

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50 and Part 70

EMERGENCY PLANNING

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Final Rule

SUMMARY: On September 19, 1979 and on December 19, 1979, the Commission published for public comment (44 FR 54308 and 44 FR 75167) proposed amendments to its emergency planning regulations for production and utilization facilities. Extensive comments were received, all of which were evaluated and considered in developing the final rule. The comments received and the staff's evaluation is contained in NUREG-0684. In addition, the NRC conducted four Regional Workshops to solicit comments; these comments are available in NUREG/CP-0011 (April 1980).*

The final regulation contains the following elements:

1. In order to continue operations or to receive an operating license an applicant/licensee will be required to submit their emergency plans, as well as State and local governmental emergency response plans to NRC. The NRC will then make a finding as to whether the state of onsite and offsite emergency preparedness provides reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency. The NRC will base its finding

*Copies of NUREG documents are available at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555. Copies may be purchased from the Government Printing Office. Information on current prices may be obtained by writing the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Publications Sales Manager.

on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented and on the NRC assessment as to whether the licensee's/applicant's emergency plans are adequate and capable of being implemented.

2. Emergency planning considerations will be extended to "Emergency Planning Zones,"
3. Detailed emergency plan implementing procedures of licensees/applicants will be required to be submitted to NRC for review, and
4. Requirements in 10 CFR Part 50, Appendix E are clarified and upgraded.

EFFECTIVE DATE: 75 days after publication

NOTE: The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review of the reporting requirements in the rule, pursuant to the Federal Reports Act, as amended (44 U.S.C. 3512). The date on which the reporting requirements of the rule become effective includes a 45-day period, which the statute allows for Comptroller General review (44 U.S.C. 3512(c)2)).

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SUPPLEMENTARY INFORMATION: In June 1979, the Nuclear Regulatory Commission began a formal reconsideration of the role of emergency planning in ensuring the continued protection of the public health and safety in areas around nuclear power facilities. The Commission began this reconsideration in recognition of the need for more effective emergency planning and in

response to reports issued by responsible offices of government and the NRC's Congressional oversight committees.

On December 19, 1979, the Nuclear Regulatory Commission published in the Federal Register (44 FR 75167) proposed amendments to 10 CFR Part 50 and Part 50, Appendix E of its regulations. Publication of these final rule changes in the Federal Register is not only related to the December 19, 1979 proposed rule changes but also incorporates the proposed changes to 10 CFR Parts 50 and 70 (44 FR 54308) published on September 19, 1979. Interested persons were invited to submit written comments/suggestions in connection with the proposed amendments within 60 days after publication in the Federal Register. During this comment period (in January 1980) the Commission conducted four regional workshops with appropriate State and local officials, utility representatives, and the public to discuss the feasibility of the various portions of the proposed amendments, their impact, and the procedures proposed for complying with their provisions. The NRC used the information from these workshops along with the public comment letters to develop the final rule (more than 170 comment letters were received and the points made in two petitions for rulemaking were included in considerations).

After evaluating all public comment letters received and all the information obtained during the workshops as well as additional reports such as the NRC Special Inquiry Group Report, the Commission has decided to publish the final rule changes described below.

Description of Final Rule Changes

The Commission has decided to adopt a version of the proposed rules known as alternative A described in sections 50.47 and 50.54 in the Federal

Register Notice dated December 19, 1979, (44 FR 75167), as modified in light of comments. Those rules, when effective, will provide that no power reactor may operate if there is an NRC finding that the overall state of emergency preparedness is inadequate for the reactor in question. This is consistent with the approach outlined by FEMA and NRC in a Memorandum of Understanding (45 FR 5847, January 24, 1980). No new operating license will be granted unless the NRC can make a favorable finding that the integration of onsite and offsite emergency planning provides reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency. In the case of an operating reactor, if it is determined that there are such deficiencies that a favorable NRC finding is not warranted and the deficiencies are not corrected within 4 months of that determination, the Commission will determine whether the reactor should be shut down, pursuant to procedures provided for in 10 CFR 2.200. In any case where the Commission believes that the public health, safety, or interest so requires, the plant will be required to shut down immediately (10 CFR 2.202(f), see 5 U.S.C. 558(c)).

The objectives that the NRC will look to in making its determinations under these rules are set forth in the final regulation. Wherever possible, these objectives may blend with other emergency planning procedures for non-nuclear emergencies presently in existence. The objectives are a restatement of basic NRC and now joint NRC-FEMA guidance to licensees and to State and local governments. See NUREG-0654; FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants for Interim Use and Comment," (January 1980).

In deciding whether to permit reactor operation in the face of some deficiencies, the Commission will examine whether the deficiencies are significant for the reactor in question or whether alternative compensatory actions have been or will be taken promptly or whether consistent with the public health and safety other compelling reasons exist for reactor operation.

Specifically, the regulation contains the following three major changes from past practices:

1. In order to continue operations or to receive an operating license an applicant/licensee will be required to submit their emergency plans, as well as State and local governmental emergency response plans to NRC. The NRC will then make a finding as to whether the state of onsite and offsite emergency preparedness provides reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency.

The NRC will base its finding on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented, and on the NRC assessment as to whether the licensee's/applicant's emergency plans are adequate and capable of being implemented. Specifically:

- a. An Operating License will not be issued unless a favorable NRC overall finding can be made.
- b. After ^{April} ~~January~~ 1, 1981, an operating plant may be required to shut down if it is determined that there are such deficiencies such that a favorable NRC finding cannot be made or is no longer warranted and the deficiencies are not corrected within 4 months of that determination.

2. Emergency planning considerations must be extended to "Emergency Planning Zones," and
3. Detailed emergency planning implementing procedures of both licensees and applicants for operating licenses must be submitted to NRC for review.

In addition, the Commission is revising 10 CFR Part 50, Appendix E, "Emergency Plans for Production and Utilization Facilities," in order to clarify, expand, and upgrade the Commission's emergency planning regulations. Sections of Appendix E that are expanded include:

1. Specification of "Emergency Action Levels" (Sections IV.B and C),
2. Dissemination to the public of basic emergency planning information (Section IV.D),
3. Provisions for the State and local governmental authorities to have a capability for notification of the public during a serious reactor emergency with a design objective of completing the initial notification within 15 minutes after notification by the license (Section IV.D),
4. A licensee onsite technical support center and a licensee near site emergency operations facility (Section IV.E),
5. Provisions for redundant communications systems (Section IV.E),
6. Requirement for specialized training (Section IV.F), and
7. Provisions for up-to-date plan maintenance (Section IV.G).

Applicants for a construction permit would be required to submit more information as required in the new Section II of Appendix E.

Rationale for the Final Rules

The Commission's final rules are based on its considered judgment about the significance of adequate emergency planning and preparedness to ensure adequate protection of the public health and safety. It is clear, based on the various official reports described in the proposed rules (44 FR at 75169) and the public record compiled in this rulemaking, that onsite and offsite emergency preparedness as well as proper siting and engineered design features are needed to protect the health and safety of the public. As the Commission reacted to the accident at Three Mile Island, it became clear that the protection provided by siting and engineered design features must be bolstered by the ability to take protective measures during the course of an accident. The accident also showed clearly that onsite conditions and actions, even if they do not cause significant offsite radiological consequences, will affect the way the various State and local entities react to protect the public from any dangers, associated with the accident (Ibid). In order to discharge effectively its statutory responsibilities, the Commission firmly believes that it must be in a position to know that proper means and procedures will be in place to assess the course of an accident and its potential severity, that NRC and other appropriate authorities and the public will be notified promptly, and that appropriate protective actions in response to actual or anticipated conditions can and will be taken.

The Commission's organic statutes provide it with a unique degree of discretion in the execution of agency functions. Siegel v. AEC, 400 F.2d 778, 783 (D.C. Cir. 1968), see Westinghouse Electric Corp. v. NRC, 400 F.2d 759, 771 & n.47 (3d Cir. 1979). "Both the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974 confer broad regulatory

functions on the Commission and specifically authorize it to promulgate rules and regulations it deems necessary to fulfill its responsibilities under the Acts, 42 U.S.C. § 2201(p)." Public Service Co. of New Hampshire v. NRC, 582 F.2d 77, 82 (1st Cir.), cert. denied, 439 U.S. 1046 (1978). See 42 U.S.C. 2133(a). As the Supreme Court stated almost 20 years ago, the Atomic Energy Act "clearly contemplates that the Commission shall by regulation set forth what the public safety requirements are as a prerequisite to the issuance of any license or permit under the Act," (Power Reactor Development Co. v. International Union of Electrical Radio Machine Workers, 367 U.S. 396, 404 (1961)). Finally, it is also clear that "Congress, when it enacted [42 U.S.C. 2236]..., must have envisioned that licensing standards, especially in the areas of health and safety regulation, would vary over time as more was learned about the hazards of generating nuclear energy. Insofar as those standards became more demanding, Congress surely would have wanted the new standards, if the Commission deemed it appropriate, to apply to those nuclear facilities already licensed," (Ft. Pierce Utilities Authority v. United States, 606 F.2d 986, 996 (D.C. Cir. 1979)).

In response to and guided by the various reports and public comments, as well as its own determination on the significance of emergency preparedness, the Commission has, therefore, concluded that adequate emergency preparedness is an essential aspect in the protection of the public health and safety. The Commission recognizes that there is a possibility that the operation of some reactors may be affected by this rule through inaction of State and local governments or an inability to comply with these rules. The Commission believes that the potential restriction of plant operation by State and local officials is not significantly different in

kind or effect from the ample means already available under existing law to prohibit reactor operation, such as zoning and land-use laws, certification of public convenience and necessity, State financial and rate considerations (10 CFR 50.33(f)) and Federal environmental laws. The Commission notes, however, that such considerations generally relate to a one-time decision on siting that tends to obligate future officials, whereas this rule requires a periodic renewal of State and local commitments to emergency preparedness. At least until more experience is gained with this rule in actual practice, however, the Commission will retain the flexibility of not shutting down a facility until all factors have been thoroughly examined. The Commission believes, based on the record created by the public workshops, that State and local officials as partners in this undertaking will endeavor to provide fully for public protection. Thus, upon consideration of all relevant factors, including its own evaluation of the TMI accident, the Commission promulgates the above-described final rules. In doing so, the Commission adopts the view of the U.S. Court of Appeals for the D.C. Circuit in addressing EPA regulations, that "the statutes -- and common sense -- demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." Ethyl Corp. v. EPA, 541 F.2d 1, 25 (D.C. Cir.), cert. denied, 426 U.S. 941 (1976).

Summary of Comments on Major Issues

The Commission appreciates the extensive public comments on this important rule. In addition to the record of the workshops, the NRC has received over 170 comment letters on the proposed rule changes. The following major issues have been raised in the comments received. They reflect the areas of concern of most commenters.

Issue A: NRC REVIEW AND CONCURRENCE IN STATE AND LOCAL RADIOLOGICAL PLANS.

1. FEMA is best suited to assess the adequacy of State and local radiological emergency planning and preparedness and report any adverse findings to NRC for assessment of the licensing consequences of those findings.
2. The proposed rule fails to provide objective standards for NRC concurrence, reconcurrence, and withdrawal of concurrence.
3. In the absence of additional statutory authority, the proposed rule frustrates Congressional intent to preempt State and local government veto power over nuclear power plant operation.
4. Procedures and standards for adjudication of emergency planning disputes are not adequately specified in the proposed rule.

Issue B: EMERGENCY PLANNING ZONES (EPZs)

1. Regulatory basis for imposition of the Emergency Planning Zone Concept should be expressly stated in the regulation.
2. Provisions regarding the plume exposure pathway EPZ should provide a maximum planning distance of ten miles.
3. References to NUREG-0396 should be deleted to avoid disputes over its meaning in licensing proceedings.

Issue C: ALTERNATIVES A & B (In 50.47 & 50.54)

1. That neither alternative is necessary because the Commission has sufficient authority to order a plant shut down for safety reasons, and should be prepared to exercise that authority only on a case-by-case basis and when a particular situation so warrants such action.

2. No case has been made by the Commission for the need for automatic shutdown, as would be required in Alternative B, and certainly no other NRC regulations exist that would require such action based on a concept as amorphous as "concurrence in State and local emergency plans."
3. The idea that the Commission might grant an exemption to the rules that would permit continued operation (under Alternative B) has little significance primarily because 10 CFR Part 50.12(a) already permits the granting of exemptions.
4. The process and procedures for obtaining such exemptions are not defined, nor is there any policy indication that would indicate the Commission's disposition to grant such exemptions.
5. The Commission, in developing this aspect of the proposed rule, must consider its own history. There was time when regulation was characterized by the leaders of the agency by simple and very appropriate expressions. The process was to be "effective and efficient." The application of regulatory authority was to be "firm, but fair." Regardless of the outcome of the "concurrence" issue, the Commission must appreciate that Alternative B is not fair. It is not effective regulation.

Issue D: PUBLIC EDUCATION.

Only information required to inform the public what to do in the event of a radiological emergency need be disseminated. There

should be flexibility, in any particular case, as to who will be ultimately responsible for disseminating such information.

Issue E: LEGAL AUTHORITY.

- 1. A few commenters felt that NRC had no authority to promulgate a rule such as the one proposed.
- 2. Other comments were of the nature that NRC has statutory authority only inside the limits of the plant site.
- 3. Some commenters suggested that NRC and FEMA should seek additional legislation to compel State and local governments to have emergency plans, if that is what is necessary.

Issue F: SCHEDULE FOR IMPLEMENTATION.

The schedule for implementing the proposed rule was considered to be unrealistic and in some cases in conflict with various State schedules already in existence. A sampling of the comments on the implementation schedule as unrealistic follows:

- 1. The 180 days in the schedule is an insufficient amount of time to accomplish tasks of this magnitude; the Federal government does not work with such speed. States are bureaucracies also; there is no reason to assume they can work faster. It took years of working with States to get the plans that are presently concurred in. It is just insufficient time for new concurrences and review. Also, to get a job done within that time frame means a hurried job--rather than an acceptable and meaningful plan.

2. The time provided is inadequate for States to acquire the hardware needed. States must go out for competitive bids just as the Federal government does. Between processing and accepting a bid and actual delivery of equipment, it may take a year to get the hardware. Also, the State budgets years ahead. If a State or local government needs more money, it may have to go to the legislature. This is a time-consuming public process that may not fit the Federal schedule.
3. NRC and FEMA could not review 70 or more plans and provide concurrence by January 1, 1981. The Federal government moves slowly. Commenters did not think that NRC and FEMA can review all the plans within the time frame scheduled. If the Federal government cannot meet its schedule, why or how should the States?
4. Funding could not be appropriated by State and local governments before the deadline. It was suggested that the Commission use H. Rept. #96-413 ("Emergency Planning U.S. Nuclear Power Plants: Nuclear Regulatory Commission Oversight") for the time frame rather than that in the proposed rule or use a sliding-scale time frame since States are at various stages of completing their emergency plans.

Issue G: IMPACT OF PROPOSED RULE.

1. The proposed regulations were considered by some commenters as unfair to utilities because it was felt they place the utility in the political and financial role that FEMA should be assuming. NRC is seen as in effect giving State and local

governments veto over the operation of a nuclear plant. It was questioned whether this was an intent of the rule. In addition, it was felt that the utility, its customers, and its shareholders should not be penalized by a shutdown (with a resulting financial burden) because of alleged deficiencies or lack of cooperation by State and local officials.

- 2. It was suggested that NRC's Office of Inspection and Enforcement conduct the reviews of the State and local governmental emergency response plans in order to ensure prompt, effective, and consistent implementation of the proposed regulations.
- 3. One commenter noted that the public should be made aware of the issue of intermediate and long-term impacts of plant shutdowns. Specifically, people should be informed of the possibility of "brownouts," cost increases to the consumer due to securing alternative energy sources, and the health and safety factors associated with those alternative sources.

Issue H: PUBLIC NOTIFICATION.

- 1. Ultimate responsibility for public notification of a radiological emergency must be placed on State and local government.
- 2. The "fifteen minute" public notification rule is without scientific justification, fails to differentiate between areas close in and further away from the site, and ignores the technical difficulties associated with such a requirement.

Issue I: EMERGENCY ACTION LEVELS.

Applicants, in cooperation with State and local governmental authorities, should be permitted the necessary flexibility to develop

emergency action level criteria appropriate for the facility in question, subject to NRC approval. Inflexible NRC emergency action level standards are not necessary.

Issue J: TRAINING.

1. Mandatory provision for training local services personnel and local news media persons is outside of NRC's jurisdiction and is not necessary to protect the public health and safety.
2. Public participation in drills or critiques thereof should not be required.
3. The provision regarding formal critiques should be clarified to mean the licensee is responsible for developing and conducting such critiques.
4. Definitive performance criteria for evaluation of drills should be developed by the licensee subject to NRC approval.

Issue K: IMPLEMENTING PROCEDURES.

NRC review of implementing procedures is only necessary to advise the NRC staff of the details of the plans for use by the NRC during the course of an actual emergency.

Issue L: FUNDING.

Commenters felt;

1. Nuclear facilities, although located in one governmental tax jurisdiction and taxed by that jurisdiction, affect other jurisdictions that must bear immediate and long-term planning cost without having access to taxes from the facility.
2. As the radius of planning requirements becomes greater, few facilities are the concern of a single county. The planning

radius often encompasses county lines, State lines, and in some instances, international boundaries.

3. As new regulations are generated to oversee the nuclear industry and old ones expanded, there is an immediate need to address fixed nuclear facility planning at all levels of government, beginning at the lowest and going to the highest. All levels of government need access to immediate additional funds to upgrade their response capability.
4. It is well understood that the consumer ultimately must pay the price for planning, regardless of the level in government at which costs are incurred. It becomes a matter of how the consumer will be taxed, who will administer the tax receipts and what is the most effective manner in which to address the problem.
5. The basis for effective offsite response capabilities is a sound emergency preparedness program. Federal support (funding and technical assistance) for the development of State and local offsite capabilities should be incorporated into FEMA's preparedness program for all emergencies.

Issue M: GENERAL.

The States support Federal oversight and guidance in the development of offsite response capabilities. However, many States feel the confusion and uncertainty in planning requirements following Three Mile Island is not a proper environment in which to develop effective capabilities nor does it serve the best interests of their citizens. The development of effective nuclear facility incident response

capabilities will require close coordination and cooperation between responsible Federal agencies, State government, and the nuclear industry. An orderly and comprehensive approach to this effort makes it necessary that onsite responsibilities be clearly identified with NRC and the nuclear industry while deferring offsite responsibilities to State government with appropriate FEMA oversight and assistance.

In addition to these comments, two petitions for rulemaking were filed in reference to the proposed rule. Although the petitions were denied, the comments made by the petitioners in support of their petition were considered in developing the final rule.

The Commission has placed the planning objective from NUREG-0654; FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants for Interim Use and Comment" January 1980, into the final regulations. Comments received concerning NUREG-0654 were available in developing the final regulation. The Commission notes that the planning objectives in NUREG-0654 were largely drawn from NUREG-75/111, "Guide and Checklist for Development and Evaluation of State and Local Government Radiological Emergency Response Plans in Support of Fixed Nuclear Facilities" (December 1, 1974) and Supplement 1 thereto dated March 15, 1977, which have been in use for some time.

The approximately 60 public comment letters received on NUREG-0654 were not critical of the proposed planning objective. The Commission also notes that at the May 1, 1980 ACRS meeting, the Atomic Industrial Forum representative encouraged the use of the planning objectives from

NUREG-0654 in the final regulations in order to reduce ambiguity and provide specificity to the final regulation.

Based on the above, the Commission has decided to modify the proposed rule changes in the areas discussed in paragraphs I through X below.

I. FEMA/NRC Relationship

In issuing this rule, NRC recognizes the significant responsibilities assigned to the Federal Emergency Management Agency (FEMA), by Executive Order 12148 on July 15, 1979, to coordinate the emergency planning functions of executive agencies. In view of FEMA's new role, NRC agreed on September 11, 1979, that FEMA should henceforth chair the Federal Inter-agency Central Coordinating Committee for Radiological Emergency Response Planning and Preparedness (FICCC). On December 7, 1979, the President issued a directive assigning FEMA lead responsibility for offsite emergency preparedness around nuclear facilities. The NRC and FEMA immediately initiated negotiations for a Memorandum of Understanding (MOU) that lays out the agencies' roles and provides for a smooth transfer of responsibilities. It is recognized that the MOU, which became effective January 14, 1980, supersedes some aspects of previous agreements. Specifically, the FEMA responsibilities with respect to emergency preparedness as they relate to NRC are:

1. To make findings and determinations as to whether State and local emergency plans are adequate.
2. To verify that State and local emergency plans are capable of being implemented (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualification and equipment adequacy).
3. To assume responsibility for emergency preparedness training of State and local officials.

4. To develop and issue an updated series of interagency assignments that delineate respective agency capabilities and responsibilities and define procedures for coordination and direction for emergency planning and response.

Specifically, the NRC responsibilities for emergency preparedness are:

1. To assess licensee emergency plans for adequacy.
2. To verify that licensee emergency plans are adequately implemented (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualifications, and equipment adequacy).
3. To review the FEMA findings and determinations on the adequacy and capability of implementation of State and local plans.
4. To make decisions with regard to the overall state of emergency preparedness (i.e., integration of the licensee's emergency preparedness as determined by the NRC and of the State/local governments as determined by FEMA and reviewed by NRC) and issuance of operating licenses or shutdown of operating reactors.

Additional legislation is being considered by Congress that may give FEMA the total role in offsite preparedness, thereby making FEMA's determination not subject to review in NRC licensing proceedings.

In addition, FEMA has prepared a proposed rule regarding "Review and Approval of State Radiological Emergency Plans and Preparedness." According to the proposed FEMA rule, FEMA will approve State and local emergency plans and preparedness, where appropriate, based upon its findings and determinations with respect to the adequacy of State and local plans and the capabilities of State and local governments to effectively implement

these plans and preparedness measures. These findings and determinations will be provided to the NRC for use in its licensing process.

II. Emergency Planning Zone Concept

The Commission notes that the regulatory basis for adoption of the Emergency Planning Zone (EPZ) concept is the Commission's decision to have a conservative emergency planning policy in addition to the conservatisms already involved in the defense-in-depth philosophy. This policy was endorsed by the Commission in a policy statement published on October 23, 1979, (44 FR 61123). At that time the Commission stated that two Emergency Planning Zones (EPZs) should be established around light water nuclear power plants. The EPZ for airborne exposure has a radius of about 10 miles; the EPZ for contaminated food and water has a radius of about 50 miles. Predetermined protective action plans are needed for the EPZs. The exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site. These distances are considered large enough to provide a response base which would support activity outside the planning zone should this ever be needed.

The Commission recognized that it is appropriate and prudent for emergency planning guidance to take into consideration the principal characteristics (such as nuclides released and distances likely to be involved) of a spectrum of design basis and core melt accidents. While the Commission recognizes that the guidance may have significant response impacts for many local jurisdictions, it believes that implementation of the guidance is nevertheless needed to improve emergency response planning and preparedness around nuclear power reactors.

III. Position on Planning Basis for Small Light Water Reactors and Ft. St. Vrain

The Commission has concluded that small light water cooled power reactors (less than 250 Mwt) and the Ft. St. Vrain gas cooled reactor may establish small planning zones which will be evaluated on a case-by-case basis. This conclusion is based on the lower potential hazard from these facilities (lower radionuclide inventory and longer times to release significant amounts of activity in many scenarios). The radionuclides considered in planning should be the same as recommended in NUREG-0396; EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978.

IV. Rationale for Alternatives Chosen

In a few areas of the proposed rule, the Commission identified two alternatives that it was considering. Many public comments were received on these alternatives and after due consideration of all comments received as well as the discussions presented during the workshops, the following alternatives have been chosen by the Commission to remain in the final rule.

In Sections 50.47 and 50.54(s) and (t), the alternatives dealt with conditioning the issuance of an operating license or continued operation of a nuclear power plant on the existence of State and local government emergency response plans concurred* in by NRC. The basic difference between alternatives A and B in these sections was that under alternative A, the proposed rule would require a determination by NRC on issuing a license

* See Section V for a discussion concerning "concurrence."

or permitting continued operation of plants in those cases where relevant State and local emergency response plans have not received NRC concurrence. Denial of a license or shutdown of a reactor would not follow automatically in every case. Under alternative B, shutdown of the reactor would be required automatically if the appropriate State and local emergency response plans had not received NRC concurrence within the prescribed time periods unless an exemption is granted.

After careful consideration, the Commission has chosen alternative A for Sections 50.47 and 50.54(s) and (t) primarily because alternative A provides more flexibility to the Commission. Alternative B, however, appears to have the possibility of causing unnecessarily harsh economic and social consequences to State and local governments, utilities and the public. This position is consistent with most of the comments received from State and local governments.

State and local governments which are directly involved in implementing planning objectives of the rule strongly favor alternative A since it provides for a cooperative effort with State and local governments to reflect their concerns and desires in these rules. This choice is responsive to that effort. In addition, the industry was unanimous in its support for this alternative.

In Appendix E, Sections II C and III, alternative A requires an applicant/licensee to outline "...corrective measures to prevent damage to onsite and offsite property," as well as protective measures for the public. Alternative B only addresses protective measures for the public health and safety. The Commission has chosen alternative B because public health and safety should take clear precedence over actions to protect

property. Measures to protect property can be taken on an ad hoc basis as resources become available after an accident.

In Appendix E, under Training, alternative A required a joint Federal, State and local government exercise every 3 years; whereas alternative B requires these exercises to be performed every 5 years at each site. The Commission has chosen alternative B because the Commission is satisfied that the requirement that these exercises be performed every 5 years for each site will provide an adequate level of preparedness among Federal emergency response agencies. In addition, under these regulations, every site is required to exercise annually with local governmental authorities. Likewise, Federal emergency response agencies may have difficulty supporting exercises every 3 years for all of the nuclear facilities that would be required to comply with these rule changes.

V. Definition of Plan Approval Process

The term "Concurrence" has been deleted from the proposed regulations and replaced with reference to the actual procedure and planning objectives that NRC and FEMA have agreed upon and are implementing. According to the agreed upon procedure, FEMA will make a finding and determination as to the adequacy of State and local government emergency response plans. The NRC will determine the adequacy of the licensee emergency response plans. After these two determinations have been made, NRC will make a finding in the licensing process as to the overall and integrated state of preparedness.

It was pointed out to the Commission at the workshops and in public comment letters that the term "concurrence" was confusing and ambiguous. Also, there was a great deal of misunderstanding with the use of the term

because, in the past, the obtaining of NRC "concurrence" in State emergency response plans was voluntary on behalf of the States and not a regulatory requirement in the licensing process. Previously too, "concurrence" was State wide rather than site specific.

VI. Fifteen Minute Notification

The requirement for the capability for notification of the public within 15 minutes after the State/local authorities have been notified by the licensee has been expanded and clarified. It also has been removed as a footnote and placed in the body of Appendix E. The implementation schedule for this requirement has been extended to July 1, 1981. This extension of time has been adopted because most State and local governments identified to the Commission the difficulty in procuring hardware, contracting for installation, and developing procedures for operating the systems used to implement this requirement.

The Commission is aware that various commenters, largely from the industry, have objected to the nature of the 15-minute notification requirement, indicating that it may be both arbitrary and unworkable.

Among the possible alternatives to this requirement are a longer notification time, a notification time that varies with distance from the facility, or no specified time. In determining what that criterion should be, a line must be drawn somewhere; and the Commission believes that providing as much time as practicable for the taking of protective action is in the interest of public health and safety. The Commission recognizes that this requirement may present a significant financial impact, and that the technical basis for this requirement is not without

dispute. Moreover, there may never be an accident requiring using the 15-minute notification capability; every indication is that there will not. However, the essential rationale behind emergency planning is to provide as additional assurance for the public protection even during such an unexpected event. The 15-minute notification capability requirement is wholly consistent with that rationale.

The Commission recognizes that no single accident scenerio should form the basis for choice of notification capability requirements for offsite authorities and for the public. Emergency plans must be developed that will have the flexibility to ensure response to a wide spectrum of accidents.

Any accident involving severe fuel degradation or core melt which results in significant inventories of fission products in the containment would warrant immediate public notification and a decision, based on the particular circumstances, for appropriate protective action because of the potential for failure of the containment building. In addition, the warning time available for the public to take action may be substantially less than the total time between the original initiating event and the time at which significant radioactive releases take place. Specification of particular times as design objectives for notification of offsite authorities and the public are a means of ensuring that a system will be in place with the capability to notify the public to seek further information by listening to predesignated radio or television stations. The Commission recognizes that not every individual would necessarily be reached by the actual operation of such a system under all conditions of system use. However, the Commission believes that provision of a general alerting system will significantly improve the capability for taking

protective actions in the event of an emergency. The reduction of notification times from the several hours required for street by street notification to minutes will significantly increase the options available as protective actions in severe accident conditions. These actions could include staying indoors for a release that has already occurred or a precautionary evacuation for a potential release thought to be a few hours away. Accidents that do not result in core melt may also cause relatively quick releases for which protective action for the public, at least in the immediate plant vicinity, are desirable.

Some comments received on the proposed rule advocated the use of a staged notification system with quick notification required only near the plant. The Commission believes that the capability for quick notification within the entire plume exposure emergency planning zone should be provided but recognizes that some planners may wish to have the option of selectively actuating part of the system during an actual response. Planners should carefully consider the impact of the added decisions that offsite authorities would need to make and the desirability of establishing an official communication link to all residents in the plume exposure emergency planning zone when determining whether to plan for a staged notification capability.

VII. Effective Date of Rules and Other Guidance

Prior to the publication of these amendments, two guidance documents were published for public comment and interim use. These are: NUREG-0610, "Draft Emergency Action Level Guidelines for Nuclear Power Plants," (September 1979) and NUREG-0654; FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness

in Support of Nuclear Power Plants for Interim Use and Comment," January 1980. It is expected that clarified versions of these documents based on public comments received will be issued to assist in defining acceptable levels of preparedness to meet this final regulation. In the interim these documents should continue to be used as guidance.

VIII. Hearing Procedures Used in Implementation of These Regulations

Should the NRC believe that the overall state of emergency preparedness at and around a licensed facility is such that there is some question whether a facility should be permitted to operate, the Commission may issue an order to the licensee to show cause, pursuant to 10 CFR 2.202, as to why the plant should not be shut down. This issue may arise, for example, if NRC finds a deficiency in a licensee plan or in the overall state of emergency preparedness.

If the NRC decides to issue an order to show cause, it will provide the licensee the opportunity to demonstrate to the Commission's satisfaction that the alleged deficiencies are not significant for the plant in question, that alternative compensating means are being or have been taken to protect the public health and safety, or that other compelling circumstances exist to permit operation. Finally, pursuant to 10 CFR 2.202(f), the Commission may, in appropriate circumstances, make the order immediately effective, which could result in immediate plant shut down subject to a later hearing.

IX. Funding

In view of the requirements in these rule changes regarding the actions to be taken in the event State and local government planning and preparedness are or become inadequate, a utility may have an incentive,

based on its own self interest as well as its responsibility to provide power, to assist in providing manpower, items of equipment, or other resources that the State and local governments may need but are themselves unable to provide. The Commission believes that in view of the President's Statement of December 7, 1975, giving FEMA the lead role in offsite planning and preparedness, the question of whether the NRC should or could require a utility to contribute to the expenses incurred by State and local governments in upgrading and maintaining their emergency planning and preparedness (and if it is to be required, the mechanics for doing so) is beyond the scope of the present rule change. It should be noted, however, that any direct funding of State or local governments for emergency preparedness purposes by the Federal government would come through FEMA.

X. Exercises

In FEMA's proposed rulemaking "Review and Approval of State Radiological Emergency Plans and Preparedness" the provisions of Section F of Appendix E concerning Exercises will be implemented as follows:

A. On an annual basis, all commercial nuclear power facilities will be required by NRC to exercise their plans and the exercises should involve annual exercising of the appropriate local government plans in support of these facilities. The State may choose to limit its participation in exercises at facilities other than the facility (site) chosen for the annual exercise(s) of the State plan.

B. For continued FEMA approval each State and appropriate local governments shall conduct an exercise jointly with a commercial nuclear power facility annually. However, States with more than one facility (site) shall schedule exercises such that each individual facility (site)

is exercised in conjunction with the State and appropriate local government plans not less than once every three years for sites with the plume exposure pathway EPZ partially or wholly within the State and not less than once every five years for sites with the ingestion exposure pathway EPZ partially or wholly within the State. The State shall choose, on a rotational basis, the site(s) at which the required annual exercise(s) is to be conducted, and priority shall be given to new facilities seeking an operating license from NRC, and which have not had an exercise involving the State plan at that facility site.

C. After FEMA approval of a State plan has been granted, failure to exercise the State plan at least once each year shall be grounds for withdrawing FEMA approval.

The Commission has determined under the criteria in 10 CFR Part 51 that an environmental impact statement for the amendments to 10 CFR Part 50 and Appendix E thereof is not required. This determination is based on "Environmental Assessment for Final Changes to 10 CFR Part 50 and Appendix E of 10 CFR Part 50, Emergency Planning Requirements for Nuclear Power Plants" (NUREG-0685, June 1980). Comments on the "Draft Negative Declaration; Finding of No Significant Impact (45 FR 3913, January 21, 1980) were considered in the preparation of NUREG-0685.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Section 552 and 553 of Title 5 of the United States Code, notice is hereby given that the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50 and 70 are published as a document subject to codification.

PART 50 - DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. Paragraph (g) of Section 50.33 is revised to read as follows:

§ 50.33 Contents of applications; general information.

* * * * *

(g) If the application is for an operating license for a nuclear power reactor, the applicant shall submit radiological emergency response plans of State and local governmental entities in the United States that are wholly or partially within the plume exposure pathway Emergency Planning Zone (EPZ)¹, as well as the plans of State governments wholly or partially within the ingestion pathway EPZ. Generally, the plume exposure pathway EPZ for nuclear power reactors shall consist of an area about 10 miles (16 Km)* in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 Km)* in radius. The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to the emergency response needs and capabilities as they are affected by such local conditions as demography, topography, land characteristics, access routes, and local jurisdictional boundaries. The size of the EPZ's also may be determined on a case-by-case basis for gas cooled reactors and for reactors with an authorized power level less than 250 MW thermal.* The plans for the ingestion pathway shall focus on

(or reference plans that have been sent to the NRC.)

¹Emergency Planning Zones (EPZs) are discussed in NUREG-0396, EPA 520/1-78-016 "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978.

*Comparative text to regulations published for public comment on December 19, 1979. Deletions are lined through and additions are underscored. In Sections 50.33, 50.47, and 50.54, Alternative B has been deleted but not lined through.

such [~~less-immediate~~] actions as are appropriate to protect the food ingestion pathway.

2. A new section 50.47 is added.

§ 50.47 Emergency plans.

(a) No operating license for a nuclear power reactor will be issued unless [~~the-emergency-response-plans-submitted-by-the-applicant-in-accordance with-section-50:33(g)-have-been-reviewed-and-concurred-in-by-the-NRC:²---in the-absence-of-one-or-more-concurred-in-plans;-the-applicant-will-have an-opportunity-to-demonstrate-to-the-satisfaction-of-the-Commission that-deficiencies-in-the-plans-are-not-significant-for-the-plant-in question;-that-alternative-compensating-actions-have-been-or-will-be-taken promptly;-or-that-there-are-other-compelling-reasons-to-permit-operation:-~~or] a finding is made by NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency.

The NRC will base its finding on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented and on the NRC assessment as to whether the [~~licensee's~~]applicant's onsite emergency plans are adequate and capable of being implemented.

(b) The onsite and offsite emergency response plans for nuclear power reactors must meet the following objectives:²

²These objectives are addressed by specific criteria in NUREG-0654; FEMA-REP-1 titled "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants for Interim Use and Comment," January 1980.

1. Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

2. On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, and timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.

3. Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

4. A standard emergency classification and action level scheme, whose bases include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

5. Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction

to the populace within the plume exposure pathway Emergency Planning Zone have been established.

6. Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

7. Information is made available to the public on a periodic basis on how they would be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors) ; the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance; and procedures for coordinated dissemination of information to the public are established.

8. Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

9. Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

10. A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public, guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

11. Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

12. Arrangements are made for medical services for contaminated injured individuals.

13. General plans for recovery and reentry are developed.

14. Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills; deficiencies identified as a result of exercises or drills are (will be) corrected.

15. Radiological emergency response training is provided to those who may be called on to assist in an emergency.

16. Responsibilities for plan development and review and distribution of emergency plans are established and planners are properly trained.

(c) Failure to meet the objectives set forth in paragraph (b) of this subsection may result in the Commission declining to issue an Operating License. However, the applicant will have an opportunity to demonstrate to the satisfaction of the Commission that deficiencies in the plans are not significant for the plant in question, that alternative compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant operation.

Generally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles (16 Km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 Km) in radius. The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to the emergency response needs and capabilities as they are affected by such local conditions as demography, topography, land characteristics, access routes, and local jurisdictional boundaries. The size of the EPZs also may be determined on a case by case basis for gas cooled nuclear reactors and

for reactors with an authorized power level less than 250 MW thermal.
The plans for the ingestion pathway shall focus on such [less-immediate] actions as are appropriate to protect the food ingestion pathway.

3. Section 50.54 is amended by adding five new paragraphs, (q), (r), (s), (t), and (u).

§ 50.54 Conditions of licenses.

* * * * *

(q) A licensee authorized to possess and/or operate a production and utilization facility shall follow and maintain in effect emergency plans which meet the objectives in 50.47(b) and the requirements in Appendix E of this Part. The licensee may make changes to these plans without Commission approval only if such changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the objectives of 50.47(b) and the requirements of Appendix E of this Part. Proposed changes that decrease the effectiveness of the approved emergency plans shall not be implemented without application to and approval by the Commission. The licensee shall furnish 3 copies of each proposed change for approval; if a change is made without prior approval, 3 copies shall be submitted within 30 days after the change is made or proposed to the Director of the appropriate NRC regional office specified in Appendix D, Part 20 of this Part, with 10 copies to the Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(r) Each licensee who is authorized to possess and/or operate a research or test reactor facility with an authorized power level greater than or equal to 500 kW, under a license of the type specified in § 50.21(c), shall submit emergency plans complying with 10 CFR Part 50, Appendix E,

to the Director of Nuclear Reactor Regulation for approval within one year from the effective date of this rule. Each licensee who is authorized to possess and/or operate a research reactor facility with an authorized power level less than 500 kW thermal, under a license of the type specified in § 50.21(c), shall submit emergency plans complying with 10 CFR Part 50, Appendix E, to the Director of Nuclear Reactor Regulation for approval within two years from the effective date of this amendment.

(s) Each licensee who is authorized to possess and/or operate a nuclear power reactor shall submit to NRC within 60 days of the effective date of this amendment the radiological emergency response plans of State and local governmental entities in the United States that are wholly or partially within a plume exposure pathway Emergency Planning Zone (EPZ), as well as the plans of State governments wholly or partially within an ingestion pathway EPZ¹. 10 copies of the above plans shall be forwarded to the Director of Nuclear Reactor Regulation with 3 copies to the Director of the appropriate NRC regional office. Generally, the plume exposure pathway EPZ for nuclear power reactors shall consist of an area about 10 miles (16 Km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 Km) in radius. The exact size and configuration of the EPZs for a particular nuclear power reactor shall be determined in relation to the emergency response needs and capabilities as they are affected by such local conditions as demography, topography, and land characteristics, access routes, and local jurisdictional boundaries. The size of the EPZs also may be determined on a case-by-case basis for gas

¹Emergency Planning Zones (EPZs) are discussed in NUREG-0396; EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978.

cooled nuclear reactors and for reactors with an authorized power level less than 250 MW thermal. The plans for the ingestion pathway EPZ shall focus on such actions as are appropriate to protect the food ingestion pathway.

For operating power reactors, the licensee's and State and local emergency response plans shall be implemented by January 1, 1981, except as provided in Section IV, D 3 of Appendix E, of this Part. If, after January 1, 1981, the NRC finds that the state of emergency preparedness does not provide reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency and the deficiencies are not corrected within four months of that finding, the Commission will determine whether the reactor shall be shut down until such deficiencies are remedied, ^{or whether other enforcement action is appropriate} ~~The reactor need not be shut down subsequent to the four month period if the licensee can demonstrate to the Commission's satisfaction that the deficiencies in the plan are not significant for the plant in question, or that alternative compensating actions have been or will be taken promptly, or that there are other compelling reasons for continued operation.~~

The NRC will base its finding on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented, and on the NRC assessment as to whether the licensee's emergency plans are adequate and capable of being implemented.

(t) A nuclear power reactor licensee shall provide for the development, revision, implementation, and maintenance of its emergency preparedness program. To this end, the licensee shall provide for a [independent] review of its emergency preparedness program at least every 12 months by

~~[licensee;-employees;-contractors;-or-other]~~ persons who have no direct responsibility for implementation of the emergency preparedness program. The review shall include an evaluation for adequacy of interfaces with State and local governments and ~~[a-review-and-audit]~~ of licensee drills, exercises, capabilities, and procedures. The results of the review, ~~[and-audit]~~ along with recommendations for improvements, shall be documented, reported to the licensee's corporate and plant management, and retained ~~[kept-available-at-the-plant-inspection]~~ for a period of five years. The part of the review involving the evaluation for adequacy of interface with State and local governments shall be available to the appropriate State and local governments.

(u) Within ~~[180]~~ 60 days after the effective date of ~~[the-final-rules-or-by]~~ this amendment, each nuclear power reactor licensee ~~[who-is-authorized-to-possess-and/or-operate-a-production-or-utilization-facility]~~ shall submit to NRC plans for coping with emergencies that meet the objectives in Section 50.47(b) and the requirements of Appendix E of this ~~[Chapter]~~ Part.

- 4. 10 CFR Part 50, Appendix E, is amended as follows:
- * * * * *

APPENDIX E--EMERGENCY PLANNING AND PREPAREDNESS FOR
PRODUCTION AND UTILIZATION FACILITIES¹

I. Introduction

Each applicant for a construction permit is required by § 50.34(a) to include in its preliminary safety analysis report a discussion of preliminary plans for coping with emergencies. Each applicant for an operating license is required by § 50.34(b) to include in its final safety analysis report plans for coping with emergencies. ~~State and local government emergency response plans shall be submitted with the applicant's emergency plans.~~ ^{State and local}

This appendix establishes minimum requirements for emergency plans for use in attaining an acceptable state of emergency preparedness. These plans shall be described generally in the preliminary safety analysis report and submitted as a part of the final safety analysis report.

The potential radiological hazards to the public associated with the operation of research and test reactors and fuel facilities involve ^{licensed under NRC}

¹NRC staff has developed two [~~three~~] regulatory guides: [~~1-101-Emergency Planning for Nuclear Power Plants~~] 2.6, "Emergency Planning for Research Reactors," and 3.42, "Emergency Planning in Fuel Cycle Facilities and Plants Licensed Under 10 CFR Parts 50 and 70"; and a joint NRC/FEMA report, NUREG-0654; FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants -For Interim Use and Comment," January 1980, [~~and NUREG-0610; -"Draft-Emergency-Level-Action-Guidelines-for-Nuclear-Power Plants"- (September-1979)-to-help-establish-adequate~~] to provide guidance in developing plans [required-for-pursuant-to-§-50-34-and-this-Appendix] for coping with emergencies. Copies of these documents are available at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555. Copies of these documents may be purchased from the Government Printing Office. Information on current prices may be obtained by writing the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Publications Sales Manager.

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considerations different [less-than-those-involved] than those associated with nuclear power reactors. Consequently, the size of [the] Emergency Planning Zones² (EPZs) for facilities other than power [Research and-Test] reactors and the degree to which compliance with the requirements of this Section and Sections II, III, IV and V is necessary will be determined on a case-by-case basis. [using-] Regulatory Guide 2.6 will be used as [and-3-42-as-a-standard-for-acceptance] guidance for the acceptability of research and test reactor emergency response plans.

II. The Preliminary Safety Analysis Report

The Preliminary Safety Analysis Report shall contain sufficient information to ensure the compatibility of proposed emergency plans for both onsite areas and the EPZs, with facility design features, site layout, and site location with respect to such considerations as access routes, surrounding population distributions, [and] land use, and local jurisdictional boundaries for the Emergency Planning Zones (EPZs) as well as the means by which the objectives of 50.47(b) will be met.

²EPZs for power reactors are discussed in NUREG-0396; EPA 520/1-78-016 "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978. The size of the EPZs for a nuclear power plant shall be determined in relation to the emergency response needs and capabilities as they are affected by such local conditions as demography, topography, land characteristics, access routes, and local jurisdictional boundaries. The size of the EPZs also may be determined on a case-by-case basis for gas cooled nuclear reactors and for reactors with an authorized power level less than 250 MW thermal. Generally, the plume exposure pathway EPZ for [tight-water] nuclear power plants with an authorized power level greater than 250 MW thermal shall consist of an area about 10 miles (16 Km) in radius and the ingestion pathway EPZ an area about 50 miles (80 Km) in radius.

As a minimum, the following items shall be described:

A. Onsite and offsite organizations for coping with emergencies and the means for notification, in the event of an emergency, of persons assigned to the emergency organizations;

B. Contacts and arrangements made and documented with local, State, and Federal governmental agencies with responsibility for coping with emergencies, including identification of the principal agencies;

II, C. Protective measure to be taken in the event of an accident within the site boundary and within each EPZ to protect health and safety; [~~corrective-measures-to-prevent-damage-t-onsite-and-offsite-property;~~] procedures by which these measures are to be carried out (e.g., in the case of an evacuation, who authorizes the evacuation, how the public is to be notified and instructed, how the evacuation is to be carried out); and the expected response of offsite agencies in the event of an emergency;

D. Features of the facility to be provided for onsite emergency first aid and decontamination and for emergency transportation of onsite individuals to offsite treatment facilities;

E. Provisions to be made for emergency treatment at offsite facilities of individuals injured as a result of licensed activities;

F. Provisions for a training program for employees of the licensee, including those who are assigned specific authority and responsibility in the event of an emergency, and for other persons who are not employees of the licensee but whose assistance may be needed in the event of a radiological emergency;

~~[6:--Features-of-the-faciity-to-be-provided-to-ensure-the-capability for-actuating-onsite-protective-measures-and-the-capability-for-facility~~

reentry-in-order-to-mitigate-the-consequences-of-an-accident-or;-if-appropriate;-to-continue-operation;]

[H:]G. A preliminary analysis that projects the time and means to be employed in the notification of State and local governments and the public in the event of an emergency. A nuclear power plant applicant shall perform a preliminary analysis of the time required to evacuate various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations[-], noting major impediments to the evacuation or taking of protective actions.

H. A preliminary analysis reflecting the need to include facilities, systems, and methods for identifying the degree of seriousness and potential scope of radiological consequences of emergency situations within and outside the site boundary, including capabilities for dose projection using realtime meteorological information and for dispatch of radiological monitoring teams within the EPZ's; and a preliminary analysis reflecting the role of the onsite technical support center and of the near-site emergency operations facility in assessing information, recommending protective action, and disseminating information to the public.

III. The Final Safety Analysis Report

The Final Safety Analysis Report shall contain the emergency plans for coping with emergencies. The plans shall be an expression of the overall concept of operation, and shall describe the essential elements of advance planning that have been considered and the provisions that have been made to cope with emergency situations. The plans shall incorporate information about the emergency response roles of supporting organizations

and offsite agencies. That information shall be sufficient to provide assurance of coordination among the supporting groups and between them and the licensee.

The plans submitted must include a description of the elements set out in Section IV for the Emergency Planning Zones (EPZs)² to an extent sufficient to demonstrate that the plans provide reasonable assurance that appropriate measures can and will be taken in the event of an emergency [~~and minimize damage to property~~].

IV. Content of Emergency Plans

The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the objectives of 50.47(b), including the [following] elements set forth below, i.e. organization for coping with radiation emergencies, assessment action, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, and recovery. Nuclear power reactor applicants' emergency response plans will be evaluated using the objectives described in Section 50.47(b).³ The nuclear power reactor applicant shall also provide an analysis of the time required to evacuate and the taking of other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations.

³These objectives are addressed by specific criteria in NUREG-0654; FEMA-REP-1 titled "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants for Interim Use and Comment," January 1980.

A. ORGANIZATION

The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities and duties of individual assigned to licensee's emergency organization, and the means of notification of such individuals in the event of an emergency. Specifically, the following shall be included:

1. A description of the normal plant operating organization.
2. A description of the onsite emergency response organization with a detailed discussion of:
 - a. Authorities, responsibilities, and duties of the individual(s) who will take charge during an emergency;
 - b. Plant staff emergency assignments;
 - c. Authorities, responsibilities, and duties of an onsite emergency coordinator who shall be in charge of the exchange of information with offsite authorities responsible for coordinating and implementing offsite emergency measures.
3. A description, by position and function to be performed, of the licensee headquarters personnel that will be sent to the plant site to provide augmentation of the onsite emergency organization.
4. Identification, by position and function to be performed, of persons within the licensee organization who will be responsible for making offsite dose projections and a description of how these projections will be made and how the results will be transmitted to State and local authorities, NRC, [FEMA] and other appropriate governmental entities.

5. Identification, by position and function to be performed, of other employees of the licensee with special qualifications for coping with emergency conditions that may arise. Other persons with special qualifications, such as consultants, who are not employees of the licensee and who may be called upon for assistance for emergencies shall also be identified. The special qualifications of these persons shall be described.
6. A description of the local offsite services to be provided in support of the licensee's emergency organization.
7. Identification, of and expected assistance from appropriate State, local, and Federal agencies with responsibilities for coping with emergencies
8. Identification of the State and/or local officials responsible for planning for, ordering, notification of, and controlling appropriate protective actions, including evacuations when necessary.

B. ASSESSMENT ACTIONS

The means to be provided for determining the magnitude and continued assessment of the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the site boundary to protect health and safety. [and-prevent-damage-to property:] The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring.

These emergency action levels shall be discussed and agreed on by the applicant and State and local governmental authorities and approved by NRC. They shall also be reviewed with the State and local governmental authorities on an annual basis.

C. ACTIVATION OF EMERGENCY ORGANIZATION

The entire spectrum of emergency conditions that involve the alerting or activation of progressively larger segments of the total emergency organization shall be described. The communication steps to be taken to alert or activate emergency personnel under each class of emergency shall be described. Emergency action levels (based not only on onsite and offsite radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, such as the pressure in containment and the response of the Emergency Core Cooling System) for notification of offsite agencies shall be described. The existence, but not the details, of a message authentication scheme shall be noted for such agencies. The emergency classes defined shall include: (1) notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency. These classes are further discussed in NUREG 0654; FEMA-REP-1.

D. NOTIFICATION PROCEDURES

1. Administrative and physical means for notifying, and agreements reached with, local, State, and Federal officials and agencies for the [~~early-warning~~] prompt notification of the public and for public evacuation or other protective measures, should they become necessary, shall be described. This description shall include identification of the principal officials, by title and agency, for the Emergency Planning Zones² (EPZs).

2. Provisions shall be described for the yearly dissemination to the public, including the transient population, within the plume exposure pathway EPZ of basic emergency planning information, such as the [possibility of nuclear accidents; -the potential human health effects of such accidents and their causes;] methods and times required for [of] public notification, and the protective actions planned if an accident occurs, and general information as to the nature and effects of radiation, and a listing of local broadcast stations [network] that will be used for dissemination of information during an emergency.

3. [Within 360 days after the effective date of these amendments it is the applicant's responsibility to ensure that such means exist regardless of who implements this requirement:] A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency. The licensee shall demonstrate that the State/local officials have the capability to make the public notification decision promptly on being informed by the licensee of an emergency condition. By July 1, 1981, the licensee shall demonstrate that the administrative and physical means [and the time required shall be described] for alerting and providing prompt instructions to the public within the plume exposure pathway emergency planning zone have been established. The design objective shall be to have the capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ within about 15 minutes [after the notification by the licensee that an emergency condition exists that may require such public notification.] The responsibility for activating such a public notification system shall remain with the appropriate government authorities.

E. EMERGENCY FACILITIES AND EQUIPMENT

Provisions shall be made and described for emergency facilities and equipment, including:

1. Equipment at the site for personnel monitoring;
2. Equipment for determining the magnitude of and for continuously assessing the release of radioactive materials to the environment;
3. Facilities and supplies at the site for decontamination of onsite individuals;
4. Facilities and medical supplies at the site for appropriate emergency first aid treatment;
5. Arrangements for the services of physicians and other medical personnel qualified to handle radiation emergencies onsite;
6. Arrangements for transportation of [~~injured-or~~] contaminated injured individuals from the site to treatment facilities outside the site boundary;
7. Arrangements for treatment of individuals injured in support of licensed activities on the site at treatment facilities outside the site boundary;
8. A [~~one~~] licensee onsite technical support center and a licensee near-site emergency operations [~~center~~] facility from which effective direction can be given and effective control can be exercised during an emergency;
9. At least one onsite and one offsite communications system; each system shall have a backup power source [~~including-redundant-power sources-~~].

All communication plans shall have arrangements for emergencies, including titles and alternates for those in charge at both ends of the communication links and the primary and backup means of communication. Where consistent with the function of the governmental agency, these arrangements will include:

a. Provision for communications with contiguous State/local governments within the plume exposure pathway emergency planning zone. Such communications shall be tested monthly.

b. Provision for communications with Federal emergency response organizations. Such communications systems shall be tested annually.

c. Provision for communications among the nuclear power reactor control room, the onsite technical support center, and the near-site emergency operations facility; and among the nuclear facility, the principal State and local emergency operations centers, and the field assessment teams. Such communications systems shall be tested annually.

d. Provisions for communications by the licensee with NRC headquarters and NRC Regional Office Operations Centers from the nuclear power reactor control room, the onsite technical support center, and the near-site emergency operations facility. Such communications shall be tested monthly.

F. TRAINING

The program to provide for (1) the training of employees and exercising, by periodic drills, of radiation emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties and (2) the participation in the training and drills by other persons whose assistance may be needed in the event of a radiation

emergency shall be described. This shall include a description of specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel:

- a. Directors and/or coordinators of the plant emergency organization.
- b. Personnel responsible for accident assessment, including control room shift personnel.
- c. Radiological monitoring teams.
- d. Fire control teams (fire brigades).
- e. Repair and damage control teams.
- f. First aid and rescue teams.
- g. Medical support personnel.
- h. Licensee's headquarters support personnel.
- i. Security personnel.
- j. In addition, a radiological orientation training program shall be made available to local services personnel, e.g., local Civil Defense, local law enforcement personnel, local news media persons.

The plan shall describe provisions for the conduct of [~~yearly-drifts~~ and] an emergency preparedness exercise once a year. This exercise is intended to test the adequacy of timing and content of implementing procedures and methods, to test emergency equipment and communication networks, to test the public notification system, and to ensure that emergency organization personnel are familiar with their duties. Such provisions shall specifically include periodic participation by offsite personnel as described above as well as other State and local governmental agencies.

The plan shall also describe provisions for involving ~~[The]~~ Federal ~~[State-and-local]~~ emergency response ~~[organizations]~~ agencies in the emergency preparedness exercise once every 5 years.

The scope of ~~[such-as]~~ this exercise should test as much of the emergency plans as is reasonably achievable without involving ~~[full]~~ mandatory public participation. ~~[Definitive]~~ Performance criteria shall be established for all levels of participation. ~~[To-ensure-an-objective-evaluation]~~ This joint Federal, State, and local government exercise shall be conducted:

1. ~~[For-presently-operating-plants;-initially-within-one-year-of-the-effective-date-of-this-amendment-and-once-every-five-years-thereafter-]~~ For presently operating plants once every five years.

2. For a nuclear power plant for which an operating license is issued after the effective date of this amendment, initially within one year before the issuance of the operating license for full power and once every 5 years thereafter.

Exercises shall be conducted with the following frequency.

Each licensee shall conduct an exercise at each power reactor site annually with the State(s) within the Emergency Planning Zones (EPZs) and with the local government(s) within the plume exposure pathway EPZ. The annual exercise need not include the participation of any State(s) which is/are within the EPZ's of two reactor sites; provided, however, that the annual exercise shall include, at a minimum, participation by any such State(s) within the EPZ's at least every second year. The annual exercise need not include the participation of any State(s) which is/are within the EPZs of three or more power reactor sites; provided, however, that the annual exercise shall include, at a minimum, participation by any such State(s)

within the plume exposure pathway EPZ at least every third year and by any such State(s) within the ingestion pathway EPZ at least every fifth year.

All training provisions shall provide for formal critiques in order to evaluate the emergency plan's effectiveness and to correct weak areas through feedback with emphasis on schedules, lesson plans, practical training, and periodic examinations.

G. MAINTAINING EMERGENCY PREPAREDNESS

Provisions to be employed to ensure that the emergency plan, its implementing procedures, and emergency equipment and supplies are maintained up to date shall be described.

H. RECOVERY

Criteria to be used to determine when, ~~[to-the-extent-possible;-when]~~ following an accident, reentry of the facility ~~[is]~~ would be appropriate or when operation ~~[should]~~ could be [continued] resumed shall be described.

V. Implementing Procedures

No less than 180 days prior to scheduled issuance of an operating license, ~~[10]~~ 3 copies each of the applicant's detailed implementing procedures for its emergency plan shall be submitted to ~~[NRC-Headquarters and-to]~~ the Director of the appropriate NRC Regional Office with 10 copies to the Director of Nuclear Reactor Regulation. In cases where ~~[the]~~ a decision on an operating license is scheduled ~~[to-be-issued]~~ less than ~~[180-days]~~ one year after the effective date of this rule, such implementing procedures shall be submitted as soon as practicable. ~~[Within 60-days-after-the-effective-date-for-compliance-under-§-50-54(v)-with-the revised-Appendix-E;]~~ Prior to December 1, 1980, licensees who are authorized to operate a nuclear power facility shall submit ~~[10]~~ 3 copies

each of the licensee's emergency plan implementing procedures [~~to-NRE Headquarters-and~~] to the Director of the appropriate NRC Regional Office with 10 copies to the Director of Nuclear Reactor Regulation. As necessary to maintain them up to date thereafter, [~~10~~] 3 copies each of any changes to these implementing procedures shall be submitted [~~to-NRE Headquarters-and~~] to the same NRC Regional Office with 10 copies to the Director of Nuclear Reactor Regulation within 30 days of such changes.

PART 70-DOMESTIC LICENSING OF
SPECIAL NUCLEAR MATERIAL

2. Section 70.32 is amended by adding paragraph (i) to read as follows:

§ 70.32 Conditions of licenses

* * * * *

(i) Licensees required to submit emergency plans in accordance with § 70.22(i) shall follow and maintain in effect emergency plans approved by the Commission. The licensee may make changes to the approved plans without Commission approval only if such changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the requirements of Appendix E, Section IV, 10 CFR Part 50. The licensee shall furnish the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the appropriate NRC Regional Office specified in Appendix D, Part 20 of this chapter, [~~a-report-containing-a-description-of~~] each change within six months after the change is made. Proposed changes

that decrease the effectiveness of the approved emergency plan shall not be implemented without prior application to and prior approval by the Commission.

(Sec. 161 b., i., and o., Pub. L. 83-703, 68 Stat. 948 (42 U.S.C. 2201); Sec. 201, as amended, Pub. L. 93-438, 88 Stat. 1242, Pub. L. 94-79, 89 Stat. 413 (42 U.S.C. 5341).)

Dated at Washington, D.C. this _____ day of _____ 1980.

For the Nuclear Regulatory Commission.

Samuel J. Chilk
Secretary of the Commission

ENCLOSURE C