE AND REGIONAL LEVELS SHOULD PROVIDE, THROUGHOUT THE PROCESS,

EXPANDED WAYS IN WHICH INDIVIDUAL AND GROUP VIEWS AND OPINIONS CAN BE EXPRESSED. WITH IMPROVED CITIZEN ACCESS THROUGHOUT THE PROCESS, RELEVANT ISSUES CAN BE IDENTIFIED AND DEALT WITH ON A TIMELY BASIS. DELAYS RESULTING FROM FRIVOLOUS OBJECTIONS OR A REEXAMINATION OF SETTLED ISSUES MUST BE AVOIDED. RESOLUTION OF BOTH PROCEDURAL AND SUBSTANTIVE QUESTIONS SHOULD BE REQUIRED WITHIN A SPECIFIED TIME, INCLUDING THE RIGHT OF INTERVENTION. FEDERAL FUNDING FOR INTERVENORS SHALL NOT BE PROVIDED UNLESS IT CAN BE SHOWN THAT INDIVIDUALS OR GROUPS OF INDIVIDUALS WILL SUFFER DIRECT AND PERSONAL ADVERSE IMPACT BY THE APPROVAL, CONSTRUCTION AND OPERATION OF AN ENERGY FACILITY AND HAVE A DEMONSTRATED NEED FOR SUCH FUNDING.

5. THAT A SYSTEM OF EARLY SITE REVIEWS INCLUDING REVIEW OF POTENTIAL SITES ON FEDERAL LANDS BE ESTABLISHED. WITH A NATIONAL FUELS POLICY, PROPER PLANNING AUTHORITY VESTED WITH THE STATES, AND WITH STANDARD PLANT DESIGNS IT WOULD BE POSSIBLE TO SEPARATE BASIC GENERIC ISSUES FROM SPECIFIC SITE ANALYSIS. THEREFORE SITE ANALYSIS COULD BE CARRIED FORWARD SEPARATE FROM SPECIFIC FACILITY REVIEW. STATES, AS A PART OF THE PLANNING PROCESS, SHOULD CERTIFY SITES AS TO THEIR COMPATIBILITY WITH LONG-RANGE STATE PLANS. THE DEVELOPMENT OF AN INVENTORY OF SUITABLE SITES FOR ENERGY FACILITIES WOULD SPEED LICENSING PROCEDURES SIGNIFICANTLY.

6. THAT THOSE PLANNING AND SITING PROCESSES REMAINING AT THE FEDERAL LEVEL BE INTEGRATED. THE CREATION OF A FEDERAL DEPARTMENT OF ENERGY CAN HELP CONSIDERABLY IN TIGHTENING FEDERAL SITING ACTIONS. DEVELOPMENT OF A ONE-STOP SITING PROCEDURE, COMMON TO SEVERAL STATES, WOULD BE ADVANTAGEOUS.

AT THE VERY LEAST THE COORDINATION OF FEDERAL EFFORTS UNDER A LEAD AGENCY SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE.

7. THAT GREATER COORDINATION BE ACCOMPLISHED WITH FEDERAL AGENCIES CONCERNING ENERGY FACILITY SITES ON FEDERAL LANDS. LAND MANAGEMENT AGENCY REPRESENTATIVES IN AFFECTED AREAS MUST BE INVOLVED IN THE EVALUATION PROCESS.

8. THAT STATE MANAGEMENT PROCESSES BE STRENGTHENED WHERE APPROPRIATE TO MORE EFFECTIVELY DEAL WITH FACILITY SITE PLANNING AND ANALYSIS. INTEGRATION OF PROCEDURES UNDER A ONE-STOP PROCESS AND GREATER COORDINATION OF ACTIVITIES UNDER MINIMUM STANDARDS CAN BE OF SIGNIFICANT BENEFIT.

9. DEALING WITH WASTE DISPOSAL IS AN IMPORTANT INGREDIENT IN OUR SITING PROCEDURES AND IS IMPERATIVE TO OUR NATIONAL DEFENSE POSTURE. WE MUST HAVE A NATIONAL POLICY FOR DEALING WITH RADIOACTIVE WASTE AND STATES SHOULD HAVE A STRONG INFLUENCE IN THE DEVELOPMENT OF THAT POLICY, WITH THE FEDERAL GOVERNMENT RETAINING AUTHORITY FOR FINAL DECISION.

10. DURING THE INTERIM PERIOD AS THESE POLICIES ARE BEING IMPLEMENTED, EXISTING PROCEDURES SHOULD BE UTILIZED FOR APPLICATIONS IN PROCESS. IN ADDITION, THERE SHOULD BE SUBSTANTIALLY INCREASED JOINT ACTIVITY BETWEEN STATES AND FEDERAL GOVERNMENT, INCLUDING THE COMMON USE OF INFORMATION, JOINT HEARINGS AND OTHER WAYS TO MINIMIZE CURRENT OVERLAPPING ACTIVITIES.

THE NATIONAL GOVERNORS' CONFERENCE FEELS STRONGLY THAT NEEDED IMPROVEMENTS IN FACILITY SITING PROCEDURES CAN BE ACCOMPLISHED WITHOUT FURTHER DELAY. GREATER INVOLVEMENT BY THE STATES CAN EASE MANY OF THE UNNECESSARY CONSTRAINTS NOW SURROUNDING THE COMPLEX AND OFTEN REDUNDANT LAYERS OF SITING REVIEW.

QUICK ACTION AT THE FEDERAL LEVEL CAN RESULT IN BETTER PLANNING, BETTER ANALYSIS, AND THE SAVINGS OF BILLIONS OF DOLLARS FOR THE AMERICAN CITIZEN AND YET PROVIDE THE NEEDED ENERGY FACILITIES IN SUITABLE LOCATIONS.

IN DEVELOPING APPROPRIATE FEDERAL LEGISLATION IMPLEMENTING NEEDED CHANGES IN DEALING WITH FACILITY SITING MATTERS, SUBSTANTIAL PARTICIPATION BY STATES IS ENCOURAGED AND NECESSARY.

* The National Governors' Conference has been changed to the National Governors' Association

October 26, 1977

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SECY-77-560

*Carol Ann Terry
File*

INFORMATION REPORT

For: The Commissioners

From: Robert G. Ryan, Director
Office of State Programs

Thru: *k* Executive Director for Operations *W. J. Jaska*

Subject: ISSUE PAPERS-WHITE HOUSE GOVERNORS'
CONFERENCE ON ENERGY PRODUCTION

Purpose: To transmit the agenda of the White House
Governors' Conference scheduled for
November 3 and 4, 1977, and two issue papers
covering nuclear power and energy facility
siting.

Discussion: The White House and the National Governors'
Association are planning a White House
Conference covering a number of energy
related topics. The principal emphasis is
on finding means to increase energy supply
above and beyond those amounts which might
be achieved from conservation and pricing.
Along with the agenda for the entire
conference, two of the six briefing papers
forming the basis for the discussions are
enclosed.

NRC will shortly receive formal notice of
the meeting and a letter asking for NRC
participation.

Robert G. Ryan

Robert G. Ryan, Director
Office of State Programs

Enclosures:

1. Production Conference Agenda
2. Issue Paper: Energy Facility Siting
3. Issue Paper: Nuclear Power

Contact:

Robert T. Jaska, SP
492-7146

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PROPOSED FORMAT FOR THE ENERGY PRODUCTION CONFERENCE

Thursday, November 3

1:00- Governors meet at NGA headquarters for briefing
2:15 p.m. with NGA staff

2:45 p.m. Governors arrive at Room 450 Old Executive
 Office Building

3:00 p.m. President Carter convenes the Energy Production
 Conference

3:15 p.m. Governors Milliken and Carroll make opening remarks

3:30- Concurrent Roundtable Discussions
6:00 p.m. I. Oil and Natural Gas/Governors Briscoe and Boren
 II. Coal/Governors Rockefeller and Carroll
 III. Nuclear/Governors Thompson and Edwards

6:00- Box supper in Indian Treaty Room
6:45 p.m.

6:45- Concurrent Roundtable Discussions
9:15 p.m. I. Facility Siting/Governor Straub
 II. OSC/Governor DuPont
 III. Renewable Resources/Governors Ariyoshi
 and Perpich

9:15- Recap with Dr. Schlesinger
10:00 p.m.

Friday, November 4

8:00- Coffee and rolls available outside Room 450 EOB
8:30 a.m.

8:30- Governor Carroll reviews format
9:00 a.m.

9:00- Roundtable Reports to the President
10:30 a.m.

10:30- Presidential Comments
11:00 a.m.

11:00 a.m. Governors meet with the Press

Enclosure 1

ENERGY FACILITY SITING

I. STATEMENT OF THE PROBLEM

The current methods of proposing, analyzing and approving major energy facilities and their location have evolved without an overall logical design or integrated process. The procedures have become increasingly and unnecessarily burdened by the lack of: (1) a unified and Congressionally adopted national energy policy, (2) blurred lines of State/Federal responsibility, (3) duplicative regulatory and review activities, and (4) a lack of adequate advance planning for energy requirements.

These and related problems have resulted in inordinate delays in examining and approving needed energy facilities. The duplication of effort and regulatory overlap, now built into our facility siting process, threaten timely energy development. The lengthening lead times, from the first identification of specific energy needs to on-line operation has caused severe economic impacts upon utilities, industry, governmental agencies, and the public.

Present duplication of efforts and other causes of unnecessary delay in achieving timely site and facility reviews and approvals have also increased significantly facility costs. This has had an adverse impact upon the ability and willingness of many consumers to pay for rapidly escalating costs. The recitation of major existing impediments in this issue paper will hopefully lead to a sharpened focus on these actions

Enclosure 2

(legislative and administrative) that can be taken to make the energy facility siting activity responsive, timely, and effective.

II. STATEMENT OF ISSUES

The paper identifies nine significant issues that can be ranked into two priority categories. Items A through F include six issues which require immediate Federal and State attention. Items F through I include three issues, which although significant, are areas which may be assessed at a later date.

A. Planning Issues Related to Siting Questions (Need for Energy)

The basic problem in developing an integrated system of facility site reviews is the absence of clearly defined planning responsibilities and programs. The establishment of an improved public planning process for the determination of needed energy must be accomplished. The delineation of basic planning responsibilities among Federal, State, and regional agencies is a necessary ingredient in minimizing overlapping or voids in review and regulation.

Until recently, energy planning has been primarily an industrial or utility activity with little or no input by government. While historic energy planning has largely been competently done, the increased concern with environmental effects, land use, water quality and use, transportation, economic impacts and others, have demonstrated the need for inclusion of public policy questions into the planning process and for a larger role by States.

The States should be given the clear responsibility to make binding decisions on the amount and type of energy needed. The planning capability of States should realistically include the forecasting of need, risk and uncertainty, and where appropriate, advanced planning should be accomplished in a multi-state regional framework. Information that is utilized for energy planning activities should be shared among governmental levels and with private organizations and individuals.

As a part of the established planning efforts, States should be empowered to make advance energy facility site identifications and inventories on both a State and regional basis, consistent with overall national policies.

B. Public Participation

The existing procedural framework for site reviews provides inadequate opportunity for timely participation by the public. In many cases, facility siting decisions are made before concerned individuals and groups have the necessary information to assess the siting impacts of a project. The result has been that the public has often had to raise basic issues relating to the need for a facility or its timeliness at a point in the process when such an issue should have already been decided. Therefore, citizen influence has not always been adequately considered. Participation should be structured so that there is citizen access at an early stage in the planning process. Disclosure of Project Sponsor plans and the early availability of national and state information should be made

An improved planning process at Federal, State and regional levels should provide an open forum in which public views and opinions can be expressed. With an orderly planning process and improved access, the identification of issues can be made and dealt with at an early stage. Intervention is an appropriate activity during the examination of a proposed site or activity but substantive and procedural questions should be resolved within a specified time frame.

There may arise instances where intervenors will need funding in order to participate in the hearings. The concept of intervenor funding should be viewed in the context of whether such funding will enhance the identification of issues, provide needed information and allow the full participation of those adversely affected.

C. Environmental Reviews of Energy Facility Sites

At the present time, many review processes required contain duplicate environmental approvals conducted by both State and Federal agencies. These multiple reviews are expensive, time consuming and add little or nothing to the information needed for analyzing impacts. An additional activity which inhibits an effective and timely process is the continual raising of environmental issues that have been comprehensively examined and settled. Changes in this area should be coupled with the establishment of a clearer planning process enabling the raising of issues for resolution at the earliest appropriate time.

The National Governors' Association policy, resulting from the September, 1977 Governors' meeting in Detroit, is that Congress delegate to interested States the basic responsibility for making environmental analysis of proposed energy facilities. State environmental reviews meeting minimum standards prescribed under Federal guidelines (developed with State assistance) should be accepted by Federal agencies. Such actions can simplify and speed the review process significantly. Some objections to the delegation of environmental review responsibilities to the States have been raised, fearing an increased susceptibility to delay by additional court actions. Other arguments have been made that changing the status quo could threaten public health and safety issues and that strong and dominant Federal responsibilities should continue.

D. Improving the Management and Operation of the Siting Process

The complex and in some cases duplicative, operational systems followed by Federal and State governments have contributed to the delays and costs in siting an energy facility. A particular facility can require in excess of fifty State and Federal licenses and permits, spanning a period from three to twelve years. Many licenses and permits cannot be issued until others have been granted. In addition, there are multiple State and Federal agencies involved in the siting of a single facility without clear lines of responsibility and designation of a lead agency at both levels.

In order to improve this operational process, the States believe that the Administration and the Governors should adopt coordinative systems and processes to expedite the siting of facilities and reduce duplication. The concepts which may provide opportunities for operational improvements are: lead agency; one stop siting and Federal/State coordination.

E. Early Site Review Activities

A key element in effecting reform of the facility siting process is dealing with site certification procedures. One concept for shortening the process and minimizing expenses is establishing a system of prequalifying suitable sites and the early elimination of less desirable sites. In defining a site for advance review purposes, it is appropriate to consider supporting facilities and transmission corridors, as well as the specific geographic area for the plant.

The development of a site banking program for both public and private lands and perhaps an acquisition program are areas of potential opportunity. In carrying out a pre-qualification program, questions should be addressed regarding the length of time pre-qualification is valid and what controls would be imposed on the site and adjacent levels to preserve site suitability. Some States require that alternative sites be proposed in order to identify the most suitable site. The need for a recognized regional governmental organization may be necessary when alternative sites are located in different States within a regional marketing area.

F. Federal/State Authorities and Responsibilities

As a result of unclear lines of authority and duplication of effort in the siting process, a serious concern over consistency and preemption exists. In each phase of the siting process, from the development of need for energy to the issuance of the final license or permit, all levels of government have been unsure as to how binding the final decision really is. Although it is recognized that the presence of potential court action may delay or overrule a siting decision, it is important to clearly delineate the authority and powers of both the Federal and State governments in the siting process.

The issue of potential Federal preemption and State veto authority exists for energy development on both Federal and private lands.

Administrative actions will not totally resolve this issue. Rather than leave this resolution to the courts, some form of legislation should be adopted which addresses these issues. It should be evident, however, that the establishment of a comprehensive planning process with a clearer assignment of responsibilities, will enable many of the potential questions to be resolved.

G. Regional Issues

The planning, timing, and location of major energy facilities usually impacts more than one State. A new facility will often make fuels or power available to a marketing area that crosses

State boundaries. The utilization of fuels and power generated or converted in one State requires regional distribution, impacts rates, requires transmission facilities and often creates environmental impacts which transcendent the State in which the actual site is located. In addition, while many project sponsors have a planning capability which includes a number of States within a particular region, many States do not yet have a corresponding capability.

For States to carry out planning responsibilities and other public policy questions, encouragement of regional mechanisms should be encouraged. Such encouragement should seek to expedite action without mandating particular methods or forms of organizations. Incentives could include funding, preapproval of interstate compacts by Congress, and technical support for multi-state organizations where needed. In addition, penalties for nonparticipation must be considered in order to ensure a comprehensive State membership in such Regional organizations. Regional organizations should have enough geographic breadth to encompass regional fuel and electrical marketing areas. Such groups, in order to be effective in energy planning activities, should be accountable to the Governors of the States comprising the regional organization.

H. Financing Facility Siting Activities

A sound and orderly facility siting process requires adequate financial support in order to minimize additional environmental and social costs later. Who should be responsible for funding what portions of the siting process should be clearly established. Assured sources of funding are essential in order that energy planning, site analysis and certification and construction activities are carried out in a consistent and timely manner.

Financial resources are necessary for making comprehensive environmental reviews, in developing a national fuels policy, in advance planning on the need for energy facilities, in soliciting public input, in site banking and acquisition activities, in encouraging regional efforts, in treating socioeconomic impacts in a community during the construction of energy facilities, and for providing continued environmental monitoring of operating plants. Differing funding sources are appropriate for the different areas of involvement.

Funds can be secured from Federal or State general revenues, trust funds, an energy production tax, applicant filing fees for proposed energy facilities, and by advanced payments of future taxes. In addition, these funds can be secured from the consumer through rate increases, surcharges, etc.

The assignment of responsibilities within the context of a national energy policy is a critical element. No level

of government or consumer should assume the entire financial burden. Nor should applicants have to support the total costs of an expanded energy planning program. It is highly important that sufficient resources be made available to carry out planning and management activities at both State and Federal levels.

I. Socioeconomic Considerations in the Siting Process

The siting of any energy facility may have an adverse socioeconomic impact on the local community during the construction phase. Although in the long term there may be positive impacts from the facility, in many cases the initial impact will create severe hardship on the local government and citizens. New energy development translates into larger populations and additional public service and housing requirements. Front-end financing and impacts planning are essential ingredients to impact mitigation.

Socioeconomic considerations are important elements for public and local government acceptance of the energy facility. It therefore makes sense to include impact considerations into the total siting process. Several States, particularly in the western part of the United States, have identified socioeconomic impacts as a priority issue, and have incorporated them into the siting process.

III. SUMMARY

This paper highlights many of the immediate siting problems and issues confronting public decisionmakers. Many have contributed to delays, risks, and costs in the process of siting energy facilities.

The Administration and Governors agree that the problem has evolved to a point where mutual actions must be taken in order to improve the system and meet our National energy needs. Paramount to accomplishing this objective is agreement by the Federal and State governments on a course of action to remedy existing difficulties.

In order to effectively resolve many of the issues raised, legislative action at the Federal and State level will be required. There are, however, certain measures which can be administratively implemented during the interim period, including:

- A. Determination of the need for energy can be actively pursued by each State or by groups of States consistent with national and regional energy requirements.
- B. Technical assistance should be made available to the States by the Federal government and close Federal/State working relations must be stressed by the policy makers.
- C. Common energy data should be developed and shared which:
 - meets both Federal and State data needs
 - ensures that data are consistent
- D. Joint public hearings should be encouraged where Federal and State agencies are considering similar actions.

A more vigorous effort to minimize structural problems through cooperative efforts can assist during the transition period -- until more basic changes can be set in place. The sense of both State and Federal officials is that existing siting problems are surmountable.

NUCLEAR POWER

I. STATEMENT OF THE PROBLEM

At the present time, nuclear power provides approximately 10% of the United States' total electrical power production. In areas such as New England, which depends heavily upon foreign oil imports for the generation of electrical power, nuclear provides approximately 30% of the total electricity being consumed. In other areas, particularly portions of the Midwest and Southeast, this percent is even higher and in some cases exceeds 50%.

There are currently 65 nuclear power plants licensed to operate with another 165 publically announced or in various stages of the licensing process.

In early 1975, President Ford recommended the construction and operation of at least 200 nuclear power plants by 1985. President Carter, owing in part to the conservation impacts of the National Energy Plan, reduced this estimate downward to about 140, but indicated that even at this level, 20% of electrical supply in 1985 would be provided by nuclear energy.

The advantages of the current generation of nuclear power plants include the potential for a sharp decrease in our national dependence on foreign oil imports, generally less expensive generation costs and an environmentally attractive production methodology.

It is the President's policy, however, to defer any U.S. commitment to advanced nuclear technologies that are based on the use of plutonium, while the United States seeks alternative approaches to the next generation of nuclear power other than those provided by plutonium recycle and the plutonium breeder.

The development of conventional light water reactors for electrical generation has been burdened by cumbersome multi-agency regulatory requirements, procedural delays, and unnecessarily strict judicial interpretations. These factors have been the leading causes of delays and large cost increases in the construction of nuclear power plants. The President's National Energy Plan has noted that reform of the licensing process is clearly needed in that the present process is unsatisfactory to all participants.

The current level of imports of unreliable and increasingly expensive foreign oil requires the development of economically viable alternative energy sources so that our industries may continue to be competitive in world markets and the health and well being of all our citizens is protected.

Safe methods for the terminal isolation of radioactive waste are presently under development by the Department of

Energy with final demonstration not anticipated until 1985. In the interim, storage facilities at some reactor sites will become overburdened unless additional storage capacity becomes available. To alleviate the problem, the Department of Energy announced on behalf of the Administration on October 18th that the Federal Government will accept and take title to used, or spent, nuclear reactor fuel from utilities on payment of a one-time storage fee. A high priority will remain on the development of permanent waste disposal systems for nuclear waste.

The waste management problem is not solely a function of the deployment of civilian nuclear power. The major fraction of radioactive waste currently in existence has resulted from various U.S. national security programs.

The long term prospects facing commercial reprocessing/ recycle and a breeder reactor are in doubt due to the Administration opposition to the use of plutonium as an energy producing fuel for reasons primarily related to nuclear proliferation.

II. STATEMENT OF THE ISSUES:

A. How can current statutes and regulations be restructured to eliminate inordinate delay and constructively decrease the time period between announcements and completion of individual projects without sacrificing safety and environmental standards or the right of due process?

-
- B. To what degree will an embargo on plutonium use in this country enhance the President's nonproliferation objectives? And will unilateral action place the Nation at a disadvantage economically or endanger our national security?
- C. Do the safety margins involved in the generation of nuclear power compare favorably or unfavorably with the safety margins involved in other major industrial efforts and/or individual citizen activities?
- D. Will the Administration program for purchasing and storing spent fuel pending completion of studies on longer term solutions provide sufficient certainty to utilities and facilitate the achievement of an appropriate level of conventional reactor construction?
- E. Does commercial reprocessing/recycle, although suspended at present, offer a viable energy production option for the future?
- F. Will technical advancements in environmentally sound, physically safe and economically feasible alternate energy sources within the foreseeable future equal or exceed the energy contribution presently available and projected for nuclear power and if so, will this be sufficient to meet our projected energy needs?

G. How best can present and future nuclear power production be blended together with promising alternate energy sources now under development to assure adequate and permanent, well balanced national energy sources with a minimum of acrimony and division amongst our citizens?

Control finding Legacy
Central Files

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March 6, 1978

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
SECY-78-133

INFORMATION REPORT

For: The Commissioners

From: Robert E. Ryan, Director
Office of State Programs

Thru: *h* Executive Director for Operations *W. J. Decker*

Subject: ACTIONS AND ANALYSIS: COMMENTS ON NUREG-0195, "IMPROVING REGULATORY EFFECTIVENESS IN FEDERAL/STATE SITING ACTIONS"

Purpose: To inform the Commission of the status of comments received on the subject report since its formal release in June, and to advise the Commission of other actions taken in response to Congressional inquiry and State utility commission actions involved with the Administration siting and licensing bill.

Discussion: On June 9, 1977, the Commission reviewed the study team report and directed distribution for comment to State Governors, Federal agencies, industry and the public. Congressional offices were provided with copies of the report for information.

On August 11, 1977, an information report (SECY-77-426) was forwarded to the Commission summarizing comments to that date. Subsequently, the Commission directed the Office of State Programs to contact State Governors again and urge them to relate any comments yet to be forwarded to the August 19th draft version of the Administration siting reform bill which had been distributed to States by Mr. Aherne of the Executive Office of the President (SECY memo August 22, 1977). A letter to all Governors was sent August 26, 1977 by the Office of State Programs.

As of February 7, 1978, 120 letters have been received. These include 54 from States (30 States responding), 20 from Federal agencies, 29 from industry and 17 from others including the public.

During the appearance of the Commissioners before the Subcommittee on Energy and Power, on February 7, 1978

Contact:
Robert T. Jaske
492-7794

b-2
W. J. Decker
State Coord + Coord

Representative Ottinger acting for Mr. Dingell requested copies of the letters of comment on the Preliminary Staff Report. These have been provided to Representative Dingell by Chairman Hendrie in a separate response.

An analysis of State responses is presented in Enclosure "A." It considers the responses with respect to the five points of former Chairman Rowden's letter to the Governors dated June 16, 1977 (Enclosure "B"). This is supplemented by excerpts of State comments. On balance, the States are favorably disposed toward performance of the planning and site certification activities outlined in the report with the understanding that preemption of State initiative would be minimized and the diversity of resources in individual States would be recognized.

An analysis of Federal agency, industry and other public comments is presented in Enclosure "C." This analysis also uses the five points of the June 30, 1977 transmittal letter. On balance, all saw significant advantage to a restructuring of the early phases of project development, and favored open and early disclosure, but they varied considerably with respect to operational details. With the exception of the Environmental Protection Agency, Federal agencies were cool to the idea of NEPA delegation. Industry and public views vary widely, however, where a thread of unity can be found it is supportive of early and open planning which can resolve site suitability and need for power issues as early as possible.

In general, most respondents found the report useful in developing a common perspective from which proposals for legislative and administrative reforms would be viewed.

~~A number of the comments received from other Federal agencies are of particular significance to major provisions in the January 4, 1978 draft Administration licensing reform bill. A summary of the significant agency comments in this regard is presented in Enclosure "F" prepared by QELD.~~

~~As a related matter, in response to a number of questions from the Commission about how separate and early site certification might relate to existing processes, the Office of State Programs began a detailed state by state study of the specific actions taken by public utility commissions or~~

other agencies with respect to need for power, issuance of certificates of convenience and necessity (or their equivalent), rate making methodology and decommissioning. A contract report, published as a NUREG document, will be printed in late March as part of the reference series. Staff awaits the Commission's instructions on the disposition of NUREG-0195 and any specific activities which staff should undertake in connection with it.


Robert G. Ryan, Director
Office of State Programs

Enclosures:

- "A" - Analysis of State Comments
- "B" - Rowden Letter to Governors June 16, 1977
- "C" - Analysis of Federal, Utility & Other Public Comments
- "D" - Letter to Governors dated August 26, 1977
- "E" - Comment Letters (120) - Commissioners only
- "F" - OELD Prepared Comments

DISTRIBUTION:

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Secretariat

ENCLOSURE "A"
ANALYSIS OF STATE COMMENTS

ENCLOSURE "A"

Summary of State Comments on NUREG-0195 - Improving Regulatory Effectiveness in Federal/State Siting Actions as of February 7, 1978.

States responding to Chairman Rowden's Letter of June 16, 1977:

Alaska-Dept. of Environmental Conservation
Arizona-Governor; Atomic Energy Commission
Connecticut-Governor
Georgia-Governor
Hawaii-Governor
Illinois-Governor
Indiana-State Board of Health
Iowa-Governor
Kentucky-Department of Energy
Louisiana-Governor
Nevada-Governor's Office of Planning Coordination
New York-Governor and New York State Energy Office
Ohio-Power Siting Commission
Rhode Island-Governor
South Dakota-Governor
Virginia-State Corporation Commission
Washington-Governor
West Virginia-Governor
Wyoming-Governor

Total: 19 States.

States responding to Ryan's letter of August 26, 1977:

Arkansas-Dept. of Health
Colorado-Dept. of Health
Maryland-Dept. of Natural Resources
Massachusetts-Energy Facilities Siting Council
New Jersey-Dept. of Public Utilities
North Carolina-Utilities Commission
Oregon-Dept. of Energy
Pennsylvania-Energy Council

Total: 8 States.

States responding to others which can be considered as responding to Ryan's letter of August 26, 1977:

California-Energy Resources Conservation and Development Commission
Florida-Power Plant Siting
Maine-Dept. of Environmental Protection

Total: 3 States.

Grand Total of Responses: 30 States.

States not responding to Rowden's or Ryan's letters:

Alabama
Delaware
Idaho
Kansas
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
New Hampshire
New Mexico
North Dakota
Oklahoma
South Carolina
Tennessee
Texas
Utah
Vermont
Wisconsin

Total: 20 States.

States offering general endorsement of the five recommendations in Chairman Rowden's letter of June 16, 1977:

Arizona-Governor and Atomic Energy Commission
Arkansas-Dept. of Health
Florida-Power Plant Siting
Illinois-Governor
Indiana-State Board of Health
Kentucky-Dept. of Energy and Public Service Commission
Maine-Dept. of Environmental Protection
Maryland-Dept. of Natural Resources

Nevada-Public Service Commission
 New Jersey-Dept. of Public Utilities
 New York-Governor and New York State Energy Office
 North Carolina-Utilities Commission
 Ohio-Power Siting Commission
 South Dakota-Governor
 Washington-Governor

Total: 15 States.

States offering no comment:

Alaska-Dept. of Environmental Conservation

Total: 1 State.

States offering endorsement of some of the five recommendations in
 Chairman Rowden's letter of June 16, 1977.

	<u>Recommendations</u>				
	<u>R-1 Planning</u>	<u>R-2 Review</u>	<u>R-3 Sites</u>	<u>R-4 Need</u>	<u>R-5 Coordinatio</u>
California-Energy Resources Conservation and Development Commission	E	E	E	E	
Connecticut-Governor	E		E	E	E
Georgia-Governor	E	E	E	E	
Hawaii-Governor	E				
Iowa-Governor	E	E		E	E
Louisiana-Governor	E	E	E	E	
Massachusetts-Energy Facilities Siting Council and Executive Office of Environmental Affairs		E	E	E	
Oregon-Department of Energy	E	E			E
Pennsylvania-Energy Council	E		E		E
Virginia-State Corporation Commission and Governor	E	E		E	E
Wyoming-Governor		E	E	E	E
Totals: 11 States	9	8	7	8	6
E-Specific Endorsement					

SELECTED COMMENTS FROM STATE RESPONSES

- R-1 That Federal legislation authorize coordinated early and open planning by utilities and States or associations of States for all forms of electrical generation.

California-Energy Resources Conservation and Development Commission

"California's power plant review statute is strongly rooted in the concept of active, open planning."

Iowa-Governor

"We like the concept of forming voluntary associations of state governments-on a regional basis-to coordinate reviews of utility system planning. Since utility companies now plan on a regional basis, it would be helpful if the regulatory agencies of the states could combine their efforts in a comparable manner. However, such a coordination would have to be voluntary for state regulatory responsibilities cannot be pre-empted by decisions of a regional body."

Maine-Dept. of Environmental Protection

"The possibility of utilities making early and open disclosure of future plans is an exciting one to this department. We are a small agency, in personnel strength, and would gain many benefits from early disclosure. The early identification of suitable, acceptable sites for future generating facilities would enable us to effect optimum utilization of staff and funds."

New Jersey-Dept. of Public Utilities

"I also favor.. the use of early site approval as a means of identifying those locations appropriate for nuclear generating facilities before large financial commitments are made to the detriment of the utilities' ratepayers."

North Carolina-Utilities Commission

"We strongly believe that the states are best equipped to deal with siting issues, particularly if appropriate planning coordination between neighboring states can be developed. Present State law in North Carolina allows for this type co-operative endeavor and we are currently participating with South Carolina and Georgia in a co-operative siting demonstration project directed by the Southern Interstate Nuclear Board. We feel that

environmental and need issues can be most appropriately addressed at the state or regional level."

Ohio-Power Siting Commission

"Although we support the idea of encouraging the development of mechanisms for voluntary multi-State planning, it is also our feeling that this is not a critical consideration in streamlining the Federal/State nuclear regulatory process."

- R-2 That the National Environmental Policy Act of 1969 be amended to allow Federal agencies to accept for inclusion in final environmental impact statements environmental reviews performed by qualified States acting under carefully constructed Federal guidelines.

California-Energy Resources Conservation and Development Commission

"I would propose an amendment to the existing Section 274 of the Atomic Energy Act so as to permit States to enter into agreements with the NRC for the delegation of certain responsibilities, including the environmental and need-for-power reviews."

"The environmental and need-for-power reviews are inextricably tied to the procedural and substantive standards of NEPA. By statute, the CEQ is the Federal agency responsible for developing NEPA guidelines and monitoring compliance with NEPA. The existing capabilities of the CEQ should be accordingly used in the proposed bill."

"There must be authority retained by the Federal government to terminate a Federal delegation of responsibilities to a State if the State's performance fails to satisfy the Federal standards expressly pursuant to which the delegation was made."

"It is likely that a delegation of NEPA functions to the states in this area will require some formal amendment to NEPA."

Georgia-Governor

"From the standpoint of practical utilization of state resources, we believe that the actual site evaluation and preliminary environmental assessments should be performed by the "applicant" and that the State develop a staff for review and approval of the "applicants" evaluations and assessments."

Illinois-Governor

"(The delegation) would place the environmental and economic decision-making process closer to those who directly bear the burden and receive the benefits of the proposed facility. Second, it offers an opportunity to eliminate the duplication of effort that exists at the state and federal levels."

Iowa-Governor

"(Although there is merit in the proposal), we frankly doubt, however, that many states are willing and able to carry out this task."

Louisiana-Governor

"It is felt that such reviews could be accomplished as proficiently as can be done by federal bodies or perhaps more so to the extent that states have developed their expertise, review procedures and relationship with local agencies and public interest groups."

Maryland-Department of Natural Resources

"The only justification for terminating the approval of a State program should be a determination by the Commission that the State program was no longer meeting the Federal guidelines under which the program was originally approved."

North Carolina-Utilities Commission

"This would allow states with capabilities in only one of the above areas to actively participate. Separating the responsibilities for the need assessment and the environmental assessment would of course require some modification in environmental evaluation of alternatives in that the alternative of "no plant" would be predetermined by a separate regulatory body."

Oregon-Dept. of Energy

"Rather than legislating a delegation of authority..., a better alternative would be to explore through federal-state agreements the appropriate review responsibility to be exercised by the federal and respective state governments."

Washington-Governor

"The full delegation to states for NEPA determinations is eminently desirable. It is best to have it voluntary or optional as is now contemplated. (A) third option would have states responsible for need for power but not responsible for the provisions of NEPA. The NEPA determination would be a new responsibility for most states. It is a large responsibility, costly to undertake and, therefore, many states may prefer not to become involved. On the other hand, almost all states have been in the need for power determination business through their public utility commissions for some time.... Washington is prepared for and interested in full participation."

R-3 The States be authorized to certify sites for generating facilities.

Iowa-Governor

"While we support this concept, as a method of reducing regulatory delay in bringing electric plants into service, several problems must be noted. These include (1) ratemaking treatment of such investments by commissions who have historically denied or severely limited inclusion in rate base of land held for future use; (2) the difficulty of determining how many sites should be "banked"; and (3) the application of this concept when condemnation of land must be utilized to acquire a site at reasonable costs."

North Carolina-Utilities Commission

"This State through its Utilities Commission has for a number of years required prospective power plant sites under investigation by utilities. We have seen little evidence of the classical argument that land speculators impact on the cost of these proposed sites with advance, open planning. Furthering this concept with early site approval, concomitant with standardized plant designs, should help eliminate costly delays in bringing need facilities into service while at the same time affording the same or better environmental protection than is currently being achieved."

Ohio-Power Siting Commission

"We don't feel that separate or early site review contributes in a positive way toward streamlining or otherwise improving the siting process despite its seeming advantages. We believe it can only increase rather than reduce the administrative time and expense required for all parties. As an alternative, we suggest that this proposal emphasize the concept of "preliminary screening" rather than final approval."

Washington-Governor

"I qualify my agreement with the condition that, for nuclear power plants, the Nuclear Regulatory Commission must be required, as a part of the state's certification process, to certify that a nuclear power plant can be operated safely at the chosen site. A "black box" or generic nuclear power plant can be considered and the principal issues examined would be seismicity and water supply. ~~This NRC certification must be rendered in a formal way. On the other hand, great care must be taken by the Commission to not venture into other areas such as socio-economics or other physical environmental factors which are not germane to plant safety.~~"

R-4 That State certification of need for power (facility) be final and binding of Federal agencies.

Colorado-Dept. of Health

"I would object to the state's loss of control over its natural resources."

Iowa-Governor

"State regulatory agencies are in the best position to determine the need for power and a state decision on this issue should be accepted by federal officials. Further, federal proceedings on a project should not go forward until the state has made its need-for-power determination."

Washington-Governor

"We have to draw a balance between giving states the need for power determination but still having some sort of federal override that is difficult to exercise. One possible arrangement would be for the federal government (Department of Energy) to challenge a local determination (a negative determination) and appeal to the President to exercise federal preemption and require the facilities to be built."

- R-5 That coordination of Federal and State regulatory actions be emphasized in order to minimize duplication and create a commonly available data base.

Connecticut-Governor and Power Facility Evaluation Council

"The creation of a Federal Siting Council and ad hoc Project Councils is an unnecessary expansion of the bureaucracy. It would add another level of decision making and would duplicate the siting councils of the States."

Iowa-Governor

"To assure the public of maximum participation, we suggest that the least restrictive rules of the cooperating agencies be adopted for joint hearings."

New York-Governor

"After considerable experience with New York's power plant siting law, passed in 1972, we saw the need to avoid duplication in the review of nuclear plant certification applications. (This includes joint hearings, review of the "need for power" by the New York Public Service Commission, and guidelines for preparation of a single environmental report.)"

Ohio-Power Siting Commission

"While "one-stop" procedures may represent an idealized expectation, "coordination" will represent the best that probably can be achieved as a practical end result."

"NRC has already initiated a mode of operation which could go a long way toward improving Federal/State coordination...the practice of arranging coordinative meetings with State power siting agencies at an early stage in regard to specific applications."

Virginia-Governor and State Corporation Commission

"Our office has been working with the Federal Power Commission to coordinate development of the Regulatory Information System (RIS) to form a common data base. It appears that your efforts may be parallel to those of the FPC and should be coordinated as early as practicable."

ENCLOSURE "B"
ROWDEN LTR TO GOVERNORS, JUNE 16, 1977



OFFICE OF THE
CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Enclosure B
(Sample Ltr. to 50
Governors)

JUN 16 1977

The Honorable Elta T. Grasso
Governor of Connecticut
State Capitol
Hartford, Connecticut 06115

Dear Governor Grasso:

Last fall, I wrote to you about the Nuclear Regulatory Commission's study of ways to improve regulatory effectiveness in Federal/State actions in the siting of nuclear production and utilization facilities. Many useful comments were received, and with the help of the National Governors' Conference, our study team has now completed its work.

I am enclosing a copy of the preliminary staff report, "Improving Regulatory Effectiveness in Federal/State Siting Actions," prepared by our Office of State Programs. It makes a number of recommendations aimed at improving the conduct and coordination of Federal and State reviews within a legislatively restructured licensing process which emphasizes early site reviews and standardization of reactor design. The Commission is now seeking broad comment on the proposals in order to best assess their value and impact before we take a position on the report's recommendations. Among these recommendations are several of substantive interest to States:

- . That Federal legislation authorize coordinated early and open planning by utilities and States or associations of States for all forms of electrical generation.
- . That the National Environmental Policy Act of 1969 be amended to allow Federal agencies to accept for inclusion in final environmental impact statements environmental reviews performed by qualified States acting under carefully constructed Federal guidelines.
- . That States be authorized to certify sites for generating facilities.
- . That State certification of need for power (facility) be final and binding on Federal agencies.
- . That coordination of Federal and State regulatory actions be emphasized in order to minimize duplication and create a commonly available data base.

This report also includes a summary of 20 letters received to date in response to my letter of March 24, 1977, to all Governors, concerning the Federal preemption of radiation health and safety matters. This is found in Part II, Chapter 2.

You have the Commission's deep appreciation for the time and effort you and your representatives have taken in bringing this report to its present stage. I would be most pleased to receive any comments you might care to offer on the report.

Sincerely,

Marcus A. Rowden

Marcus A. Rowden
Chairman

Enclosure:
Copy of Preliminary Staff Report

ENCLOSURE "C"
ANALYSIS OF FEDERAL, UTILITY & OTHER PUBLIC COMMENTS

ENCLOSURE "C"

Summary of Federal, industry and other public comments on NUREG-0195 - Improving Regulatory Effectiveness in Federal/State Siting Actions as of February 6, 1978.

FEDERAL AGENCIES

Agencies responding to former Chairman Rowden's letter of June 30, 1977.

Environmental Protection Agency
US Dept. of Agriculture (REA)
US Dept. of Commerce, Ass't Sec'y for Policy
US Energy Research & Development Agency, Ass't Admin. for
Environmental Safety
US Dept. of Housing and Urban Development, Office of Ass't Sec'y
for Planning
US Dept. of Interior (2) Office of Secretary and
Bonneville Power Administration
Executive Office of the President
Office of Technology Assessment
Tennessee Valley Authority

Total: 10 responses

Other Federal responses to the Office of State Programs:

Dept. of Commerce, Coastal Zone Management Office
Federal Energy Administration (2)
Northwest Federal Regional Council
Southwest Federal Regional Council
Midwest Federal Regional Council

Total: 6 responses

With the exception of BPA which saw little value in the system of early and open planning as proposed in the study, agencies were supportive of this concept. The reaction to the other four points was mixed ranging from general support to some outright objections. Some specific commentary follows. Interior opposed limitation of ACRS reviews.

Environmental Protection Agency - Costle

"In general, we found the report to be thorough and well written. Additionally, we agree that its major recommendations for improving the electric power plant siting process. The changes suggested could improve the effectiveness of the regulatory process and reduce the time necessary to complete that process."

Rural Electrification Administration - USDI - Vellone

"It is REA's position that the electric utility industry is most familiar with its network of systems and thus can more effectively plan additions to this network. The states and the electric reliability councils could review these plans to see that they are consistent with state and regional plans and that they comply with Federal, state, and local environmental laws and regulations."

Bonneville Power Administration - USDI (DOE) - Hodel

"We are concerned, however, with the heavy emphasis, on page 1-9 of the Executive Summary, placed on State determination of "need for power" and the finality of such determination vis-a-vis a lead Federal agency. This concern exists not only because we believe power needs should be determined on a regional or national rather than on an individual State basis, but also because we find no declaration that the State must bear the responsibility for the results of its decisions."

Office of Coastal Zone Management - Ting

"The report recommends that the review of site be separate from the review of actual electric generating facilities. In this manner, the environmental review of a site on the basis of a standard facility can proceed in advance of an actual proposal for construction. We believe this concept should be pursued as a means of shortening construction lead time while ensuring adequate local planning and environmental review. At the same time, we are concerned that certification and "banking" of an excessive number of sites may unnecessarily distort land use planning in coastal areas which are so valuable for a wide variety of important uses."

Energy Research and Development Administration - Liverman

"In general, we support many of the report's recommendations, with certain qualifications. However, other recommendations appear to have substantial adverse implications: modification in the NEPA process, and removal of certain responsibilities from NRC which would be transferred to the States or to a "lead Federal agency" (LFA), which would most likely be the Department of Energy. Although increased Federal/State coordination and joint actions should be sought, major transfers of Federal responsibility to States does not seem desirable or effective in reducing licensing problems. Even though an increased role for the States is desirable, this must be carefully bounded to prevent an actual net loss in effectiveness or opportunity for unexpected new delays or duplications of effort (for example,

through entry of State judicial review processes during the EIS development, which might be layered sequentially with existing Federal judicial review mechanisms)."

Housing and Urban Development - Embry

"We do not agree with the proposition that States should have the final sign-off authority, and that their decision should in turn bind all Federal agencies. Federal agencies may, for example, determine that certain requirements have not been met pursuant to administrative regulation and/or the U.S. Code and that the State certification is therefore not adequate; that requirements relating to other aspects of State and local authorities' responsibilities with regard to other Federal grant program needs have not been met or that an over-riding national interest, such as defense or national power needs have to be met, despite State determination that no plants be licensed."

Department of the Interior - Meierotto

"We agree that the present decision-making process needs to be improved, and that the States must become more actively involved in this process. The desire and capability of the States to do so varies from State to State. We do not believe it is necessary to set up any elaborate or costly systems or committees to accomplish this. We would recommend and support consultation with interested States on an individual basis at the execution level prior to any final decision on this issue. In any case, we believe that the Federal role would still have to include a determination of the acceptability of actions affecting Federal lands and natural resources of national interest and value."

Tennessee Valley Authority - Wagner

"The report suggests the need for legislation and administrative action to achieve, through improvements in Federal/state cooperation, earlier siting decision, increased opportunity for public participation in siting decisions, increased stability in energy planning, and elimination of duplication of effort. We think that in general these goals are commendable and desirable and could result in increased efficiency in licensing of nuclear facilities."

INDUSTRY COMMENTS

Nineteen industry organizations responded directly to the Office of State Programs with comments on the study. These were:

Baltimore Gas & Electric Company - Olson
 Bechtel Power Corp. - Davis
 Commonwealth Edison Company - Lee (meeting)
 Duke Power Company (2) Porter and Dail
 EnviroSphere Company - Ledorati
 General Electric - Sherwood
 Illinois Power - Womeldorff
 Lowenstein, Newman, Reis & Avelrad - Lowenstein
 MAIN Power Pool - Michelson
 Mississippi Power & Light - Lutken
 Northern States Power - Welk
 Omaha Public Power District - Nilkins
 Pacific Gas & Electric - Daines
 Potomac Electric Power Company - Mitchell
 City of Tacoma's (PUD) - Benedetti
 Southeastern Electric Reliability Council - Brownlee
 Southwest Power Pool - Hulsey
 Union Electric Company - Dille
 Westinghouse Electric - Eichelinger

Six more organizations forwarded comments on the administration siting bill which they believed covered their position on the need for regulatory reform. These were:

Atomic Industrial Forum
 Boston Edison (2)
 Combustion Engineering
 Conner, Moore & Corber
 Westinghouse Electric Corporation

In general, industry comments centered on generic matters of long lead times, and saw little advantage in open and early planning with public participation by means of forums not currently in existence. Some utilities saw advantage in early and separate site approval, and other saw value in early determination of need for power by States. Industry, with some exceptions, appears unwilling to consider "delay" as a two step issue involving differing degrees of exposure to a licensing process, i.e., construction delay vs extended planning reviews. There was considerable emphasis on improving "coordination" and elimination of duplicative reviews, but industry was very cautious about any changes which would alter the traditional in-house planning process by which specific projects are selected and offered for licensing by public agencies.

However, Duke Power Company and Potomac Electric Power Company saw rational planning advantages in the amendment of NEPA, State site certification for

all generating facilities and making State actions final and binding on Federal agencies. They also supported early and separate site review and approval with early public disclosure of planning.

As a common thread, industry was hopeful for a system which improved regulatory stability and shortened review time of projects offered for consideration on a case-by-case basis.

Some excerpts of industry comments follow:

Atomic Industrial Forum

On State NEPA reviews: "NEPA, though not without redeeming social value, has been interpreted monstrosly, causing delays of projects without compensating environmental benefits. It has become the intervenors' most effective weapon for delaying energy projects. The licensing delays caused by the recent D. C. Circuit's fuel cycle decisions now before the Supreme Court show that NEPA continues to be a trap even for an agency as experienced and sophisticated as NRC. Adding these inherently imprecise requirements to the review processes of many states will result in an avalanche of litigation, much of it successful, challenging the state reviews. This obviously will not contribute to expediting licensing."

Baltimore Gas & Electric

1. "We agree that the State is the best qualified government to determine the need for power."
2. "Giving the State the final approval on environmental issues and the authority to prepare the Environmental Impact Statement could add considerable time to the review process. This is particularly evident when taking into consideration the local political pressures that can be brought to bear on State Agencies. In this situation, an objective decision could become impossible."

Boston Edison

"The delegation of NEPA responsibility to the states in the matter of nuclear power plant siting can only result in extensive delays, political manipulations and the likelihood that NEPA decisions would be subject to Federal court reversals."

Duke Power Company

"Page 1-6 of the NUREG points out several deficiencies in the present process which can be remedied through equitable, non-duplicative reviews by State and Federal agencies. We strongly support the view that environmental and economical impacts of proposed projects should be reviewed by the States. It is within those states that a utility must operate and its employees must live. Page 1-11 indicates that Early Site Review should be

used whenever feasible, and at some future date it may be required. We believe that it should to be effectively used by utilities and regulatory agencies whereas the Early Site Review requirements must allow site banking for longer than five years."

Illinois Power Company

"In summary, each of the perceived weaknesses in the report seems to result from the lack of input from one of the three parties necessary in a successful partnership to certify electric generating facilities in a rational manner. The federal viewpoint and the state viewpoint are represented well. The utility viewpoint is absent. Unless that utility viewpoint is included prior to transforming this report into legislative proposals, it can only be concluded that the thrust of this report is to preempt the utilities in their traditional role of managing their chartered and franchised operation."

MAIN Electric Reliability & Council

"The development of a multi-State mechanism other than that provided by the existing Regional Reliability Council is viewed by MAIN as presenting the possibility of the development of yet another layer of control over utility construction which may result in increasing the plant licensing time rather than providing the desired result of decreasing plant licensing time."

Mississippi Power & Light

"We agree with the philosophies of the states playing a stronger role in site approvals and a greater level of coordination among federal agencies. We do, however, foresee the potential for a decrease in effectiveness with an overly expanded public participation."

Northern States Power Company

"As you will note from the attached comments, in large measure we are in full agreement with the thrust of the report and its legislative recommendations advocating a structure of federal and state regulation aimed at speeding up the process of obtaining environmental and construction permits for new electric generating stations."

"The areas in which we have not concurred with the report primarily relate to the proposal to authorize construction of nuclear facilities prior to a state certificate of need and site approval. If the federal government preempted existing Minnesota State requirements to obtain a Certificate of Need and Site Compatibility prior to the construction of a new fossil or nuclear generating facility we think public reaction to such legislation would be extremely negative."

Omaha Public Power District

"OPPD applauds President Carter's stated intent of cutting licensing time for nuclear plants, and OPPD will work with the Administration and the NRC to achieve such ends. However, OPPD remains skeptical that truly beneficial changes can be made in the NRC or the regulatory/licensing process using the proposals contained in the NRC's study."

Pacific Gas and Electric

"Several of the proposals for new federal energy legislative measures (i.e., a two-year federal NOI, 10- and 20-year planning forecasts, an electrical usage tax for financing federal energy planning) seem patterned after the relatively new California Energy Resources Conservation and Development Commission (CERCDC). It would be prudent to determine the effectiveness of such legislation in California before adopting it as national policy."

"The report mentions the possibility of combining nuclear and non-nuclear siting into one process. This option is one that should not be encouraged because non-nuclear siting is presently being carried out in an acceptable manner at the state level and with the few federal agencies involved."

Potomac Electric Power Company

"Recommended changes such as the following cannot help but allow for more rational planning."

"Amending NEPA to permit inclusion of State environmental reviews -- following federal guidelines -- in final environmental impact statements;

Authorizing states to certify sites for generating facilities;

Authorizing state certification of need for power facilities which would be final and binding of federal agencies;

Coordinating federal and state regulatory actions to minimize duplication and create a common, easily accessible data base."

Southeastern Electric Reliability Council

"The specification of defined electrical areas such as pools, subregions, control areas or councils, or other appropriate boundaries for planning purposes is a major improvement over earlier drafts, and this concept is endorsed by SERC."

"The NRC Staff is to be commended for attacking the problem of multiple responsibility for "need for power" determination. Many states have now undertaken such a responsibility in connection with their "Certificate

of Convenience and Necessity" or other permitting functions. By all means, the states should have this function and it should be removed from the Nuclear Regulatory Commission."

Union Electric Company

"Public participation is advantageous where there can be meaningful public inputs. But in the free enterprise system the utility power planners are responsible for raising capital, designing an adequate, reliable, economic system, and construction and operation of that system in a timely and responsible manner. Where public inputs are admitted with no responsibility and no accountability, the orderly planning process may be delayed or interrupted. No attempt is here made to limit public participation, but the Report should recognize that the ability of the public in a highly technical area is necessarily limited."

PUBLIC COMMENTS

General public comment on the study report was very limited (total 8). Some commenters (8) forwarded copies of their remarks on the Administrative siting and licensing act. The brief abstract which follows draws inferences from both of these as they are judged to apply to NUREG-0195.

Commenters supported the principal of coordinated open and early planning by utilities working with States or associations of States for all forms of electrical generation although there was a wide divergence on means to implement such actions. The Amendments to NEPA proposed in the study were also viewed in a mixed way with some concern expressed that State findings may not meet the purposes of NEPA even with carefully constructed Federal guidelines. Mr. Roisman was specifically concerned about this. The Friends of the Earth are opposed to the advance approval of sites apart from facilities as prejudicial to case-by-case reviews. Marian Moe believes that early site review reduces the range of realistic alternatives available for consideration. Some commenters opposed and others supported the concepts of state certification for need for power. Coordination of Federal and State reviews was generally supported.

The sample is too small to present as a detailed commentary. The thread of support does hold for more and earlier public planning but is cautious about legislative remedies which reduce public access to the licensing process at any step.

Some excerpts of public comments related to NUREG-0195 are:

Erasmus H. Kloman, National Academy of Public Administration

The time may be auspicious for some positive change "that would inject some comprehensive, rational, and systematic planning into decision-making processes that are now fragmented and flawed by overlapping, conflict and confusion." This would include energy facility siting.

Thomas J. Wilbanks, Oak Ridge National Laboratory

The report recommendations are a coherent set and they make sense and will work.

Paul Rodgers, National Association of Regulatory Commissioners

He is "very pleased with these recommendations which seek to involve State participation in a meaningful fashion."

John N. Nassikas, Chairman of the Need for Power Panel

He opposes "the concept of State determination of environmental reviews under the National Environmental Policy Act of 1969, or the

finding that State certification of need for power be final and binding on Federal agencies."

ENCLOSURE "D"
LTR TO GOVERNORS DTD AUG. 26, 1977



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 26 1977

Enclosure D
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Governors ~~some~~
variation to account
for previous response

The Honorable Mills E. Godwin, Jr.
Governor of Virginia
State Capitol
Richmond, Virginia 23219

Dear Governor Godwin:

On June 16, 1977, former Chairman Rowden sent you a copy of the preliminary staff report, "Improving Regulatory Effectiveness in Federal/State Siting Actions, NUREG-0195" for review and comment. Since that time, the Executive Office of the President has been developing draft legislation concerning nuclear regulatory reform. We understand that a draft of proposed legislation was forwarded to you by Mr. Ahearne of the White House staff.

In a letter dated July 20, 1977, Dr. James Dunstan responded to Chairman Rowden's June 16th letter. The Commission has asked me to suggest that comments you may make on the legislation have a common perspective. Such a perspective would be important to the Commission in arriving at a policy position on the proposed actions.

We appreciate the time and effort that you and your representatives have taken in assisting us with the Federal/State study and related matters. Chairman Hendric would appreciate any comments which you might bring to his attention in the next few weeks.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert G. Ryan".

Robert G. Ryan, Director
Office of State Programs

cc: Dr. James C. Dunstan

ENCLOSURE "F"
OELD PREPARED COMMENTS

ENCLOSURE "F"

Summary of Federal agency comments on NUREG-0195--Improving Regulatory Effectiveness in Federal/State Siting Actions--which are of particular significance to major provisions in the January 4, 1978 draft Administration licensing reform bill.

1. Authorizing the States to make need for the plant determinations which would be binding on NRC. Several agencies and offices, emphasizing the regional character of planning for additional generating capacity, expressed reservations about giving the States final authority to make need for the plant determinations. The Bonneville Power Administration opposed making State need for power determinations binding on Federal agencies, arguing that allowing the States to make final and binding need for power determinations could seriously hamper existing regional planning and reliability efforts. Although the EPA Administrator's comments indicated agreement with the report's major conclusions, which included giving the States authority to make binding need for power determinations, the specific comments of three subordinate EPA offices either directly opposed or expressed reservations about giving the States this authority. Other agencies, including the Office of Coastal Zone Management, then--ERDA's Office of Environment and Safety, and the Department of the Interior, although not opposing a delegation of authority to the States to make binding need for power determinations, commented that any such delegation should be subject to guidelines which would assure that regional interests and planning are adequately considered by the States.

2. NEPA delegation. Strong objections to any delegation of NRC's NEPA responsibilities to the States were raised in comments by then--ERDA's Assistant Administrator for Environment and Safety. Instead, ERDA's comments support greater cooperation with the States including the use of shared data and resources, joint hearings and coordinated review schedules. In particular, ERDA argues that NEPA delegation could lead to uneven treatment of energy growth in different localities; would require extensive duplication of resources by the States which would be needed to perform full environmental reviews; and would require the preparation of extensive Federal guidelines to govern State implementation of any NEPA delegation. According to ERDA, State and Federal efforts to implement a NEPA delegation would be difficult and time-consuming, and would not necessarily lead to a more efficient or effective mechanism for satisfying NEPA requirements. ERDA also opposes the use of Federal agency and national laboratory personnel by the States to perform delegated NEPA work on the ground that this may create confused lines of responsibility for these Federal and laboratory personnel and may draw away resources needed for Federal programs. Finally, ERDA sees the possibility of Federal funding of intervenors in State proceedings held pursuant to a NEPA delegation as a further argument against any delegation of NEPA responsibilities to the States. One regional office of EPA generally endorsed the concept of NEPA delegation but argued that any such delegation must be performed under very carefully developed Federal guidelines.

3. Early site approvals. ERDA's Office of Environment and Safety, the Office of Coastal Zone Management and the Department of the Interior included comments regarding site "banking". OCZM expressed the concern that certification of an excessive number of sites may unnecessarily distort land use planning in coastal areas. ERDA suggested that early site approval include consideration of all types of generating facilities so as to foster the even-handed treatment of alternatives. Interior recommended that once a site has been approved, the use of surrounding areas should be controlled to assure the site's continued acceptability.

4. ACRS reviews. The Department of the Interior opposed any modification of the present statutory requirements for mandatory ACRS reviews of nuclear facility construction permit and operating license applications.

Cannot find in legacy

March 6, 1978

SECY-78-136

COMMISSIONER ACTION

For: The Commissioners

From: Edson G. Case, Acting Director, Office of Nuclear
Reactor Regulation
Clifford V. Smith, Director, Office of Nuclear Material Safety
and Safeguards

Thru: Executive Director for Operations *[Signature]*

Subject: NRC REVIEWS OF ADVANCED NUCLEAR POWER PLANT CONCEPTS

Purpose: To determine the amount of effort that the NRC staff devotes to reviewing reactor concepts and associated fuel cycle concepts presented by DOE under the Nonproliferation Alternative Systems Assessment Program (NASAP).

Category: This paper covers a policy matter involving the NRC/DOE interactions.

Issue: The nature of the NRC response to requests from DOE for Preliminary Safety Evaluations (PSE) of reactor and fuel cycle concepts presented under NASAP, prior to DOE selection of those alternatives that it intends to pursue into the demonstration stage.

Decision

- Criteria:
1. Does the alternative chosen provide for actions beneficial to United States policy in regard to nuclear energy resource utilization and nonproliferation objectives?
 2. Does the alternative chosen involve the NRC in the concept selection decision process in any inappropriate way?
 3. Does the alternative chosen tend to commit, or appear to commit, the NRC to positions on concepts which may later be submitted for NRC licensing action?
 4. Does the alternative chosen overtax our available manpower resources?

Contact:
Speis

B-11B

- Alternatives:
1. Comply with the DOE requests for reactor reviews. Provide guidance on the preparation of DOE's Preliminary Safety Information Document (PSID) based on information needs, and licensing precedents and principles. Provide a full reactor evaluation (commensurate with the completeness of the material submitted) for each concept submitted by DOE, highlighting any licensing problem areas.
 2. Decline the DOE requests until non-proliferation standards have been adopted and final alternative reactor and fuel cycle choices have been made by DOE and endorsed by the Administration.
 3. Initially agree to review only those established reactor concepts for which a substantial background of applicable experience exists, e.g., Heavy Water Reactor (HWR) of the CANDU type, High Temperature Gas Cooled Reactor (HTGR), Spectral Shift Reactor (SSR), Light Water Breeder Reactor (LWBR), and a Liquid Metal Fast Breeder Reactor (LMFBR) variant. Other less developed concepts could be evaluated later as designs and characteristics become firmer.
 4. Consistent with DOE's broad program and the objectives of NASAP, participate in the review of complete nuclear systems, and include in the scope of the NRC staff review described in Alternative 3 the fuel resource requirements, alternative fuel cycles, and the safeguards and non-proliferation aspects of the reactor and the associated fuel cycle facilities.

Discussion: President Carter's message of April 7, 1977 proposed that the new emphasis being placed on non-proliferation aspects of the reactor fuel cycle be extended to cover advanced reactor concepts, including the LMFBR. The DOE responded by instituting the NASAP studies for the comprehensive evaluation of alternative reactor concepts and fuel cycles to meet the President's goals. The NASAP objective is a program that can satisfactorily match the US energy needs and fuel resources, while providing a means to assure that other nations can also meet their expanding energy needs, without aggravating the proliferation problem. The NASAP results will provide significant input to the International Fuel Cycle Evaluation (INFCE) program, which is reexamining fuel processing, breeding, and proliferation problems on an international

basis over the next two years. The reactor concepts within NASAP are not new, but are generally being reevaluated in the light of fuel cycle alternatives and optimizations with strengthened safeguards and non-proliferation characteristics. The standards by which proliferation resistance is to be judged are the subject of a separate NASAP study, which is expected to continue through 1978.

The DOE is preparing a Preliminary Safety Information Document (PSID) for the HWR concept of the CANDU type, which is to be submitted to NRC in initial form about May 1978. DOE has requested that we review the initial document, and provide comments and suggestions for use in the preparation of their final PSID, which is scheduled for release about September 1978. DOE also requested that we prepare a Preapplication Safety Evaluation (PSE) of the concept described in the PSID, including guidance on technical licensing matters, requirements for research and development, definition of design basis accidents, and additional information requirements. This HWR evaluation will set a pattern for other concepts to be submitted later, to the extent that the information available on these other concepts permits. Prior to the NASAP studies, the NRC staff completed a similar evaluation of the Gas Cooled Fast Reactor Concept (GCFR); the NRC staff evaluation was based on a PSID prepared by the General Atomic Company. The PSID and PSE for the GCFR will serve as partial models for documentation in the NASAP efforts.

It is estimated that the HWR evaluation will require up to four man-years of NRR effort plus one man-year of NMSS effort, if sufficient fuel cycle information is provided. The other concepts most likely to deserve significant review effort are the Spectral Shift Reactor (SSR), the advanced fuel HTGR, and a variant of the LMFBR. Because of prior staff reviews of HTGRs and PWRs (to which the SSR is very similar) it is expected that reviews of the advanced fuel HTGR and SSR would require slightly less effort, about two man-years each (NRR 1-1/2 man-years and NMSS 1/2 man-year). A variant of the LMFBR is estimated to require 4 man-years to review including 1 man-year of NMSS effort, based on the experience with and unresolved issues from the CRBR review. If all four reviews were undertaken, it is anticipated that the total of 13 man-years would be about evenly distributed between FY 78 and FY 79. Previous manpower projections have allotted two man-years to Alternate Cycles in FY 1978 and FY 1979 by NRR, but

no manpower was allocated by NMSS for such work, in either fiscal year. If the NRR Alternate Cycle time were used for the requested DOE effort, there would be a shortfall of about 3 manyears in NRR for FY 1978 and 79, and 1.5-2 manyears in NMSS for each fiscal year. If DOE were to submit PSIDs for additional concepts, the shortfall would be greater, and we would have extreme difficulty in meeting DOE's overall NASAP schedule of about two years. To this time, DOE has not mentioned the possibility of a request to review the Light Water Breeder Reactor (LWBR), or improvements in basic LWRs to improve fuel utilization, under the NASAP program. Depending on the nature of DOE's further efforts, particularly plans to pursue commercialization of a concept, there is a potential need for NRC confirmatory research to provide an acceptable basis for licensing decisions.

In defining the range of alternative responses open to us, we have eliminated those options that would tend to place the NRC staff in the position of evaluating a concept after having participated in the design definition of that concept. It would also be inappropriate for the NRC staff to rank the concepts in the order of licensability. Thus, it would seem that, at most, we should provide critical feedback and licensability opinion to DOE after reviews of their PSID and related fuel cycle and safeguards inputs. Prior to that time our comments would be limited to guidance on the practices and principles that the NRC staff uses in reaching its conclusions, suggestions for inclusion of information in the PSID and similar material. Light water reactor and uranium fuel cycle experience provides the bulk of these precedents.

Alternative 1 would comprise a review of all the reactor concepts submitted by DOE.

The minimum response would be a rejection of DOE's request until fully developed and screened concepts could be presented, Alternative 2.

An intermediate option is Alternative 3, whereby we limit our reviews to those concepts that are already rather well developed. In this way our participation should not be construed as significantly influencing the development of a design that is in a relatively preliminary stage.

A fourth option, which responds to DOE's request for our thoughts on the best way to carry out such reviews, is Alternate 4. This Alternative includes the entire nuclear system in the scope of the NRC staff reviews.

Alternative 1: Comply with the DOE requests for reactor reviews. Provide guidance on the preparation of DOE's PSID based on information needs, and licensing precedents and principles. Provide a full reactor evaluation (commensurate with the completeness of the material submitted in the PSID) for each concept submitted by DOE, highlighting any licensing problem areas.

- PRO
- (a) Provides a measure of cooperation with DOE for achievement of Presidential objectives.
 - (b) Provides early opportunity for staff to become familiar with the reactor concepts that may be pursued in the future.
 - (c) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would be available early in the DOE decision process.
- CON
- (a) This alternative could involve many concepts, many of them in an early and fluid stage of design. Recommendations made at this stage on such fluid designs could be interpreted as NRC support for early design features, and could potentially bias future design and reviews.
 - (b) The present uncertainty about non-proliferation criteria will make the evaluation incomplete and possibly premature. Manpower may be wasted reviewing concepts that do not fit the criteria that would ultimately apply.
 - (c) Because of the large number of concepts, the manpower requirements would be well beyond our available resources.
 - (d) Since only reactor reviews are involved, significant system considerations related to fuel cycle and safeguard aspects will remain unreviewed by NRC.

Alternative 2: Decline the DOE requests until non-proliferation standards have been adopted and final alternative reactor and fuel cycle choices have been made by DOE and endorsed by the Administration.

- PRO (a) NRC's review would not bias DOE's choices at the early design stages of the concepts.
- (b) The evaluations would be limited to the concepts meeting DOE's criteria and would have the benefit of well developed non-proliferation criteria.
- (c) There would be little requirement for NRC manpower in FY 78.
- CON (a) NRC input would come at a late stage, and could impact DOE's implementation schedules, particularly if our response is unfavorable, or heavily qualified because of unavailable information.
- (b) A PSE is a preapplication document and should not have to await the completion of all phases of design.
- (c) This alternative would delay evaluation that we would have to do eventually, and timing may be a greater constraint for later evaluation.
- (d) DOE considers the NRC staff views on licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would not be available early in the DOE decision process.

Alternative 3: Initially agree to review only those established reactor concepts for which a substantial background of applicable experience exists, e.g., HWR (CANDU), HTGR, SSR, LWBR, and an LMFBR variant. Other less developed concepts could be evaluated later as designs become firmer, and evaluation is warranted.

- PRO (a) This approach would be consistent with our past actions in evaluating the GCFR concept.
- (b) It would be a suitable application of the PSE vehicle since NRC conclusions could be definitive.
- (c) These concepts are fairly well developed already. Basic design choices are, in many cases, already made. Our participation would not prejudice staff evaluation in later review of these design choices.

- (d) DOE schedules are unlikely to be impacted unfavorably, because these are the only alternatives that are far enough along to reach the licensing stage in the near future. The Decision Criterion 1 would be satisfied in regard to those alternative reactors in the immediate prospect. The less developed alternative reactors do not have an impact on Criterion 1 at this time.
 - (e) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would be available early in the DOE decision process.
- CON
- (a) Non-proliferation criteria are not yet developed, and the design evaluations may be premature in the sense that non-proliferation criteria could prompt significant changes in the concepts, or discarding of some concepts.
 - (b) NRC agreement to review these concepts may be regarded as a prejudice in favor of these four concepts and against others.
 - (c) Reluctance of NRC to comment on potential licensing issues of less developed concepts could limit DOE's long term decision making perspective.
 - (d) Since only reactor reviews are involved, significant system considerations related to fuel cycle and safeguard aspects will remain unreviewed by NRC.
 - (e) Manpower requirements would be about 6 manyears over allocated resources if the reviews were spread over the next two years and a total of four concepts are reviewed. We estimate that NRR would require 3 additional manyears in both FY 1978 and FY 1979. Performance of the NASAP reviews without the allocation of additional NRR manpower would result in delays in completion of CP, OL, Systematic Evaluation Program and generic technical activity reviews. The estimated impact is a 2 month delay in several such cases or activities for each NASAP concept reviewed.

Alternative 4: Consistent with DOE's broad program and the objectives of NASAP, participate in the review of complete nuclear systems, and include in the scope of the NRC staff review described in Alternative 3 the fuel resource requirements, alternative fuel cycles, and the safeguards and non-proliferation aspects of the reactor and the associated fuel cycle facilities.

- PRO
- (a) This reactor evaluation approach would be consistent with our past actions in evaluating the GCFR concept.
 - (b) The reactor evaluation would be a suitable application of the PSE vehicle, since NRC conclusions could be definitive.
 - (c) The reactor concepts are fairly well developed already. Basic design choices are, in many cases, already made. Our participation would not prejudice staff evaluation in later review of these design choices.
 - (d) DOE schedules are unlikely to be impacted unfavorably, because these are the only alternatives that are far enough along to be likely to reach the licensing stage in the near future. The Decision Criterion 1 would be satisfied in regard to those alternative reactors and fuel cycles in the immediate prospect. The less developed alternative reactors do not have an impact on Criterion 1 at this time.
 - (e) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of system concepts to be emphasized for development into the commercial phase. The reactor evaluation, plus the fuel system review performed by the NRC staff, will be comprehensive and complete. It will include the fuel cycle and associated facilities, and will provide DOE with needed information and input for the INFCE decision process.
 - (f) This scope of review involves NRC in the total spectrum of the nuclear option (i.e., reactor and fuel cycle) from the beginning, and should be beneficial to the long term programs of the nation.

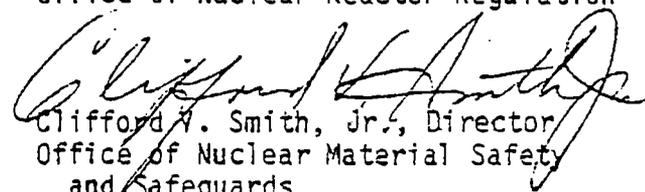
- CON (a) Non-proliferation criteria for reactors or fuel cycles are not yet established, and the evaluations may be premature in the sense that non-proliferation criteria could prompt significant changes in the concepts, or discarding of some concepts.
- (b) NRC agreement to review these concepts may be regarded as a prejudice in favor of these four concepts and against others.
- (c) Reluctance of NRC to comment on potential licensing issues of less developed concepts could limit DOE's long term decision making perspective.
- (d) Manpower requirements would be about 9 manyears over allocated resources if the reviews were spread over the next two years and a total of four concepts are reviewed. We estimate that NRR would require 3 additional manyears in both FY 1978 and FY 1979 and NMSS would require 1.5-2 manyears for each fiscal year. Performance of the NASAP reviews without the allocation of additional NRR manpower would result in delays in completion of CP, OL, Systematic Evaluation Program and generic technical activity reviews. The estimated impact is a 2 month delay in several such cases or activities for each NASAP concept reviewed.

Recommendations: That the Commission:

1. Approve Alternative 4 including the allocation of additional manpower. Note that the lack of non-proliferation criteria may limit the precision of staff conclusions. Direct the staff to work out the details of implementation of the reactor and fuel cycle evaluations.
2. Note that the ACRS will be requested to review.
3. Approve the transmittal of the enclosed letter from L. Gossick to G. Cunningham (Enclosure 2). This letter is a reply to the original request for review from Mr. Bauer (Enclosure 1), and has been prepared in accordance with Alternative 4.

Coordination: The Office of Nuclear Reactor Research agrees that Alternative 4 should be adopted. The Office of the Executive Legal Director has no legal objection to the adoption of Alternative 4 or the proposed response to DOE.


Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation


Clifford A. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

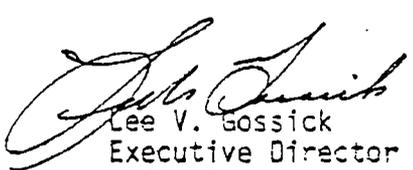
Enclosures:

1. Proposed Letter to G. Cunningham
2. Letter from Mr. Bauer

DISTRIBUTION:
Commissioners
Commission Staff Offices
Exec Dir for Operations
ACRS
Secretariat

EDO NOTE:

I endorse the selection of Alternative 4 in the subject paper, but I recommend that the question of allocation of additional personnel to the offices be deferred until I have had the opportunity to review the schedule of DOE submissions to the Commission, the manpower resources required by these initiatives, as well as by other priority actions within the Commission and the availability of resources that can be made available through reallocation to meet these needs.


Lee V. Gossick
Executive Director
for Operations

NOTE: Commissioner comments should be provided directly to the Office of the Secretary by c.o.b. Friday, March 13, 1973.

Commission staff office comments, if any, should be submitted to the Commissioners MLT March 13, 1973, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

ENCLOSURE 1
PROPOSED LTR TO G. CUNNINGHAM



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Dr. George W. Cunningham
Acting Program Director
for Nuclear Energy
Department of Energy
Washington, D. C. 20545

Dear Dr. Cunningham:

The NRC has considered Mr. Bauer's request of September 30, 1977 for a Preapplication Safety Evaluation (PSE) of a low-enriched uranium heavy water reactor (HWR) of the CANDU type, and similar treatment of other alternative concepts, and is prepared to act affirmatively on it. Preliminary discussions have been held between the NRC staff and representatives of DOE and their contractors in regard to the HWR evaluation. These discussions have indicated some areas where more definite information will be required, including information on the desired scope, depth, and schedule of NRC staff review.

Consistent with the Department of Energy plans to evaluate the nonproliferation aspects of the various potential nuclear systems, including reactors and fuel cycles (the NASAP studies), we believe that it would be appropriate to include in the scope of the NRC staff review of the HWR the fuel resource requirements, alternative fuel cycles, generic and safeguards impacts of heavy water production, and the safeguards and nonproliferation aspects of the reactors and the associated fuel cycle facilities. Preliminary discussions with your staff indicate that this scope of review should be practicable and productive. We recognize that your proposed documentation relating to the licensability of a reactor facility may not be an appropriate vehicle for this additional information, and suggest that the DOE and NRC staffs reach agreement on the content and timing of additional documentation. At the present time, we believe that it is reasonable to expect completion of this fuel cycle review at about the same time as the licensability review of the reactor.

We believe that the NRC staff can be of assistance to you in evaluating the licensability of the various system concepts you are considering. In order to do this, the environmental impact, the safeguards and the public health and safety aspects of the system concepts, including the estimates of the probabilities and consequences of accidents, must be evaluated and shown to be acceptable when considered in the light of the criteria developed for the licensing of established systems of reactors (LWRs) and fuel cycles. This requires that reasonably firm designs be considered in order that meaningful judgments can be made on their acceptability. We would therefore not propose to review system concepts that are in a very preliminary stage of development, such as, for example, the gaseous core reactor.

In order to arrange for the commitment of the necessary personnel at the proper time we will need a firm estimate of the schedules on which you would expect to submit the Preliminary Safety Information Document (PSID) and related material and the other schedule milestones that you are able to identify. It would also be helpful to hold further discussions aimed at gauging the depth to which the system concept and its particular characteristics should be examined. In making these determinations, it will be necessary to take our limited manpower resources into account.

In regard to the HWR concept, which you are proposing for NRC's first consideration, the reactor review will follow the usual pattern of a licensing review, but with the abridgements appropriate for a concept-stage review rather than a well-defined reactor proposed for construction permit review. Other concepts will be considered in a similar fashion as permitted by the available information. We also note that where a need for a research and development program is identified in the course of your review, information outlining any such program should be furnished to the NRC for evaluation. Fuel cycle and safeguards assessments will likely be generic in nature making use of background and data previously developed in similar programmatic efforts.

We plan to set up the HWR review as a project within the Division of Project Management, Office of Nuclear Reactor Regulation, with the LMFBR Branch having the lead responsibility. Our review would omit specific site considerations, but where necessary typical siting would be assumed. The proposed review of fuel cycles, safeguards, and nonproliferation aspects would be managed by the Office of Nuclear Material Safety and Safeguards (NMSS).

We do not believe that the schedule your representatives proposed at the November 11, 1977 meeting with our staff is fully adequate. An initial six month period for the preparation of the Preliminary Safety Information Document (PSID) was proposed, and may be adequate. For preliminary planning you should allow about 12 months between the date of submittal of the PSID and the expected date on which the staff would complete its safety evaluation. Further discussions of DOE plans, schedules, and scope of review may prompt revision of this schedule.

In developing the PSID, you should follow the general format indicated in the "Standard Format and Content of Safety Analysis Reports for LWRs" insofar as it is applicable to this effort. Sections of the Standard Format not dealing with safety and licensing matters may be abbreviated or eliminated entirely from the reactor review; we understand from discussions with DOE staff that this is your intent. This will significantly facilitate our review. We would expect pertinent sections of your report to give clear information with respect to:

1. The design criteria, codes and standards upon which a detailed design would be developed.
2. The conceptual design of various systems and their interrelationships.
3. A description of the analysis methods, assumptions, and results obtained.
4. The analysis of a spectrum of accidents based on anticipated and less likely events such as process disturbances, equipment malfunctions and postulated component failures. The need for engineered safety features should be evaluated based on the probability and consequences of these events. The impact of various single failures on the course of the accidents should be evaluated.
5. Your assessment of the acceptability of the plant systems in relation to the design criteria and of the overall acceptability of the concept.
6. Identification of unique features or characteristics of the design compared to current technology and practice, and an evaluation of the safety significance of these departures.

You should identify those design criteria, codes, and standards applicable to LWRs which will be met, and provide justification for deviations from those which will not be met. Where criteria must be utilized that are different from or supplemental to those in current use, an explanation should be supplied. Similarly, we would expect you to supply a brief description of all the steps in the related fuel cycle, the related facilities and a review of the materials and facilities that require safeguarding.

In our review, we will provide a preliminary judgement as to whether or not the reactor concept could be developed into a design that could receive favorable staff assessment if a license application were to be submitted. Our judgment may be qualified in terms of resolution of safety questions, research and development results, or development of specific criteria. The fuel cycle review will provide preliminary evaluations of the environmental, safety, and safeguards aspects of the supporting fuel cycle.

We intend to request ACRS review of these concepts. We may therefore assume that the Committee will want occasional presentations from the NRC staff and DOE on this subject.

As Mr. Bauer requested, the staff will provide guidance on technical licensing matters, identification of requirements for research and development, definition of design basis accidents, and information requirements from AECL and others. We anticipate that this will be a continuing process to ensure that the PSID provides the information necessary to reach conclusions.

Mr. Bauer requested NRC guidance on safety and licensing implications for nuclear power plant alternatives sited outside the U.S. In this regard, we anticipate only being able to offer guidance based on parallels in the U.S.

As to the mode of our assessment, we expect that it will rely substantially on material submitted by you during the review process, augmented with some elements of our independent analysis as needed.

In our review we will make allowance for a period of questions and replies because we find this method productive in licensing reviews. In addition, however, we anticipate that these exchanges will be supplemented by topical meetings and less formal communications throughout the review in order to expedite the flow of information. The files of the project and the meetings themselves will be open to the public as required by law. Exceptions can be made to restrict access to proprietary material, but it is desirable that as little proprietary material as possible be used in this review.

I have appointed Mr. Homer Lowenberg Chairman of an NRC staff coordinating committee to handle NASAP related matters; please contact him on overall arrangements. Dr. T. P. Speis, Chief of the Liquid Metal Fast Breeder Reactors Branch, is our point of contact for the reactor licensability review, and Ms. Kathleen M. Black (NMSS) is the point of contact for the fuel cycle review. Please have your staff contact them for detailed arrangements and planning.

Sincerely,

Lee V. Gossick
Executive Director for
Operations

ENCLOSURE 2
LETTER FROM MR. BAUER



UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
- WASHINGTON, D.C. 20545

SEP 30 1977

Mr. Edson G. Case
Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Case:

Under the President's leadership the country is intensely examining the various options for utilization of nuclear power, with particular attention to the nonproliferation aspects of the various potential fuel cycles and reactors. ERDA is a major participant in this undertaking, and as one of its efforts, has produced a Nonproliferation Alternative Systems Assessment Program (NASAP) plan. The draft of this plan has been reviewed by NRC, and we are in the process of incorporating the NRC suggestions into the plan. Because of the importance, high priority and urgency placed by the President on the NASAP and the International Nuclear Fuel Cycle Evaluation (INFCE) programs, it is important that the participation by NRC be expanded to include expert opinion on the licensability aspects of the alternative power sources. Licensability is a critical part of the determination of overall commercial feasibility and the projected timing and cost of the commercial introduction of these alternative concepts. These commercial aspects are an essential consideration of the overall nonproliferation potential of these plants.

In addition to the NASAP plan development work, ERDA is preparing to enter into plant design and evaluation contracts with industry for selected NASAP alternative power plant concepts. These will include the Heavy Water Reactor, Spectral Shift Control Reactor, Molten Salt Reactor, Gaseous Core Reactor, Accelerator Breeder Reactors, and other reactor concepts. The purpose of this letter is to request NRC assistance on the NASAP Heavy Water Reactor (HWR) study and to advise NRC of the probable nature and timing of similar requests for NRC assistance on selected other concepts.

On the HWR plant, the specific assistance being requested is for NRC to conduct a Preapplication Safety Evaluation (PSE) of the HWR based upon a Preliminary Safety Information Document (PSID) to be submitted

SEP 30 1977

within three months by the U.S. reactor manufacturer selected by ERDA to conduct the HWR design study, assisted by a U.S. architect-engineer and by the Argonne National Laboratory (ANL). Based upon exploratory discussions between NRC and ERDA staffs, it appears that the general form and content of the General Atomic (GA) PSID and the NRC PSE on the GA Gas-Cooled Fast Reactor (GCFR) plant would be appropriate vehicles for accomplishing this goal for the NASAP HWR. We recognize that in certain areas the detailed knowledge of the plant and its safety considerations may be initially less than that provided for the GCFR review by NRC.

Our aim is to develop the best information possible in the time available. In this regard, it would be helpful if the NRC staff could participate in a mid-October 1977 preliminary meeting on the NASAP HWR with ERDA, the reactor manufacturer, the architect-engineer and ANL technical staffs. By attending this meeting, the NRC staff could become familiar with the NASAP HWR design criteria, considerations and objectives. We, therefore, could receive appropriate NRC guidance on the information to be provided in the HWR PSID to be submitted to NRC by the ERDA funded project team.

ERDA has already developed a PSID for an HWR which can be provided to NRC, and has completed a plant layout and capital cost estimate for a 1140 MWe HWR at the hypothetical Middletown, U.S.A. site. We believe that meaningful discussions on the NASAP HWR between NRC and ERDA could begin immediately. Suggested items for discussion include:

1. Existing and needed information on the HWR plant description, key design criteria, safety analysis, site considerations, reactor and coolant system characteristics, engineered safety features, auxiliary and emergency systems, safety analysis, plant conformance with NRC General Design Criteria (GDC) and the development of proposed GDC and plant modifications. It is believed that these items should be discussed to assure that the PSID submitted to NRC by ERDA's contractors contains the information required by the NRC staff to perform a meaningful review and produce a PSE.
2. NRC guidance on probable content of the PSE on the NASAP HWR in the areas of principal safety considerations, the relationship of NRC concerns about the HWR conceptual design to the requirements for a research and development program, and the definition of design basis accidents.

SEP 30 1977

3. NRC guidance on the desirability and practicality of ACRS review subsequent to completion of the NRC PSE report.
4. NRC guidance on the schedule. A possible schedule could be:
 - . draft PSID to NRC for preliminary evaluation - within 3 months
 - . formal submittal of PSID to NRC - within 6 months
 - . NRC PSE report completed - within 9 months
 - . ACRS review (if appropriate) - between 10 and 13 months.

Additionally, close liaison would be maintained between the ERDA funded study team during the first 6 months to familiarize the NRC staff with the NASAP HWR design and ensure the adequacy of the PSID submittal to NRC, and the NRC PSE report.
5. NRC guidance on information and participation which should be requested from AEGL and others, such as CANATOM, Ontario-Hydro, Electric Power Development Corporation (Japan), as appropriate.
6. NRC guidance on the approach to considering the safety and licensing implications for nuclear power plant alternatives sited outside the U.S., both by U.S. and non-U.S. reactor manufacturers.
7. Other items proposed by NRC and others, such as the NASAP HWR designer, architect-engineer, and ANL.

Completion of this effort should determine if the NASAP HWR concept potentially offers an acceptable degree of safety so as to allow future reviews to concentrate on details of the design rather than fundamental questions of concept adequacy. Additionally, it will assist ERDA and its contractors in estimating the probable effort and time in evolving required safety related research, engineering, and development data, and the related NRC and ACRS time to complete the formal site selection, construction permit, and operating license process.

If NRC can respond favorably to this request for specific assistance to the ERDA NASAP HWR project, we suggest that an NRC staff member be assigned as early as possible to work out the details of the program with the ERDA HWR technical manager, K. A. Trickett. We understand that NRC has established a coordinating committee for NRC work in the area of alternative fuel cycles and reactor technologies. We believe that contacts between ERDA and this committee could also be productive.

In addition to the above specific and immediate request for NRC assistance on the NASAP HWR project, we anticipate that other alternative reactor systems, such as the Spectral Shift Concept, will also be submitted for similar safety/licensing evaluation by NRC in the future.

We realize the difficulties and inherent limitations that may constrain the study. A large number of concepts are to be assessed. They are in varying stages of development. For some of the systems a great deal of information is available, and a very large backlog of safety assessments already exists. For some of the systems, however, no reference design or reasonable point of departure may exist at this time.

It is also our belief that it is crucially important that the various systems be evaluated against criteria appropriate to the system at hand. We, of course, are fully aware that a large array of criteria have already been established for the Light Water Reactor (LWR), on which the U.S. nuclear program has been based. However, we believe that an assessment which places excessive weight on criteria developed for the light water system may not, in itself, be an appropriate basis on which to assess other systems. This again obviously is a source of major difficulty; and judgments, as well as analyses, will have to be made relative to various recommended criteria.

We believe that it is inherent in the nature of the task that faces us that your analyses and reviews will necessarily have to be very selective. Similarly, our input would also be of a limited nature, at least in some cases.

We seek your opinion as to whether you would prefer your assessment of these other alternative reactor systems to be based solely on your own analysis of the system, or whether you would prefer your analysis to come in a responsive mode to material we present to you, as proposed above for the HWR. If you select a responsive mode for your assessments, we will arrange for our contractors to prepare appropriate material and request ANL to assist us in this safety and licensing activity.

The end product of the collective evaluation which we seek is an assessment of the safety and licensability of each of the concepts. We are fully aware of the difficulty of this task and also that it may depart significantly from precedent on NRC assessments. We must also emphasize that the effort which we hope to initiate between us must be consistent with the overall NASAP schedule since this is a major interagency commitment.

Among the assessments that we believe it would be useful for NRC to perform for each of the alternative NASAP concepts are the following:

- (a) Comments relative to the fundamental safety of the concept.
- (b) The criteria against which such licensability would be assessed and the possible difficulties on licensability.
- (c) The likely research and development requirements with respect to both timing and magnitude.

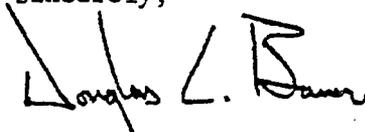
We would like to emphasize that the assessments made in this study should not be viewed by NRC as having any binding aspects on them.

These and any other assessments that you would care to make should be instrumental in allowing us to reach an assessment relative to the ultimate practicality of the concept being considered.

We are, of course, anxious to get your thoughts as to how we might best perform this task. As noted above, there are many issues to be resolved, and we would like to discuss the matter with you so that we can proceed with this task. In this regard, it would be helpful for NRC to work with the ERDA program manager, S. Strauch, and his staff, to determine how best to proceed on these additional efforts.

I would appreciate your advising me if we may look forward to your assistance. I would be pleased to discuss it further with you at your convenience.

Sincerely,



Douglas C. Bauer, Director
Division of Nuclear Research
and Applications

cc: K. S. Pederson, Director, Office
of Policy Evaluation, NRC
H. Lowenberg, Asst. Dir. for
Operations Technology, NRC
L. V. Gossick, Exec. Dir. for
Operations, NRC
R. P. Denise, Asst. Dir. for
Special Projects, NRC
R. S. Boyd, Director, Div. of
Project Management, NRC
R. V. Avery, Director, Reactor
Analysis & Safety, ANL
G. W. Cunningham, O/ANE, ERDA

Commissioner's office

April 28, 1978

SECY-78-228

COMMISSIONER ACTION

For: The Commissioners

From: Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety and Safeguards

Thru: Executive Director for Operations

*See EDO note,
page 13.*

Subject: COMMISSION RESPONSE TO GAO FINAL LETTER REPORT ON
NRC'S ROLE IN SELECTING FISSION TECHNOLOGIES*

Purpose: To present the proposed NRC role in selecting fission technologies, in response to GAO's recommendations in the subject report, together with a draft response to the House Committee on Government Operations and Senate Committee on Government Affairs.

Category: This paper covers a policy matter requiring Commission consideration and action.

Issue: The nature and content of the response to the Congress. The subject GAO report (Enclosure 1) recommends that: NRC establish a program to monitor, systematically and independently, development of alternative fission technologies, and report to the President and cognizant Congressional committees on known or suspected licensing problems of these technologies, and NRC should rank, to the extent possible, technologies for desired development in the United States from a licensing point of view. (A written statement on actions taken on the GAO recommendations is required to be submitted to the House and Senate Committees named above not later than 60 days after March 7, 1978.)

Decision Criteria: 1. Does the alternative selected comply with the GAO recommendations?

* Fission technologies - combinations of nuclear reactors and supporting fuel cycles.

B-NH

2. Does the alternative chosen provide actions beneficial to the United State in regard to nuclear energy resource utilization and nonproliferation objectives?
3. Is the alternative chosen consonant with the independent regulatory function of NRC?

- Alternatives:
1. A level of NRC participation in the selection of fission technologies that the NRC staff believes to be partially responsive to the GAO recommendations would provide for review of four reactor systems, together with appropriate fuel cycles, in response to requests from DOE. In the required response to Congress, NRC could characterize the reviews as independent, and state that NRC is requesting DOE to include the NRC's reviews in DOE proposals to the President and Congress on selection of alternative technologies. This alternative requires about 14 man-years* of effort and about \$0.8 million to complete the four reviews described in alternative 4 of SECY-78-136 (Enclosure 2).
 2. An intermediate level of NRC participation would provide for: review of the criteria, data, process and results used by DOE in its selection of its most promising alternative systems from a licensing viewpoint; review of the same four systems delineated in alternative 1; initiation of research programs in support of the four systems; and preparation of a staff report to the President and Congress.

In the required response to the GAO recommendations, NRC would state that it has set up a program to review alternative fission technologies and that the Commission will transmit a report of the staff's findings to the President and cognizant Congressional committees.

This alternative is estimated to require about 25 1/2 man-years of effort and about \$3.4 million. This alternative represents a more responsive position by NRC to the GAO recommendations than alternative 1.

* Only professional manpower is included in the manpower estimates.

3. The highest level of NRC participation considered in this paper would initiate an essentially independent review by NRC of the NASAP systems. Nonproliferation strategies available to the United States would be evaluated and the safety, safeguards and environmental characteristics of 7-8 reactor systems and appropriate fuel cycles would be reviewed. Research programs in support of the systems would be initiated. A report to the President and cognizant Congressional committees would be prepared.

In the required response to Congress on the GAO recommendations, NRC would state that it has set up a program to review alternative fission technologies and that the Commission will transmit a report of the staff's findings to the President and cognizant Congressional committees.

This alternative requires about 50 man-years of effort and about \$7.0 million dollars of funding.

Discussion:

President Carter's April 1977 Nuclear Power Policy Statement initiated the International Nuclear Fuel Cycle Evaluation (INFCE), which will receive major input from DOE's Nonproliferation Alternative Systems Assessment Program (NASAP). The staff considered NASAP to be an important program and proposed in early budget requests to undertake independent evaluations of alternative fission technologies in 1978 and 1979. Although the Commission specified that the agency was to maintain a general level of cognizance over DOE development work on alternative fuel cycles, the Commission eliminated most personnel and most funds requested for alternative fuel cycles in the FY 1978 budget. For FY 1979, the Commission directed that no major new commitments of resources or program dollars should be made to alternative fuel cycles until more definitive proposals were brought to the agency's attention.

Consistent with Commission policy, the staff has been attempting to follow the NASAP program on a minimum basis. For example: on an ad hoc basis the staff has reviewed reports as DOE has released them for comment; and an ad hoc staff task force responded to a request from the GAO for staff views on safety, safeguardability and environmental acceptability of alternative fission technologies. In addition, a standing NRC coordinating committee was appointed to handle NASAP-related matters on as-available and as-requested bases.

Recently (SECY-78-136), the staff has proposed to respond affirmatively to a DOE request that NRC review an HWR concept of the CANDU type. In addition, the various offices have underway or are planning to initiate several contractor studies pertaining to alternative fuel cycles.

The GAO has completed a survey for the Joint Economic Committee of the status, potential and problems of alternative fuel cycles, and, prior to publication of its final report, has recommended strengthening of NRC's role in Federal efforts to select alternative fission technologies for further development. GAO notes that:

- . NRC has no responsibility for developing nuclear fission technologies and its principal function is to assess and regulate independently the safety, safeguards and environmental adequacy of civilian nuclear facilities and procedures proposed to NRC for licensing action by DOE and the nuclear industry.
- . NRC is not a member of the inter-agency management group that will approve the screening of candidate alternative fission technology systems for government development.
- . There is no ongoing systematic NRC effort to monitor and evaluate alternative fission technologies for the future.
- . The failure to establish an organized effort within NRC to monitor and evaluate independently nuclear fission technologies for future development could result in
 - the Federal Government selecting and funding the development of nuclear reactor and fuel cycle technologies that are not among the most acceptable from the safety, safeguards and environmental point of view; and

--serious delays and cost overruns if NRC is not adequately prepared or unable to express timely views on the licensing aspects of the construction and operation of demonstration projects and/or if the licensing staff and the developers disagree on the design requirements for such projects, which has occurred in the past for the Clinch River Breeder Reactor.

GAO recommended to DOE that it: inform NRC of alternative technologies under serious consideration for future development as soon as they are selected; and, recognize NRC's report on known or potential licensing issues and problems as a major factor in formulating proposals on alternative technologies.

GAO recommended that the Chairman, NRC:

- . Establish a program to monitor, systematically and independently, the development of alternative fission reactor and fuel cycle technologies.
- . Identify and report to the President and cognizant Congressional committees known or suspected licensing issues and problems associated with the reactor and fuel cycle technologies under serious consideration by DOE before any are scheduled to be selected for future development. To the extent possible, the Chairman should rank the reactor and fuel cycle technologies for desired development in the United States from a licensing point of view, and clearly identify the relative safety, safeguards and environmental advantages and disadvantages of each.

Senator Bentsen, the recipient of the GAO letter report, has written to Chairman Hendrie encouraging positive actions on the GAO recommendations be initiated at once "without further Congressional direction."

DOE is scheduled to complete its preliminary integrated assessment and selection of key system classes in April 1978, with selection of the most promising alternative systems scheduled for October 1978. The final draft report is scheduled for July 1979. It is clear that DOE is now winnowing candidate systems down to a smaller number than those enumerated in the NASAP plan of August 1977. The staff believes that a positive NRC response to the GAO recommendations is appropriate from a policy standpoint, but such response requires both staffing and financial funding for appropriate implementation. At the time the FY 1979 budget was developed, the Commission felt it was too early to commit substantial NRC resources to NASAP studies. The staff believes the strong recommendations by GAO, the letter from Senator Bentsen, the DOE NASAP schedule, the DOE request for NRC review, and the time required to develop a program for and to obtain supplemental authorization of resources and manpower for the independent evaluation of alternative systems makes a positive response to the GAO recommendations desirable. If NRC is to produce meaningful, integrated analyses of alternative fuel cycles on a time frame consistent with the DOE schedule, work must begin as soon as possible. Additional personnel and funds are required for any substantial level of NRC participation.

In developing alternatives for consideration by the Commission, the staff has relied heavily on the assumption that the September 30, 1977, request to NRC from then ERDA for review of an HWR of the CANDU type represents the type of request that might be forthcoming from DOE and that requests for four reviews will be received from DOE. If requests for more reviews are received from DOE, increased resources would be required for certain of the alternatives. The staff notes that the NASAP plan has never been published in final form, although a final version is scheduled for publication in April 1978. In addition, staff participation in INFCE has led to the knowledge that the INFCE Technical Coordinating Committee believes that a reorientation of NASAP is required if NASAP is to provide meaningful input to INFCE to meet the INFCE deadlines.

We note also that the GAO has recommended that NRC rank reactor and fuel cycle technologies from a licensing point of view. While the staff report may result in a ranking, the propriety of a ranking being made by an independent regulatory commission may be questioned by individuals and agencies outside of NRC.

With respect to the alternative responses to the GAO recommendations:

It is the staff plan that any work carried out on any of the alternative plans would be conducted by present line organizations of NRC. To the extent necessary to provide coordinated planning and inputs to DOE, cognizant Congressional committees and the President, the efforts of the various NRC offices would be coordinated by the NASAP coordinating committee or another appropriate organization designated by the Commission or the EDO.

Whatever advice or evaluations that NRC provides to DOE and the President and Congress on the licensability of concepts that have been reviewed represents preliminary conclusions based on preliminary information. This advice would not be intended to prejudice the development of reactor systems or fuel cycles, nor would it be intended to commit NRC in any future licensing actions.

Work on any of these alternatives would have to be carried out in FY 78 and FY 79; the report to the President and cognizant Congressional committees, a part of alternatives 2 and 3, would be published coincident with the final NASAP and INFCE reports. All alternatives require added resources of manpower and/or funding for FY 78 and FY 79.

Alternative 1: NRC would reply to requests from DOE for reviews of four alternative systems. The Commission would inform Congress that it was undertaking independent reviews of alternative reactor systems and fuel cycles in response to requests from DOE, but that NRC would not write a summary report. However, copies of individual reviews would be provided to the President and cognizant Congressional committees. NRC would inform Congress that NRC will request DOE to include NRC reviews in DOE proposals for the President and Congress on alternative technologies. The Commission could also inform the Congress that, in the opinion of NRC, DOE would be required to write a programmatic statement before embarking on any large program to demonstrate alternative technologies; and that NRC would provide comments on licensability at that time. (This alternative is essentially the same as alternative 4 of SECY-78-136.)

Alternative 1 is estimated to require the following resources:

NRR	10	man-years	\$0.8 million
NMSS			
FC	2	man-years	
SG	1	man-year	
RES	1	man-year	
Total	14	man-years	<u>\$0.8 million</u>

PRO (a) Minimum requirement for additional personnel and funds.

(b) Consistent with NRC policy of reacting to requests for licensing actions.

CON This response does not appear to meet the intent of the GAO recommendations and Senator Bentsen's letter.

Alternative 2: In alternative 2, NRC would:

- Review the same four alternative systems, defined in alternative 4 of SECY-78-136.
- Review the process, criteria, information and results used by DOE in its selection of concepts for further evaluation and review the DOE selection to determine whether NRC believes an appropriate selection has been made.
- Perform computations and simple tests to assist in defining problem magnitude and in planning any required follow-on work associated with NASAP.
- Provide inputs to DOE and write a summary report to the President and cognizant Congressional committees.

The Commission would inform Congress that NRC has established a program for independent monitoring of alternative reactor systems and fuel cycles and that NRC would submit a report of staff findings to the President and cognizant Congressional committees.

Alternative 2 requires the following resources:

NRR	12 1/2 man-years	\$0.8 million
NMSS		
FC	5 man-years	0.4 million
SG	4 man-years	0.2 million
RES	4 man-year	2.0 million
Total	25 1/2 man-years	\$3.4 million

- PRO (a) This response would be essentially consistent with NRC's position of being a reactive (rather than an initiating) organization.
- (b) An independent NRC review of the DOE process for selecting the most promising alternative systems would be made.
- (c) The reactor concepts to be reviewed would be well developed and NRC participation would not prejudice staff evaluation in later reviews.
- (d) Additional personnel and funding requirements would be smaller than those required for alternative 3.
- CON (a) May not be completely responsive to GAO recommendations that NRC independently and systematically review alternative technologies.
- (b) NRC agreement to review these concepts may be regarded as prejudice in favor of the concepts, and reluctance to comment on licensing issues of less well developed concepts could limit DOE's long term decision making perspectives.

Alternative 3: NRC would attempt to comply with the full intent of the GAO recommendations by initiating an independent and systematic monitoring of alternative fission technologies and preparing a report to the President and Congress. A response to Congress would indicate the Commission's affirmative response to the GAO recommendations.

The three offices, NMSS, NRR and RES, would begin immediately to develop coordinated program plans, schedules and resource requirements which would be submitted by the offices to the Commission. In alternative 3, the staff is proposing an essentially independent NRC program that exceeds the level of effort described in alternatives 1 and 2.

In alternative 3,

- The staff would review the criteria, data and process used by DOE in its selection of most promising alternative systems to determine whether NRC considers the appropriate selection of concepts for further development has been made.
- NMSS and NRR would review 7-8 alternative reactor concepts together with supporting fuel cycles from safety, safeguards and environmental standpoints.
- RES would perform computations and simple tests to assist in defining problem magnitude and in planning work associated with NASAP follow-on.
- The staff would evaluate nonproliferation strategies open to the United States and assess the interaction of selected strategies and NRC licensing functions.

In addition, the staff would provide the Commission with an evaluation of the full range of safeguards, safety and environmental concerns and their probable modes of resolution associated with the NASAP follow-on program. Output of this alternative would contain recommended actions to be factored into the Commission's 5-year plan to cope with the work load arising from the NASAP follow-on.

It should be noted that the lack of recent data from DOE makes a precise estimate of this alternative difficult. The staff believes, however, that the preliminary level of staffing and funding indicated below is necessary for an independent NRC program.

A preliminary estimate of the resource requirements is:

NRR	30	man-years	\$2.9 million
NMSS			
FC	9	man-years	.4 million
SG	5	man-years	.2 million
RES	6	man-years	3.5 million
Total	50	man-years	\$7.0 million

- PRO (a) Satisfies most GAO recommendations.
- (b) DOE considers NRC staff views on licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would be available for the DOE decision process.
- (c) Provides early opportunity for staff to become familiar with concepts that may be pursued in the future.
- (d) Provides the opportunity for NRC to review and comment on nonproliferation criteria.
- (e) Provides specific response to GAO's concern over NRC long range plans.
- CON (a) This alternative involves a large number of concepts, many of them in an early stage of design. Recommendations made on such designs could potentially bias future design and reviews.
- (b) The present uncertainty about concepts and evaluation criteria may make the analyses premature. Manpower may be utilized reviewing concepts that may be discarded for various reasons as work progresses.
- (c) Large additional resources are required.

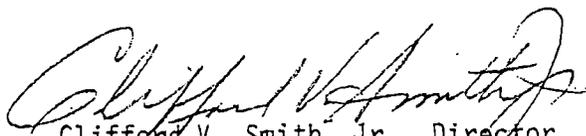
While the resources shown in Alternative 3 would be needed for a broad ranging coverage of NASAP activities, the outcome of the DOE studies may likely be of more limited variety than the 7-8 concepts we have included in our projection for this alternative. Furthermore, this alternative requires very large additional resources that are specialized in nature and appear to be impractical to secure in the time frame involved.

Recommendation: That the Commission:

1. Approve alternative 2, authorizing NMSS, NRR and RES to develop a coordinated and more detailed schedule and budget for the effort and submit the schedule and budget to the Commission for approval.
2. Authorize the staff to begin preparation of a supplemental FY 79 appropriation, as necessary.
3. Approve the transmittal of the enclosed letter to Senator Abraham Ribicoff (Enclosure 3). Identical letters will be sent to the Chairman, House Committee on Government Operations; the Chairman, Senate Subcommittee on Nuclear Regulation; the Chairman, Committee on Interior and Insular Affairs; the Comptroller General of the United States; and the Chairman, House Subcommittee on Energy and Power. A similar letter will be sent to the Vice-Chairman, Joint Economic Committee.
4. Approve the transmittal of the enclosed letter to Secretary Schlesinger (Enclosure 4).

Coordination: NMSS has acted as coordinator for preparing this paper; has attempted to develop a consensus position of the three offices on the recommended alternative; and has incorporated the resource requirements provided by individual offices for each alternative. ELD has no legal objections; RES and NRR concur.

Scheduling: The Chairman is required to respond to Senator Ribicoff within 60 days following March 7, 1978.


Clifford V. Smith, Jr., Director
Office of Nuclear Material
Safety and Safeguards

Enclosures:

1. GAO Final Letter Report Regarding NRC's Role in Selecting Fission Technologies
2. SECY-78-136
3. Proposed letter to Senator Abraham Ribicoff
4. Proposed letter to Secretary Schlesinger

NOTE: Commissioner comments should be provided directly to the Office of the Secretary by close of business

EDO NOTE: The EDO supports the recommended staff response to the GAO. It should be emphasized, however, that resources to implement the recommendation are not currently in the FY 1978 program or in the pending FY 1979 budget request. The EDO has requested the BRG to review the program of the Commission and to recommend to him how resources can be reprogrammed to initiate the activities described in the proposed staff response.

SECY NOTE: Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Monday, May 8, 1978.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT May 4, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION

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Exec Dir for Operations
Secretariat

ENCLOSURE 1

GAO FINAL LETTER REPORT REGARDING NRC'S
ROLE IN SELECTING FISSION TECHNOLOGIES



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 8, 1978

Tom Rehm

*Screen Teles
RENEW PAGES
susp 30 days
cc RES
NRC
SP
Direct*

*NOTE: Reviewers
Please w/ draft
addressing counsel. of rec.
Include Rehm in drafts.
TJA*

MEMORANDUM FOR: Chairman Hendrie
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Bradford

FROM: *fo* Thomas J. McTiernan, Director
Office of Inspector and Auditor

SUBJECT: GAO FINAL LETTER REPORT REGARDING NRC'S ROLE IN
SELECTING FISSION TECHNOLOGIES

In accordance with our August 25, 1975, memorandum concerning coordination of GAO activities within NRC, the subject report is being sent for your information.

It should be noted that recommendations directed to the Chairman, NRC, are contained on page 6 of this letter report. As you know, Section 236 of the Legislative Reorganization Act of 1970 requires the Chairman to submit a written statement on actions taken on GAO recommendations to the House and Senate Committees on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the NRC's first request for appropriations made more than 60 days after the date of the report. This response on NRC's actions will be coordinated and drafted by EDO.

Should you have any views or comments on the subject report, we will be happy to pass these on to GAO.

Enclosure:
Cy subj rpt dtd 3/7/78

- cc: L. Gossick, w/encl
- S. Chilk, w/encl
- J. Nelson, w/encl
- K. Pedersen, w/encl
- C. Kammerer, w/encl
- J. Fouchard, w/encl
- H. Shapar, w/encl
- C. Smith, w/encl
- B. Burnett, w/encl
- E. Case, w/encl
- S. Levine, w/encl
- T. Rehm, w/encl

Contact: Fred Herr, OIA
49-27051



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-164105

March 7, 1978

The Honorable Lloyd Bentsen
Vice Chairman, Joint Economic
Committee
United States Congress

Dear Mr. Vice Chairman:

We are bringing to your attention the need to strengthen the Nuclear Regulatory Commission's (NRC's) role in Federal efforts to select nuclear fission technologies for future development. Our concern over NRC's role arises from work we have done in response to a May 12, 1977, request from the former Vice Chairman, Joint Economic Committee, that we review the status, potential, and problems of alternative nuclear fission technologies. Our report on the status, potential, and problems will be issued to the Congress in early spring. We are reporting on the need to strengthen NRC's role at this time because we believe prompt attention is required.

In April 1977 the President proposed to (1) defer indefinitely commercial reprocessing and recycling of plutonium, as well as the commercial introduction of the Liquid Metal Fast Breeder Reactor (LMFBR); (2) reduce funding for the LMFBR program and redirect it toward evaluation of alternative fission technologies; and (3) cancel construction of the Clinch River Breeder Reactor (CRBR)--the Nation's first LMFBR demonstration powerplant. These actions were taken in the hope they would help reduce the risk of nuclear weapons proliferation.

As a result of the President's proposal, the Department of Energy (DOE) is conducting a major assessment program to recommend nuclear fission technologies for future development. NRC, however, has no systematic ongoing effort to independently monitor and evaluate alternative technologies from a safety, safeguards, and environmental point of view to complement the DOE effort. Such an NRC effort is needed, in our view, to help ensure the selection of the most appropriate nuclear fission technologies for future development by the United States. Accordingly, we are making recommendations to the Chairman, NRC, and the Secretary, DOE, aimed at strengthening NRC's role in the selection process.

EMD-78-44
(30369)

The matters presented here were discussed with NRC and DOE officials and their comments were considered during report preparation.

MAJOR DOE EFFORT TO SELECT
NUCLEAR FISSION TECHNOLOGIES
FOR FUTURE DEVELOPMENT

The Nonproliferation Alternative Systems Assessment Program (NASAP) is DOE's major effort to assess alternative nuclear fission technologies which might meet the energy needs of the Nation while enhancing the Nation's nonproliferation efforts. The overall program goal is to recommend to the Secretary of Energy by July 1979 U.S. development priorities for those systems which, when deployed in the United States and internationally, would offer improved proliferation resistance compared to systems that permit access to plutonium or to other materials directly usable in nuclear weapons.

Under initial consideration as candidate technologies for future development are more than 85 nuclear systems involving 21 reactor types and 12 fuel cycle combinations. The number of candidate systems will be reduced through a series of successive screening steps. Screening of systems will be based on an evaluation of their (1) proliferation resistance, (2) resource utilization, (3) technology status and development needs, (4) economics, (5) commercial feasibility, and (6) environmental and safety acceptability. The results of these screenings will be approved by an interagency management group from DOE, the State Department, and the Arms Control and Disarmament Agency--but not NRC.

The NASAP plan notes that considerable interaction with NRC is required to obtain a consensus on the licensability of candidate systems, and that NRC assistance will be needed to identify major generic environmental and safety problems which may lead to difficulty in meeting existing or proposed regulatory requirements. No agreements, however, exist between NRC and DOE on how or when this interaction and assistance will take place or in what form it will be.

NEED TO STRENGTHEN NRC'S ROLE

NRC has no responsibility for developing nuclear fission technologies; such efforts are the responsibility of DOE and industry. NRC's principal function is to independently assess and regulate the safety, safeguards, and environmental adequacy of civilian nuclear facilities and procedures proposed to them for licensing action by DOE and the nuclear industry. Accordingly, NRC is primarily a reactive organization.

NRC's primary efforts regarding alternative nuclear fission technologies for the future have been to provide a staff response to a request from us on the licensing issues associated with a number of nuclear fission technologies, and requests from DOE on preliminary planning documents relating to NASAP. In addition, NRC has recently become involved to a limited extent in an international study of nuclear fuel cycle issues. As noted above, NRC is not a member of the inter-agency management group that will approve the screening of candidate systems.

Since there is no systematic ongoing NRC effort to monitor and evaluate alternative fission technologies for the future, the NRC staff is not prepared to make extensive evaluations of such technologies. On August 17, 1977, we requested the written views of the NRC staff on the safety, safeguardability, and environmental acceptability of various reactor and fuel cycle concepts. We asked the staff to identify areas of known problems and the areas it anticipates would have to be emphasized in any future licensing review of each concept. Further, we asked the NRC staff to rank or categorize the concepts according to their probable licensability.

In order to respond to our request, NRC had to establish an internal coordinating committee to draw together the views of its various program groups. In its response to us, the NRC staff committee did not rank or categorize the probable licensability of the nuclear concepts. According to NRC officials, they did not have the resources, time, or necessary information to do so.

In commenting on our report, NRC officials stated that the Commissioners had earlier stressed that no major new commitment of resources or funds should be made in this area until more definitive proposals were brought to the agency's attention which could conceivably lead to licensing actions by NRC. We were told that although the Commissioners felt that it was too early to devote substantial levels of resources and manpower to the variety of study efforts being pursued by DOE, the NRC staff was expected to keep abreast of activities in the area. Without specifying the exact amount, it was noted that NRC's fiscal year 1979 budget request to the Congress provides limited funds among various program offices for this general monitoring effort.

POSSIBLE CONSEQUENCES OF NOT HAVING
EARLY COMMISSION INVOLVEMENT

The failure to establish an organized effort within NRC to independently monitor and evaluate nuclear fission technologies for future development could result in

- the Federal Government selecting and funding the development of nuclear reactor and fuel cycle technologies that are not among the most acceptable from the safety, safeguards, and environmental point of view; and
- serious delays and cost overruns if NRC is not adequately prepared or unable to express timely views on the licensing aspects of the construction and operation of demonstration projects and/or if the licensing staff and the developers disagree on the design requirements for such projects.

Regarding the first possible consequence, a brief synopsis of the history of LMFBR development will illustrate our concern. In the 1960s the LMFBR was essentially selected as the next generation of nuclear fission power. Eventually, it became the highest priority energy research and development program in the United States and several other nations.

Unfortunately, the selection process in the 1960s did not give full consideration to how this technology could be used to supply the material for developing a nuclear weapons capability. This was changed by the President when he directed that proliferation of nuclear weapons capability become a major factor in assessing nuclear alternatives for the future. If a nuclear fission technology other than the LMFBR is ultimately selected for future development, the Federal Government would have spent hundreds of millions of dollars on a technology that yielded no direct tangible benefits as a commercial power source.

While the Nation could still select a technology that might not be the most acceptable, we believe that an independent evaluation of future technologies by NRC before the selection is made would help reduce this risk. The Nation would not have to rely only on DOE's technical opinion. Instead, it would have the benefit of the expert opinion of the agency which would ultimately be responsible for licensing the plant that would result from the program.

With respect to the second possible consequence, millions of dollars in cost overruns could result due to slipped licensing milestones unless NRC is able to license future

demonstration projects in a timely manner. Again, the LMFBR illustrates our concern.

The CRBR is a major project in the LMFBR program. One major objective of the CRBR is to demonstrate that LMFBRs are licensable. Therefore, NRC's licensing review--which has been indefinitely suspended as a result of the President's proposal to cancel the plant--was a critical step in the project's construction schedule. The licensing review of the CRBR was hampered during its entire history by disagreement between ERDA and NRC on the fundamental safety design of the plant to cope with low probability accidents. For example, the NRC staff stated in August 1975 that it was not likely that the proposed containment design for the CRBR would be adequate for the site, but it was not until December 1976 that the design was changed to comply with the NRC requirements.

In February 1976 an ERDA official testified before Congress that a 15-month delay in the overall project resulted in a \$214 million cost increase. This delay and cost overrun, according to the ERDA official, was due to both ERDA and NRC underestimating the time that would be needed to license a "first-of-a-kind" plant like the CRBR. Although a number of factors contributed to the licensing delays and cost overruns, the fundamental difference in perspective between NRC and the plant's developers about how the plant would be built to meet certain safety concerns was certainly a major, if not the biggest, factor. We previously discussed some of these licensing problems in three reports 1/.

CONCLUSIONS

It is likely that the President and the Congress will use DOE proposals on which nuclear reactor and fuel cycle technologies should be selected for future research, development, and demonstration as a major source for policy decisions on the funding of future nuclear research and development programs. Both would be able to make better decisions if NRC were actively and independently involved in this process as soon as possible. However, NRC does not have any current

1/"Problem Areas Which Could Affect the Development Schedule for the Clinch River Breeder," December 1974; "Cost and Schedule Estimates for the Nation's First Liquid Metal Fast Breeder Reactor Demonstration Powerplant," RED-75-358, May 22, 1975; and "Liquid Metal Fast Breeder Reactor: Promises and Uncertainties," OSP-76-1, July 31, 1975.

plans to become actively involved in this crucial evaluation and planning effort.

This lack of early involvement might eventually cause serious licensing delays for future nuclear technologies. Once before, when NRC and the then ERDA disagreed on fundamental safety design requirements for CRBR, the Federal Government experienced major licensing delays which resulted in large cost overruns. Early NRC involvement would help highlight any differences of opinions and would allow for a more focused debate on the relevant issues.

More important, the Nation needs NRC's early and informed perspective on the various nuclear technologies to preclude technologies from being selected that may not be among the most acceptable from a safety, safeguards, and environmental viewpoint. Further, developers need to be able to rely on the regulators to give them timely and reliable information on the potential licensability of future nuclear technologies.

RECOMMENDATIONS

We recommend that the Chairman, NRC:

- Establish a program to systematically and independently monitor the development of alternative fission reactor and fuel cycle technologies for the future.
- Identify and report to the President and cognizant congressional committees known or suspected licensing issues and problems associated with the reactor and fuel cycle technologies under serious consideration by DOE before any are scheduled to be selected for future development. To the extent possible, the Chairman should rank the reactor and fuel cycle technologies for desired development in the United States from a licensing point of view, and clearly identify the relative safety, safeguards, and environmental advantages and disadvantages of each.

We also recommend that the Secretary, Department of Energy:

- Inform NRC of the reactor and fuel cycle technologies which are under serious consideration for future development as soon as they are selected so the Commission can identify and report on associated licensing issues and problems.

--Recognize NRC's report on known or potential licensing issues and problems as a major factor for consideration in formulating proposals to the President and the Congress on which reactor and fuel cycle technologies should be selected for future research, development, and demonstration.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and Senate Committee on Governmental Affairs not later than 60 days after the date of the report, and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

As arranged with the former Vice Chairman's office, we are sending copies of this report to DOE and NRC so that the requirements of Section 236 can be set in motion. Copies will also be sent to other interested parties.

Sincerely yours,



Comptroller General
of the United States

ENCLOSURE 2

SECY-78-136

March 6, 1978

SECY-78-136

FC

COMMISSIONER ACTION

For: The Commissioners

From: Edson G. Case, Acting Director, Office of Nuclear
Reactor Regulation
Clifford V. Smith, Director, Office of Nuclear Material Safety
and Safeguards

Thru: Executive Director for Operations *JCS*

Subject: NRC REVIEWS OF ADVANCED NUCLEAR POWER PLANT CONCEPTS

Purpose: To determine the amount of effort that the NRC staff devotes to reviewing reactor concepts and associated fuel cycle concepts presented by DOE under the Nonproliferation Alternative Systems Assessment Program (NASAP).

Category: This paper covers a policy matter involving the NRC/DOE interactions.

Issue: The nature of the NRC response to requests from DOE for Preliminary Safety Evaluations (PSE) of reactor and fuel cycle concepts presented under NASAP, prior to DOE selection of those alternatives that it intends to pursue into the demonstration stage.

Decision

- Criteria:
1. Does the alternative chosen provide for actions beneficial to United States policy in regard to nuclear energy resource utilization and nonproliferation objectives?
 2. Does the alternative chosen involve the NRC in the concept selection decision process in any inappropriate way?
 3. Does the alternative chosen tend to commit, or appear to commit, the NRC to positions on concepts which may later be submitted for NRC licensing action?
 4. Does the alternative chosen overtax our available manpower resources?

Contact:
Speis

- Alternatives:
1. Comply with the DOE requests for reactor reviews. Provide guidance on the preparation of DOE's Preliminary Safety Information Document (PSID) based on information needs, and licensing precedents and principles. Provide a full reactor evaluation (commensurate with the completeness of the material submitted) for each concept submitted by DOE, highlighting any licensing problem areas.
 2. Decline the DOE requests until non-proliferation standards have been adopted and final alternative reactor and fuel cycle choices have been made by DOE and endorsed by the Administration.
 3. Initially agree to review only those established reactor concepts for which a substantial background of applicable experience exists, e.g., Heavy Water Reactor (HWR) of the CANDU type, High Temperature Gas Cooled Reactor (HTGR), Spectral Shift Reactor (SSR), Light Water Breeder Reactor (LWBR), and a Liquid Metal Fast Breeder Reactor (LMFBR) variant. Other less developed concepts could be evaluated later as designs and characteristics become firmer.
 4. Consistent with DOE's broad program and the objectives of NASAP, participate in the review of complete nuclear systems, and include in the scope of the NRC staff review described in Alternative 3 the fuel resource requirements, alternative fuel cycles, and the safeguards and non-proliferation aspects of the reactor and the associated fuel cycle facilities.

Discussion: President Carter's message of April 7, 1977 proposed that the new emphasis being placed on non-proliferation aspects of the reactor fuel cycle be extended to cover advanced reactor concepts, including the LMFBR. The DOE responded by instituting the NASAP studies for the comprehensive evaluation of alternative reactor concepts and fuel cycles to meet the President's goals. The NASAP objective is a program that can satisfactorily match the US energy needs and fuel resources, while providing a means to assure that other nations can also meet their expanding energy needs, without aggravating the proliferation problem. The NASAP results will provide significant input to the International Fuel Cycle Evaluation (INFCE) program, which is reexamining fuel processing, breeding, and proliferation problems on an international

basis over the next two years. The reactor concepts within NASAP are not new, but are generally being reevaluated in the light of fuel cycle alternatives and optimizations with strengthened safeguards and non-proliferation characteristics. The standards by which proliferation resistance is to be judged are the subject of a separate NASAP study, which is expected to continue through 1978.

The DOE is preparing a Preliminary Safety Information Document (PSID) for the HWR concept of the CANDU type, which is to be submitted to NRC in initial form about May 1978. DOE has requested that we review the initial document, and provide comments and suggestions for use in the preparation of their final PSID, which is scheduled for release about September 1978. DOE also requested that we prepare a Preapplication Safety Evaluation (PSE) of the concept described in the PSID, including guidance on technical licensing matters, requirements for research and development, definition of design basis accidents, and additional information requirements. This HWR evaluation will set a pattern for other concepts to be submitted later, to the extent that the information available on these other concepts permits. Prior to the NASAP studies, the NRC staff completed a similar evaluation of the Gas Cooled Fast Reactor Concept (GCFR); the NRC staff evaluation was based on a PSID prepared by the General Atomic Company. The PSID and PSE for the GCFR will serve as partial models for documentation in the NASAP efforts.

It is estimated that the HWR evaluation will require up to four man-years of NRR effort plus one man-year of NMSS effort, if sufficient fuel cycle information is provided. The other concepts most likely to deserve significant review effort are the Spectral Shift Reactor (SSR), the advanced fuel HTGR, and a variant of the LMFBR. Because of prior staff reviews of HTGRs and PWRs (to which the SSR is very similar) it is expected that reviews of the advanced fuel HTGR and SSR would require slightly less effort, about two man-years each (NRR 1-1/2 man-years and NMSS 1/2 man-year). A variant of the LMFBR is estimated to require 4 man-years to review including 1 man-year of NMSS effort, based on the experience with and unresolved issues from the CRBR review. If all four reviews were undertaken, it is anticipated that the total of 13 man-years would be about evenly distributed between FY 78 and FY 79. Previous manpower projections have allotted two man-years to Alternate Cycles in FY 1978 and FY 1979 by NRR, but

no manpower was allocated by NMSS for such work, in either fiscal year. If the NRR Alternate Cycle time were used for the requested DOE effort, there would be a shortfall of about 3 manyears in NRR for FY 1978 and 79, and 1.5-2 manyears in NMSS for each fiscal year. If DOE were to submit PSIDs for additional concepts, the shortfall would be greater, and we would have extreme difficulty in meeting DOE's overall NASAP schedule of about two years. To this time, DOE has not mentioned the possibility of a request to review the Light Water Breeder Reactor (LWBR), or improvements in basic LWRs to improve fuel utilization, under the NASAP program. Depending on the nature of DOE's further efforts, particularly plans to pursue commercialization of a concept, there is a potential need for NRC confirmatory research to provide an acceptable basis for licensing decisions.

In defining the range of alternative responses open to us, we have eliminated those options that would tend to place the NRC staff in the position of evaluating a concept after having participated in the design definition of that concept. It would also be inappropriate for the NRC staff to rank the concepts in the order of licensability. Thus, it would seem that, at most, we should provide critical feedback and licensability opinion to DOE after reviews of their PSID and related fuel cycle and safeguards inputs. Prior to that time our comments would be limited to guidance on the practices and principles that the NRC staff uses in reaching its conclusions, suggestions for inclusion of information in the PSID and similar material. Light water reactor and uranium fuel cycle experience provides the bulk of these precedents.

Alternative 1 would comprise a review of all the reactor concepts submitted by DOE.

The minimum response would be a rejection of DOE's request until fully developed and screened concepts could be presented, Alternative 2.

An intermediate option is Alternative 3, whereby we limit our reviews to those concepts that are already rather well developed. In this way our participation should not be construed as significantly influencing the development of a design that is in a relatively preliminary stage.

A fourth option, which responds to DOE's request for our thoughts on the best way to carry out such reviews, is Alternative 4. This Alternative includes the entire nuclear system in the scope of the NRC staff reviews.

Alternative 1: Comply with the DOE requests for reactor reviews. Provide guidance on the preparation of DOE's PSID based on information needs, and licensing precedents and principles. Provide a full reactor evaluation (commensurate with the completeness of the material submitted in the PSID) for each concept submitted by DOE, highlighting any licensing problem areas.

- PRO
- (a) Provides a measure of cooperation with DOE for achievement of Presidential objectives.
 - (b) Provides early opportunity for staff to become familiar with the reactor concepts that may be pursued in the future.
 - (c) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would be available early in the DOE decision process.
- CON
- (a) This alternative could involve many concepts, many of them in an early and fluid stage of design. Recommendations made at this stage on such fluid designs could be interpreted as NRC support for early design features, and could potentially bias future design and reviews.
 - (b) The present uncertainty about non-proliferation criteria will make the evaluation incomplete and possibly premature. Manpower may be wasted reviewing concepts that do not fit the criteria that would ultimately apply.
 - (c) Because of the large number of concepts, the manpower requirements would be well beyond our available resources.
 - (d) Since only reactor reviews are involved, significant system considerations related to fuel cycle and safeguard aspects will remain unreviewed by NRC.

Alternative 2: Decline the DOE requests until non-proliferation standards have been adopted and final alternative reactor and fuel cycle choices have been made by DOE and endorsed by the Administration.

- PRO (a) NRC's review would not bias DOE's choices at the early design stages of the concepts.
- (b) The evaluations would be limited to the concepts meeting DOE's criteria and would have the benefit of well developed non-proliferation criteria.
- (c) There would be little requirement for NRC manpower in FY 78.
- CON (a) NRC input would come at a late stage, and could impact DOE's implementation schedules, particularly if our response is unfavorable, or heavily qualified because of unavailable information.
- (b) A PSE is a preapplication document and should not have to await the completion of all phases of design.
- (c) This alternative would delay evaluation that we would have to do eventually, and timing may be a greater constraint for later evaluation.
- (d) DOE considers the NRC staff views on licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would not be available early in the DOE decision process.

Alternative 3: Initially agree to review only those established reactor concepts for which a substantial background of applicable experience exists, e.g., HWR (CANDU), HTGR, SSR, LWBR, and an LMFBR variant. Other less developed concepts could be evaluated later as designs become firmer, and evaluation is warranted.

- PRO (a) This approach would be consistent with our past actions in evaluating the GCFR concept.
- (b) It would be a suitable application of the PSE vehicle since NRC conclusions could be definitive.
- (c) These concepts are fairly well developed already. Basic design choices are, in many cases, already made. Our participation would not prejudice staff evaluation in later review of these design choices.

- (d) DOE schedules are unlikely to be impacted unfavorably, because these are the only alternatives that are far enough along to reach the licensing stage in the near future. The Decision Criterion 1 would be satisfied in regard to those alternative reactors in the immediate prospect. The less developed alternative reactors do not have an impact on Criterion 1 at this time.
- (e) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of concepts to be emphasized for development into the commercial phase, and these views would be available early in the DOE decision process.

- CON
- (a) Non-proliferation criteria are not yet developed, and the design evaluations may be premature in the sense that non-proliferation criteria could prompt significant changes in the concepts, or discarding of some concepts.
 - (b) NRC agreement to review these concepts may be regarded as a prejudice in favor of these four concepts and against others.
 - (c) Reluctance of NRC to comment on potential licensing issues of less developed concepts could limit DOE's long term decision making perspective.
 - (d) Since only reactor reviews are involved, significant system considerations related to fuel cycle and safeguard aspects will remain unreviewed by NRC.
 - (e) Manpower requirements would be about 6 manyears over allocated resources if the reviews were spread over the next two years and a total of four concepts are reviewed. We estimate that NRR would require 3 additional manyears in both FY 1978 and FY 1979. Performance of the NASAP reviews without the allocation of additional NRR manpower would result in delays in completion of CP, OL, Systematic Evaluation Program and generic technical activity reviews. The estimated impact is a 2 month delay in several such cases or activities for each NASAP concept reviewed.

Alternative 4: Consistent with DOE's broad program and the objectives of NASAP, participate in the review of complete nuclear systems, and include in the scope of the NRC staff review described in Alternative 3 the fuel resource requirements, alternative fuel cycles, and the safeguards and non-proliferation aspects of the reactor and the associated fuel cycle facilities.

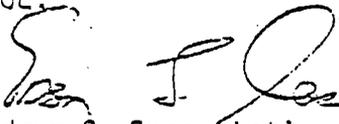
- PRO
- (a) This reactor evaluation approach would be consistent with our past actions in evaluating the GCFR concept.
 - (b) The reactor evaluation would be a suitable application of the PSE vehicle, since NRC conclusions could be definitive.
 - (c) The reactor concepts are fairly well developed already. Basic design choices are, in many cases, already made. Our participation would not prejudice staff evaluation in later review of these design choices.
 - (d) DOE schedules are unlikely to be impacted unfavorably, because these are the only alternatives that are far enough along to be likely to reach the licensing stage in the near future. The Decision Criterion 1 would be satisfied in regard to those alternative reactors and fuel cycles in the immediate prospect. The less developed alternative reactors do not have an impact on Criterion 1 at this time.
 - (e) DOE considers the NRC staff views on reactor licensability to be important in the overall choice of system concepts to be emphasized for development into the commercial phase. The reactor evaluation, plus the fuel system review performed by the NRC staff, will be comprehensive and complete. It will include the fuel cycle and associated facilities, and will provide DOE with needed information and input for the INFCE decision process.
 - (f) This scope of review involves NRC in the total spectrum of the nuclear option (i.e., reactor and fuel cycle) from the beginning, and should be beneficial to the long term programs of the nation.

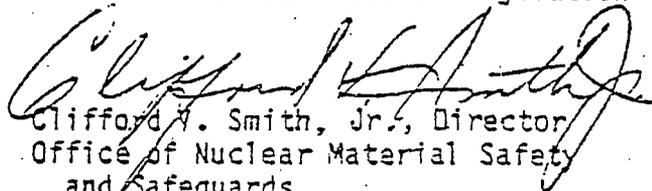
- CON
- (a) Non-proliferation criteria for reactors or fuel cycles are not yet established, and the evaluations may be premature in the sense that non-proliferation criteria could prompt significant changes in the concepts, or discarding of some concepts.
 - (b) NRC agreement to review these concepts may be regarded as a prejudice in favor of these four concepts and against others.
 - (c) Reluctance of NRC to comment on potential licensing issues of less developed concepts could limit DOE's long term decision making perspective.
 - (d) Manpower requirements would be about 9 manyears over allocated resources if the reviews were spread over the next two years and a total of four concepts are reviewed. We estimate that NRR would require 3 additional manyears in both FY 1978 and FY 1979 and NMSS would require 1.5-2 manyears for each fiscal year. Performance of the NASAP reviews without the allocation of additional NRR manpower would result in delays in completion of CP, OL, Systematic Evaluation Program and generic technical activity reviews. The estimated impact is a 2 month delay in several such cases or activities for each NASAP concept reviewed.

Recommendations: That the Commission:

1. Approve Alternative 4 including the allocation of additional manpower. Note that the lack of non-proliferation criteria may limit the precision of staff conclusions. Direct the staff to work out the details of implementation of the reactor and fuel cycle evaluations.
2. Note that the ACRS will be requested to review.
3. Approve the transmittal of the enclosed letter from L. Gossick to G. Cunningham (Enclosure 2). This letter is a reply to the original request for review from Mr. Bauer (Enclosure 1), and has been prepared in accordance with Alternative 4.

Coordination: The Office of Nuclear Reactor Research agrees that Alternative 4 should be adopted. The Office of the Executive Legal Director has no legal objection to the adoption of Alternative 4 or the proposed response to DOE.


Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation


Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosures:

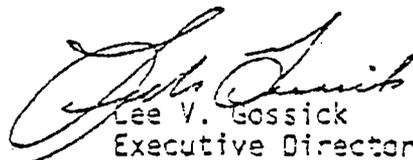
1. Proposed Letter to G. Cunningham
2. Letter from Mr. Bauer

DISTRIBUTION:

Commissioners
Commission Staff Offices
Exec Dir for Operations
ACRS
Secretariat

EDO NOTE:

I endorse the selection of Alternative 4 in the subject paper, but I recommend that the question of allocation of additional personnel to the offices be deferred until I have had the opportunity to review the schedule of DOE submissions to the Commission, the manpower resources required by these initiatives, as well as by other priority actions within the Commission and the availability of resources that can be made available through reallocation to meet these needs.


Lee V. Gossick
Executive Director
for Operations

NOTE: Commissioner comments should be provided directly to the Office of the Secretary by c.o.b. Friday, March 17, 1973.

Commission staff office comments, if any, should be submitted to the Commissioners WLT March 13, 1973, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

ENCLOSURE 1
PROPOSED LTR TO G. CUNNINGHAM



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Dr. George W. Cunningham
Acting Program Director
for Nuclear Energy
Department of Energy
Washington, D. C. 20545

Dear Dr. Cunningham:

The NRC has considered Mr. Bauer's request of September 30, 1977 for a Preapplication Safety Evaluation (PSE) of a low-enriched uranium heavy water reactor (HWR) of the CANDU type, and similar treatment of other alternative concepts, and is prepared to act affirmatively on it. Preliminary discussions have been held between the NRC staff and representatives of DOE and their contractors in regard to the HWR evaluation. These discussions have indicated some areas where more definite information will be required, including information on the desired scope, depth, and schedule of NRC staff review.

Consistent with the Department of Energy plans to evaluate the nonproliferation aspects of the various potential nuclear systems, including reactors and fuel cycles (the NASAP studies), we believe that it would be appropriate to include in the scope of the NRC staff review of the HWR the fuel resource requirements, alternative fuel cycles, generic and safeguards impacts of heavy water production, and the safeguards and nonproliferation aspects of the reactors and the associated fuel cycle facilities. Preliminary discussions with your staff indicate that this scope of review should be practicable and productive. We recognize that your proposed documentation relating to the licensability of a reactor facility may not be an appropriate vehicle for this additional information, and suggest that the DOE and NRC staffs reach agreement on the content and timing of additional documentation. At the present time, we believe that it is reasonable to expect completion of this fuel cycle review at about the same time as the licensability review of the reactor.

We believe that the NRC staff can be of assistance to you in evaluating the licensability of the various system concepts you are considering. In order to do this, the environmental impact, the safeguards and the public health and safety aspects of the system concepts, including the estimates of the probabilities and consequences of accidents, must be evaluated and shown to be acceptable when considered in the light of the criteria developed for the licensing of established systems of reactors (LWRs) and fuel cycles. This requires that reasonably firm designs be considered in order that meaningful judgments can be made on their acceptability. We would therefore not propose to review system concepts that are in a very preliminary stage of development, such as, for example, the gaseous core reactor.

In order to arrange for the commitment of the necessary personnel at the proper time we will need a firm estimate of the schedules on which you would expect to submit the Preliminary Safety Information Document (PSID) and related material and the other schedule milestones that you are able to identify. It would also be helpful to hold further discussions aimed at gauging the depth to which the system concept and its particular characteristics should be examined. In making these determinations, it will be necessary to take our limited manpower resources into account.

In regard to the HWR concept, which you are proposing for NRC's first consideration, the reactor review will follow the usual pattern of a licensing review, but with the abridgements appropriate for a concept-stage review rather than a well-defined reactor proposed for construction permit review. Other concepts will be considered in a similar fashion as permitted by the available information. We also note that where a need for a research and development program is identified in the course of your review, information outlining any such program should be furnished to the NRC for evaluation. Fuel cycle and safeguards assessments will likely be generic in nature making use of background and data previously developed in similar programmatic efforts.

We plan to set up the HWR review as a project within the Division of Project Management, Office of Nuclear Reactor Regulation, with the LMFBR Branch having the lead responsibility. Our review would omit specific site considerations, but where necessary typical siting would be assumed. The proposed review of fuel cycles, safeguards, and nonproliferation aspects would be managed by the Office of Nuclear Material Safety and Safeguards (NMSS).

We do not believe that the schedule your representatives proposed at the November 11, 1977 meeting with our staff is fully adequate. An initial six month period for the preparation of the Preliminary Safety Information Document (PSID) was proposed, and may be adequate. For preliminary planning you should allow about 12 months between the date of submittal of the PSID and the expected date on which the staff would complete its safety evaluation. Further discussions of DOE plans, schedules, and scope of review may prompt revision of this schedule.

In developing the PSID, you should follow the general format indicated in the "Standard Format and Content of Safety Analysis Reports for LWRs" insofar as it is applicable to this effort. Sections of the Standard Format not dealing with safety and licensing matters may be abbreviated or eliminated entirely from the reactor review; we understand from discussions with DOE staff that this is your intent. This will significantly facilitate our review. We would expect pertinent sections of your report to give clear information with respect to:

1. The design criteria, codes and standards upon which a detailed design would be developed.
2. The conceptual design of various systems and their interrelationships.
3. A description of the analysis methods, assumptions, and results obtained.
4. The analysis of a spectrum of accidents based on anticipated and less likely events such as process disturbances, equipment malfunctions and postulated component failures. The need for engineered safety features should be evaluated based on the probability and consequences of these events. The impact of various single failures on the course of the accidents should be evaluated.
5. Your assessment of the acceptability of the plant systems in relation to the design criteria and of the overall acceptability of the concept.
6. Identification of unique features or characteristics of the design compared to current technology and practice, and an evaluation of the safety significance of these departures.

You should identify those design criteria, codes, and standards applicable to LWRs which will be met, and provide justification for deviations from those which will not be met. Where criteria must be utilized that are different from or supplemental to those in current use, an explanation should be supplied. Similarly, we would expect you to supply a brief description of all the steps in the related fuel cycle, the related facilities and a review of the materials and facilities that require safeguarding.

In our review, we will provide a preliminary judgement as to whether or not the reactor concept could be developed into a design that could receive favorable staff assessment if a license application were to be submitted. Our judgment may be qualified in terms of resolution of safety questions, research and development results, or development of specific criteria. The fuel cycle review will provide preliminary evaluations of the environmental, safety, and safeguards aspects of the supporting fuel cycle.

We intend to request ACRS review of these concepts. We may therefore assume that the Committee will want occasional presentations from the NRC staff and DOE on this subject.

As Mr. Bauer requested, the staff will provide guidance on technical licensing matters, identification of requirements for research and development, definition of design basis accidents, and information requirements from AECL and others. We anticipate that this will be a continuing process to ensure that the PSID provides the information necessary to reach conclusions.

Dr. George W. Cunningham

- 4 -

Mr. Bauer requested NRC guidance on safety and licensing implications for nuclear power plant alternatives sited outside the U.S. In this regard, we anticipate only being able to offer guidance based on parallels in the U.S.

As to the mode of our assessment, we expect that it will rely substantially on material submitted by you during the review process, augmented with some elements of our independent analysis as needed.

In our review we will make allowance for a period of questions and replies because we find this method productive in licensing reviews. In addition, however, we anticipate that these exchanges will be supplemented by topical meetings and less formal communications throughout the review in order to expedite the flow of information. The files of the project and the meetings themselves will be open to the public as required by law. Exceptions can be made to restrict access to proprietary material, but it is desirable that as little proprietary material as possible be used in this review.

I have appointed Mr. Homer Lowenberg Chairman of an NRC staff coordinating committee to handle NASAP related matters; please contact him on overall arrangements. Dr. T. P. Speis, Chief of the Liquid Metal Fast Breeder Reactors Branch, is our point of contact for the reactor licensability review, and Ms. Kathleen M. Black (NMSS) is the point of contact for the fuel cycle review. Please have your staff contact them for detailed arrangements and planning.

Sincerely,

Lee V. Gossick
Executive Director for
Operations

ENCLOSURE 2
LETTER FROM MR. BAUER



UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
- WASHINGTON, D.C. 20545

SEP 30 1977

Mr. Edson G. Case
Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Case:

Under the President's leadership the country is intensely examining the various options for utilization of nuclear power, with particular attention to the nonproliferation aspects of the various potential fuel cycles and reactors. ERDA is a major participant in this undertaking, and as one of its efforts, has produced a Nonproliferation Alternative Systems Assessment Program (NASAP) plan. The draft of this plan has been reviewed by NRC, and we are in the process of incorporating the NRC suggestions into the plan. Because of the importance, high priority and urgency placed by the President on the NASAP and the International Nuclear Fuel Cycle Evaluation (INFCE) programs, it is important that the participation by NRC be expanded to include expert opinion on the licensability aspects of the alternative power sources. Licensability is a critical part of the determination of overall commercial feasibility and the projected timing and cost of the commercial introduction of these alternative concepts. These commercial aspects are an essential consideration of the overall nonproliferation potential of these plants.

In addition to the NASAP plan development work, ERDA is preparing to enter into plant design and evaluation contracts with industry for selected NASAP alternative power plant concepts. These will include the Heavy Water Reactor, Spectral Shift Control Reactor, Molten Salt Reactor, Gaseous Core Reactor, Accelerator Breeder Reactors, and other reactor concepts. The purpose of this letter is to request NRC assistance on the NASAP Heavy Water Reactor (HWR) study and to advise NRC of the probable nature and timing of similar requests for NRC assistance on selected other concepts.

On the HWR plant, the specific assistance being requested is for NRC to conduct a Preapplication Safety Evaluation (PSE) of the HWR based upon a Preliminary Safety Information Document (PSID) to be submitted

SEP 30 1977

within three months by the U.S. reactor manufacturer selected by ERDA to conduct the HWR design study, assisted by a U.S. architect-engineer and by the Argonne National Laboratory (ANL). Based upon exploratory discussions between NRC and ERDA staffs, it appears that the general form and content of the General Atomic (GA) PSID and the NRC PSE on the GA Gas-Cooled Fast Reactor (GCFR) plant would be appropriate vehicles for accomplishing this goal for the NASAP HWR. We recognize that in certain areas the detailed knowledge of the plant and its safety considerations may be initially less than that provided for the GCFR review by NRC.

Our aim is to develop the best information possible in the time available. In this regard, it would be helpful if the NRC staff could participate in a mid-October 1977 preliminary meeting on the NASAP HWR with ERDA, the reactor manufacturer, the architect-engineer and ANL technical staffs. By attending this meeting, the NRC staff could become familiar with the NASAP HWR design criteria, considerations and objectives. We, therefore, could receive appropriate NRC guidance on the information to be provided in the HWR PSID to be submitted to NRC by the ERDA funded project team.

ERDA has already developed a PSID for an HWR which can be provided to NRC, and has completed a plant layout and capital cost estimate for a 1140 MWe HWR at the hypothetical Middletown, U.S.A. site. We believe that meaningful discussions on the NASAP HWR between NRC and ERDA could begin immediately. Suggested items for discussion include:

1. Existing and needed information on the HWR plant description, key design criteria, safety analysis, site considerations, reactor and coolant system characteristics, engineered safety features, auxiliary and emergency systems, safety analysis, plant conformance with NRC General Design Criteria (GDC) and the development of proposed GDC and plant modifications. It is believed that these items should be discussed to assure that the PSID submitted to NRC by ERDA's contractors contains the information required by the NRC staff to perform a meaningful review and produce a PSE.
2. NRC guidance on probable content of the PSE on the NASAP HWR in the areas of principal safety considerations, the relationship of NRC concerns about the HWR conceptual design to the requirements for a research and development program, and the definition of design basis accidents.

SEP 19 1977

3. NRC guidance on the desirability and practicality of ACRS review subsequent to completion of the NRC PSE report.
4. NRC guidance on the schedule. A possible schedule could be:
 - . draft PSID to NRC for preliminary evaluation - within 3 months
 - . formal submittal of PSID to NRC - within 6 months
 - . NRC PSE report completed - within 9 months
 - . ACRS review (if appropriate) - between 10 and 13 months.

Additionally, close liaison would be maintained between the ERDA funded study team during the first 6 months to familiarize the NRC staff with the NASAP HWR design and ensure the adequacy of the PSID submittal to NRC, and the NRC PSE report.

5. NRC guidance on information and participation which should be requested from AECL and others, such as CANATOM, Ontario-Hydro, Electric Power Development Corporation (Japan), as appropriate.
6. NRC guidance on the approach to considering the safety and licensing implications for nuclear power plant alternatives sited outside the U.S., both by U.S. and non-U.S. reactor manufacturers.
7. Other items proposed by NRC and others, such as the NASAP HWR designer, architect-engineer, and ANL.

Completion of this effort should determine if the NASAP HWR concept potentially offers an acceptable degree of safety so as to allow future reviews to concentrate on details of the design rather than fundamental questions of concept adequacy. Additionally, it will assist ERDA and its contractors in estimating the probable effort and time in evolving required safety related research, engineering, and development data, and the related NRC and ACRS time to complete the formal site selection, construction permit, and operating license process.

If NRC can respond favorably to this request for specific assistance to the ERDA NASAP HWR project, we suggest that an NRC staff member be assigned as early as possible to work out the details of the program with the ERDA HWR technical manager, K. A. Trickett. We understand that NRC has established a coordinating committee for NRC work in the area of alternative fuel cycles and reactor technologies. We believe that contacts between ERDA and this committee could also be productive.

In addition to the above specific and immediate request for NRC assistance on the NASAP HWR project, we anticipate that other alternative reactor systems, such as the Spectral Shift Concept, will also be submitted for similar safety/licensing evaluation by NRC in the future.

We realize the difficulties and inherent limitations that may constrain the study. A large number of concepts are to be assessed. They are in varying stages of development. For some of the systems a great deal of information is available, and a very large backlog of safety assessments already exists. For some of the systems, however, no reference design or reasonable point of departure may exist at this time.

It is also our belief that it is crucially important that the various systems be evaluated against criteria appropriate to the system at hand. We, of course, are fully aware that a large array of criteria have already been established for the Light Water Reactor (LWR), on which the U.S. nuclear program has been based. However, we believe that an assessment which places excessive weight on criteria developed for the light water system may not, in itself, be an appropriate basis on which to assess other systems. This again obviously is a source of major difficulty; and judgments, as well as analyses, will have to be made relative to various recommended criteria.

We believe that it is inherent in the nature of the task that faces us that your analyses and reviews will necessarily have to be very selective. Similarly, our input would also be of a limited nature, at least in some cases.

We seek your opinion as to whether you would prefer your assessment of these other alternative reactor systems to be based solely on your own analysis of the system, or whether you would prefer your analysis to come in a responsive mode to material we present to you, as proposed above for the HWR. If you select a responsive mode for your assessments, we will arrange for our contractors to prepare appropriate material and request ANL to assist us in this safety and licensing activity.

The end product of the collective evaluation which we seek is an assessment of the safety and licensability of each of the concepts. We are fully aware of the difficulty of this task and also that it may depart significantly from precedent on NRC assessments. We must also emphasize that the effort which we hope to initiate between us must be consistent with the overall NASAP schedule since this is a major interagency commitment.

Among the assessments that we believe it would be useful for NRC to perform for each of the alternative NASAP concepts are the following:

- (a) Comments relative to the fundamental safety of the concept.
- (b) The criteria against which such licensability would be assessed and the possible difficulties on licensability.
- (c) The likely research and development requirements with respect to both timing and magnitude.

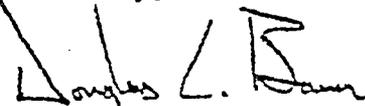
We would like to emphasize that the assessments made in this study should not be viewed by NRC as having any binding aspects on them.

These and any other assessments that you would care to make should be instrumental in allowing us to reach an assessment relative to the ultimate practicality of the concept being considered.

We are, of course, anxious to get your thoughts as to how we might best perform this task. As noted above, there are many issues to be resolved, and we would like to discuss the matter with you so that we can proceed with this task. In this regard, it would be helpful for NRC to work with the ERDA program manager, S. Strauch, and his staff, to determine how best to proceed on these additional efforts.

I would appreciate your advising me if we may look forward to your assistance. I would be pleased to discuss it further with you at your convenience.

Sincerely,



Douglas C. Bauer, Director
Division of Nuclear Research
and Applications

cc: K. S. Pederson, Director, Office
of Policy Evaluation, NRC
H. Lowenberg, Asst. Dir. for
Operations Technology, NRC
L. V. Gossick, Exec. Dir. for
Operations, NRC
R. P. Denise, Asst. Dir. for
Special Projects, NRC
R. S. Boyd, Director, Div. of
Project Management, NRC
R. V. Avery, Director, Reactor
Analysis & Safety, ANL
G. W. Cunningham, O/ANE, ERDA

ENCLOSURE 3

PROPOSED LETTER TO SENATOR ABRAHAM RIBICOFF

The Honorable Abraham Ribicoff
Chairman, Committee on Government Affairs
United States Senate
Washington, D.C. 20510

Dear Senator Ribicoff:

Pursuant to Section 236 of the Legislative Reorganization Act of 1970, we are informing you of the actions that NRC is initiating in response to the General Accounting Office's recommendations on the NRC role in the assessment of nuclear fission technologies whose development should be accelerated. These recommendations were contained in a March 7, 1978, letter report to Senator Lloyd Bentsen from Comptroller General Staats (Enclosure 1). The Commission has determined that an affirmative response on the part of NRC to the GAO recommendations is desirable.

A statutory responsibility of NRC, as mandated under the Atomic Energy Act, the Energy Reorganization Act, and the National Environmental Policy Act, is to ensure that civilian nuclear activities are conducted in a manner consistent with the public health and safety, common defense and security, and environmental quality. Clearly, all of these factors could play an important role in the evaluation of alternative reactor-fuel cycle systems for potential domestic use. NRC's existing framework of rules and regulations provides some guidance in assessing candidate systems.

Although the NRC staff and the DOE staff have been maintaining contact in certain areas, in order for NRC's proposed program developed in response to the GAO recommendations to be successful, NRC will have to have increasingly close contact with DOE. I am writing to Secretary Schlesinger stating that NRC intends to be responsive to the GAO recommendations and noting the necessity for joint agency cooperation.

The Honorable Abraham Ribicoff - 2 -

I have directed the staff to begin development and implementation of a program for an essentially independent evaluation of the development of alternative fission technologies. NRC would: review the process, criteria, information and results used by DOE in its selection of concepts for further development to determine whether NRC considers an appropriate selection of concepts for further development has been made; review, in response to requests from DOE, reactor concepts and supporting fuel cycles from a safety, safeguards, environmental and licensing viewpoint; and initiate some research efforts to assist in defining problem areas associated with any follow-on effort.

The Commission will provide a staff report to the President and Congress of our preliminary findings of known or suspected licensing issues and problems associated with alternative technologies under serious consideration by DOE. Of course, these preliminary findings could not commit NRC to specific positions in future licensing actions. The report will include a comparative evaluation of the alternative technologies studied from a safety, safeguards, environmental and licensing point of view; to the extent possible, the alternative reactor and fuel cycles evaluated by NRC will be ranked from a licensing standpoint. The NRC objective will be to publish a report on a time scale compatible with the completion of the NASAP program and the INFCE studies.

The NRC budgetary allocation for alternative fuel cycle studies in FY 79 was extremely limited. The Commission decision to undertake an essentially independent evaluation of the development of alternative technologies and to prepare a report may entail a request for additional resources for the program. I will request such funds and personnel after DOE and NRC have established the necessary communication link, and NRC has developed its program.

The NRC appreciates the importance of minimizing the risks of nuclear proliferation and stands ready to work with DOE and the rest of the Legislative and Executive Branches to the fullest extent consistent with its statutory obligations and responsibilities.

Sincerely,

Enclosure:
GAO Final Letter Report Regarding NRC'S
Role in Selecting Fission Technologies

ENCLOSURE 4

PROPOSED LETTER TO SECRETARY SCHLESINGER

The Honorable James R. Schlesinger
Secretary of Energy
Washington, D.C. 20545

Dear Mr. Secretary:

The Nuclear Regulatory Commission has reviewed recommendations from the General Accounting Office on the role of NRC in assessment of alternative fission technologies whose development should be accelerated (letter, Staats to Bentsen, March 7, 1978). The Commission has responded affirmatively to the GAO recommendations.

I have directed the staff to begin development and implementation of a program for an essentially independent evaluation of the development of alternative fission technologies. We are planning to: review the process, criteria, information and results used by DOE in its selection of concepts for further evaluation, and review the DOE selection to determine whether NRC believes an appropriate selection has been made; perform computations and simple tests to assist in defining problem magnitude and in planning any required follow-on work associated with NASAP; and publish a report to the President and cognizant Congressional committees of our findings of known or suspected licensing issues and problems associated with alternative technologies under serious consideration by DOE, including a comparative evaluation of the safety, safeguards, environmental and licensing aspects.

A statutory responsibility of NRC, as mandated under the Atomic Energy Act, the Energy Reorganization Act, and the National Environmental Policy Act, is to ensure that civilian nuclear activities are conducted in a manner consistent with the public health and safety, common defense and security, and environmental quality. Clearly, all of these factors could play an important role in the evaluation of alternative reactor-fuel cycle systems for potential domestic use. NRC's existing framework of rules and regulations should provide some guidance in assessing candidate systems.

In order that this assessment of alternative fission technologies by NRC be performed on a timely basis, it is essential that a communications link between NRC and DOE be established at an early date to permit NRC access to DOE NASAP studies and results.

The Honorable James R. Schlesinger

Page 2

I would appreciate your appointing a contact point as soon as possible so that NRC can begin its planning to carry out its independent review of alternative technologies.

The NRC appreciates the importance of minimizing the risks of nuclear proliferation and stands ready to work with DOE and the rest of the Executive and Legislative Branches to the fullest extent consistent with its statutory obligations and responsibilities.

Sincerely,

May 16, 1978

SECY-78-260

UNITED STATES
NUCLEAR REGULATORY COMMISSION

INFORMATION REPORT

FOR: The Commissioners

FROM: Robert G. Ryan, Director
Office of State Programs

THRU: Executive Director for Operations *W. J. Dicks*

SUBJECT: FEDERAL/STATE SITING STUDY

PURPOSE: To inform the Commission of two additional reports recently issued. They cover "State Perspectives on Energy Facility Siting" by the National Governors' Association (March 1978)-NUREG-0198, and "Need for Power Determinants in the State Decisionmaking Process" by the Center for Natural Areas (March 1978)-NUREG/CRO022.

BACKGROUND: The Preliminary Staff Report "Improving Regulatory Effectiveness in Federal/State Siting Actions", NUREG-0195, was issued for comment in June 1977. Seven supporting documents were also distributed to States, Federal agencies, industry and the public. Congressional offices were provided with copies of all reports in the series.

The National Governors' Association chose to delay their contract report until drafts of the reform legislation had been distributed. In its final form, it discusses policy issues on facility siting and makes a number of pertinent observations on the Administration Legislative proposals (S.2775 and H.R.11704) from the State perspective.

On August 7, 1977 the Commission requested a review of State actions on "need for power." The Office of State Programs provided a summary in SECY-77-484 dated September 13, 1977. Subsequently, the Center for Natural Areas performed a detailed review of State actions which is reported in NUREG/CRO022.

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DISCUSSION: National Governors' Association (NGA)

The NGA report summarizes the State comments on "Improving Regulatory Effectiveness in Federal/State Siting Actions," NUREG-0195, and the proposed legislation introduced by Senator Hart and Representative Udall on March 21, 1978. These are summarized with respect to the NGA Siting Policy Statement of September 9, 1977.

The NGA concludes that there are supportable concepts in the proposed bills. The legislative proposals are judged responsive to a number of elements contained in the NGA policy position even though the bills deal primarily with the nuclear power station siting process.

Need for Power Actions by States

In responding to the Commission in SECY-77-484, September 13, 1977 the Office of State Programs recognized the need for clarification of the many complex interactions involved in State actions on need for power. A consulting contract was issued to the Center for Natural Areas for the purpose of describing these actions in greater detail in order to examine how State processes might be affected by the proposed legislation.

The report summarizes in table form five areas of interest:

1. Variations of the certification process
2. State environmental review coordination
3. Elements of load forecasting used by States
4. Ratemaking elements used by States
5. Ratemaking interactions with policy.

The report calls for improved definition of the generic term, "need for power." Three phrases better define the usage than one:

- o Need for Power - A broad assessment of current and future power demands and supplies for a given region leading to a conclusion that a given quantity of additional electrical energy will be required in a given time span.

- o Need for Capacity - A more project specific level which leads to a judgment that a station of a given size and operating characteristic (peaking, cycling, base load) is needed for a certain region's electrical characteristics.
- o Need for Facility - A specific choice which defines the energy source and which depends for economic justification on fuel type, site characteristics, environmental interaction and other technical circumstances.

The Center for Natural Areas report shows that organizational mechanisms used by States to make need for power/capacity/facility vary widely. Furthermore, the scope and mix of criteria States will use in making "need" determinations are not fixed. There is no prevailing set of accepted criteria. The extent of consideration by the States ranges from none to comprehensive. If NRC were to prescribe guidelines for State determinations of "need" as envisioned in S.2775 and H.R.11704, much work would have to be done and a consensus should be reached between NRC and the States as to what criteria are relevant to such a determination.

Provisions of the Public Utilities Regulatory Policy Act of 1977 (in conference as part of the Energy Bill - Senate H.R.4018, Title I; House H.R.8444 Part V and H.R.4018, Title II) hold some promise for some clarification. However, none of the proposed measures deals directly with the problem of how to integrate State and utility actions involving siting and ratemaking at the early planning stage.



Robert G. Ryan, Director
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Enclosures:

1. NUREG-0198
2. NUREG/CR-0022

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