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NRC TASK FORCE REPORT
ON OPERATIONAL SAFETY DATA
ANALYSIS AND EVALUATION

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OUTLINE OF TASK FORCE REPORT

TASK FORCE REPORT

OPERATIONAL SAFETY DATA ANALYSIS AND EVALUATION

I. Introduction and Background

On April 24, 1979 the Executive Director for Operations established a Task Force on Operational Data Analysis and Evaluation (see Attachment 1) with a basic assignment to "examine NRC analysis and evaluation activities associated with operational data and recommend actions which will permit NRC to best use the existing operational data bases and data systems to promptly identify potential safety concerns. The focus should be on operational data from power reactors, although the possible applicability of recommendations from this Task Force to data from other licensed facilities should be recognized."

The charter, membership and specific objectives of the Task Force are included as Attachment 2.

In the past, the functions of operational safety data collection, evaluation and feedback to the regulatory process have been assigned to various organizational elements of the Commission. In 1972, the former Atomic Energy Commission established an Office of Operations Evaluation with that function, but the Office was never fully staffed and its functions were absorbed in a reorganization when the NRC was created. In late 1975 the NRC reorganized the Office of Nuclear Reactor Regulation, including formation of a Division of Operating Reactors to "analyze and respond to operating experiences as they develop and assure that current experience is factored into new licensing actions."

The GAO reported in EMD-79-16, dated January 26, 1979, the results of its survey of NRC's program for collecting and evaluating licensees' reports of unscheduled events. GAO recommended that the NRC define the analyses needed and establish a system to perform the function.

Among other things, the Three Mile Island 2 accident of March 28, 1979 has shown the NRC staff that it has not made the best use of past operating experience.

For all the aforementioned reasons and others, the work of the Task Force was considered of high priority.

II. Sources and Quantities of Operational Data

A. Licensee Reports

1. Licensee Event Reports (LER)

NRC receives over 3000 LERs a year from power plant licensees, of which about 20% require prompt NRC notification (within 24 hours of the event); the rest require 30-day NRC notification. Reporting requirements are included in the plant Technical Specifications and the NRC's regulations. The number of LERs has increased from 896 in 1973 to 3266 in 1977. This is principally due to both the Standardized Technical Specifications which establish more stringent reporting requirements and the increases in operating power plants during that period.

2. Monthly Operating Unit Status Report (Information on Outages and Power Reductions)

Each power plant licensee prepares a monthly summary of the previous month's experience, including power production data, outage information and a summary narrative of significant operating information, including the occurrence of operational transients and safety related maintenance activities.

3. 10 CFR 50.55(e) Reports (Construction Deficiencies)

Power plant licensees are required to report construction deficiencies under 10 CFR Part 50.55(e). About 100 reports a year are received.

4. Startup Test Reports

Power plant licensees issue startup test reports which contain information on the initial approach to power and for succeeding startups when significant changes to the core are made.

5. 10 CFR 50.59 (Reports on Changes to Facility)

At least annually all power plant licensees must report on changes made to safety-related systems. Many of these changes do not require prior NRC approval since they do not represent an "unreviewed safety question," as defined in 10 CFR 50.59.

6. Semi-Annual Effluent Reports

Many licensees submit periodic reports on effluent releases (including meteorological information) so that dose commitment to the public can be estimated.

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7. Radiation Exposure Reports

Many licensees submit annual reports of occupational radiation exposure and reports of overexposure as they occur in accordance with 10 CFR Part 20.

8. Miscellaneous Reports

a. Responses to Bulletins (14 in 1978)

b. Responses to NRR Generic Letters (6 in 1978)

c. NPRDS

Most power plant licensees participate voluntarily in the Nuclear Plant Reliability Data System (NPRDS), reporting both engineering and failure information, all of which is available to the NRC.

d. Containment Leak Rate Tests and Material Surveillance Tests

B. Inspection and Enforcement (IE)

1. Reports

The NRC's Office of Inspection and Enforcement (IE) reports the results of all inspections of licensee activities during construction and operation. These reports contain data concerning items of non-compliance (violations, infractions and deficiencies) and the results of reviews of operating logs and followup on licensee reports (such as LERs). These reports may also contain information on operational events that are not documented elsewhere. Certain inspection results are computerized and available, including records of the status of completion of inspection modules, man-hours expended and items of noncompliance identified.

2. Transfers of Lead Responsibility

When IE identifies a potential safety problem requiring licensing action it may transfer to NRR lead responsibility for evaluation and final action. In 1978, IE transferred 18 items to NRR for action.

3. IE Bulletins, Circulars and Information Notices

IE utilizes Bulletins, Circulars and Information Notices to inform licensees of problems of potential generic significance, to obtain further information from licensees or to require specific licensee actions to respond to identified concerns.

4. Interoffice Action Items

IE or NRR can request the other office to review and evaluate potential safety concerns for items not requiring a Transfer of Lead Responsibility. The outcome of these reviews may be an IE Bulletin, Circular or Information Notice; an NRR generic letter which either initiates licensee action or alerts the licensee to an area that should be reviewed and evaluated; or an Interoffice reply closing out the issue.

5. Daily Reports and Preliminary Notifications

Each of the IE Regional offices prepares a Daily Report which includes initial reports of events of potential safety concern. IE also prepares Preliminary Notifications of events it believes are potentially significant or of high public interest.

C. Nuclear Reactor Regulation (NRR)

1. Intraoffice Memoranda and Generic Letters

NRR's Division of Operating Reactors (DOR) has issued 27 operating experience and information memoranda to other Divisions within NRR suggesting changes or additions to the Standard Review Plan as of January 1979. Memoranda also flow in the reverse direction when the Division of Systems Safety (DSS) believes it has identified a potential problem with operating plants. In addition NRR issues generic letters to licensees to obtain operational information or to feedback needed design changes.

2. Technical Reports

NRR issues technical reports based on operating experience. Ten technical reports have been issued since February, 1978.

D. Foreign Information

1. Exchange Agreements

NRC has agreements with many foreign governments involving the exchange of operating data and information. Periodic reports, similar to the LER reports, are received from most of these countries. Some have requested and exchanged complete computer data tapes. Special reports, both informal and formal, are made of more significant items.

2. Committee for the Safety of Nuclear Installations (CSNI)

The CSNI is exploring the possibility of acting as a collection and rapid distribution center for reports of significant events from member countries.

E. Vendor/NSSS/AE

1. 10 CFR Part 21 Reports

Licensees and their suppliers are required to report safety deficiencies under 10 CFR Part 21. IE maintains a computer-based file and is responsible for followup on these reports. MPA is developing an LER-type computer file for Part 21 reports. Reports were received on sixty-five Part 21 subjects in 1978.

2. NRC Staff-Industry Meetings

Meetings are held between the NRC staff and the nuclear industry such as vendors, and AE firms to discuss topical reports and particular safety concerns. Operating data can be presented at these meetings.

3. Vendor/NSSS Bulletins

Vendors and NSSS issue bulletins and letters which may contain safety information.

F. Miscellaneous Sources

1. NRC Research and Technical Assistance Projects

NRC's Office of Nuclear Regulatory Research (RES) manages many research projects the results of which may contain information of safety significance. These results are normally published as Research Information Letters (RILs). NRR contractors provide technical assistance which occasionally includes evaluation of operational data.

2. EPRI Research Projects

The Electric Power Research Institute (EPRI) conducts or manages many research projects, some of which contain information relevant to operational data evaluation.

3. Nuclear Safety Information Center (NSIC)

The Oak Ridge National Laboratory (ORNL) manages the NSIC primarily for the NRC. The ORNL computerized system contains abstracts of most of the LER data as well as summaries of reports, books and papers on various aspects of nuclear power plants.

III. Present NRC Activities and Responsibilities Associated with Analysis and Evaluation of Operational Data

For background, a brief description of the related activities of various offices is presented. Also outlined is the newly established LER review activity of the Advisory Committee on Reactor Safeguards (ACRS). The Task Force believes that the results of this ACRS review activity will likely lead to substantive recommendations for the review, evaluation and implementation of potential safety issues.

At present, the activities and responsibilities in operational data analysis are spread throughout the agency. The Task Force agrees that important agency needs are not being satisfied. These needs not being adequately addressed are discussed in Section IV.

A. Present RES Activities and Responsibilities

RES activity in this area concentrates on the use of LER and NPRDS information as input to the risk assessment program of the Probabilistic

Analysis Staff (PAS). This program involves methodological developments and improvements, as well as application of quantitative risk assessment to current NRC issues (e.g., establishing a risk assessment perspective for resolution of generic safety issues, for the Systematic Evaluation Program, for elements of the Standard Review Plan and for significance of proposed changes to technical specifications). Methodological development is carried out mainly by contractors, guided and focussed by effort carried out within PAS.

In FY 1979, the Office of Nuclear Regulatory Research is supporting $683,000 in funding for research related to this area. The primary goal of this work is to derive failure rate data for risk assessment.

Contractor	Research Project Title	FY 1979 Support
Idaho National Engineering Laboratory	LER/NPRDS Failure Rate Analysis	$425,000
IEEE	Plant Log Examination and Data Analysis	129,000
Iowa State Univ.	Human Error Rate Data Analysis	30,000
Kansas State Univ.	LER Statistical Evaluation	99,000

B. Present NRR Activities and Responsibilities

Present NRR activities associated with operational data include the general review of information related to power reactor design derived from construction deficiency reports (10 CFR 50.55(e)), start-up test reports, containment leakage and surveillance test reports, inspection reports, LERs, foreign experience, Part 21 notifications, and vendor topical reports. These reviews are documented on an ad hoc basis.

In addition to this "cognizant-type" review, specific analyses of operational data are performed as part of NRR generic technical activities (e.g., approximately one-half of the "Unresolved Safety Issues" and one-fourth of all Category A Issues stem from reviews of operational data); at the request of other Offices (e.g., analysis of construction deficiencies, abnormal occurrences and bulletin responses); and at the initiation of the staff (e.g., approximately one-third of DOR backlogged actions stem from operating experience). These analyses and their documentation are also ad hoc.

In NRR, the responsibility for review and evaluation of operational data is split among the four major divisions. DOR is responsible for evaluation of operating reactor data and feedback into the licensing process. Responsibility for analysis of events associated with construction and startup activities lie in DPM, DSS, and DSE. Individual Project Managers in DOR and DPM are responsible for assuring licensee reports (LERs, construction deficiencies and effluent reports) have adequate licensing review. Thus, among the NRR divisions the responsibility for analysis and evaluation of operational data is not centralized, nor well documented.

The NRR generic analyses of operational data are typically aimed at determining the adequacy of licensing criteria or justifying changes to licensing criteria. If evaluation of operational data indicates the need for licensing action, NRR is responsible for taking that action.

C. Present I&E Activities

As the primary NRC point of contact for LERs, the Regional Offices bear responsibility for initial screening to determine immediate safety significance of the reports. Each LER is checked for completeness, accuracy and timeliness. When the safety significance of an event warrants it, prompt corrective action is required of the licensee by direct contact on the part of Regional Office. On a sampling basis, LERs are followed up on subsequent inspections to verify the adequacy of the licensee's corrective action.

LERs having potential safety significance are condensed by the regions and reported to Headquarters promptly via the IE Daily Report, a computer-based information system accessible to all NRC offices. Based on significance or public interest, events may be described in Preliminary Notifications distributed promptly to key staff, Commissioners and congressional committees.

When IE inspectors identify potentially generic problems as a result of review of LERs, or from onsite observations, they are expected to provide this feedback to Headquarters. When such problems clearly involve noncompliance an additional avenue for feedback is the inspection report. However, if a problem falls outside regulatory requirements, or does not involve noncompliance, inspectors use a different vehicle, the evaluation memorandum. Evaluation memoranda frequently lead to transfers of lead responsibility from IE to the appropriate licensing office.

IE Bulletins, Circulars and Information Notices are used as vehicles

to identify to licensees problem areas that require their attention. The urgency of the problem dictates the speed with which these are issued. The nature and timing of the corrective action required determines which of the three communications is used.

D. Present Activities of MPA

MPA's prime responsibilities are in collecting, reviewing, computerizing, analyzing and disseminating operating data and experience to a variety of users, incorporating other office requirements and suggestions as appropriate.

MPA reviews and evaluates a variety of incident reports against the NRC Abnormal Occurrence reporting criteria and coordinates NRC review and concurrence on Abnormal Occurrence Reports to Congress. As part of its role in disseminating information, MPA issues periodic and special reports on operating experience, including monthly and special searches of the Licensee Event Report (LER) data file, Bimonthly Power Reactor Events, Summaries of IE Bulletins and their responses, quarterly analyses of the LER data base and Annual Reports on Power Plant Operating Experience, Effluent Release and the associated dose commitment and radiation exposure. Special studies are also prepared on request. MPA also serves as the NRC focal point for technical direction to the Nuclear Plant Reliability Data System.

E. Present NMSS Activities

NMSS is the focal point for LERs and other licensee operational reports in the areas under its responsibility which broadly encompasses all NRC

licensees except in the reactor area. Based on its initial evaluation of individual LERs, IE provides NMSS with significant information in a manner commensurate with the importance of each reported item.

Analysis, evaluation, and any implementation activity is the responsibility of whichever relevant NMSS group has regulatory responsibility. Because the number of reported events each year is small (less than 10 percent of the power reactor LERs), and because they are very diverse in nature, analysis tends to be an ad hoc process in NMSS, and there is not now a centralized focal point for this activity.

F. Present SD Activities

The office of Standards Development uses LERs in only a very specialized way in connection with preparing or revising regulatory guides such as the following:

1.16 Reporting of Operating Information (LERs)

1.105 Instrument Setpoints

1.108 Periodic Testing of Diesel Generator Units

In the near future, LERs may be used to prepare other regulatory guides such as one concerning valve operator torque switches.

G. Present ACRS Activities

ACRS has always reviewed operational events at power reactors as part of its ongoing review of the regulatory process. For many years it has recommended that the staff institute a 10-year periodic review of operating experience at each power reactor.

The ACRS, after extensive discussion with the Commission and between the Commission and Congressman Udall, has undertaken a review of LERs over the three-year period 1976-1978. The purpose of the review is outlined in a letter from Chairman Hendrie to the ACRS dated December 28, 1978: "...to identify those events which have implications for improved reactor safety." To accomplish this review, an ACRS subcommittee has been formed under the Chairmanship of D. W. Moeller. The subcommittee has been meeting since March 1979 and expects to report back to the full ACRS and the Commission within a year with an interim report in September, 1979. It is expected that one key part of the review will be the careful study, on a pilot basis, of several past events, in order to obtain insights that can be generalized into broad recommendations. The Task Force met with Dr. Moeller to discuss the ACRS's results to date and the Task Force's efforts.

IV. NRC Needs and Considerations for Evaluation of Operational Data

A. NRC Needs

The Task Force has concluded that NRC has agency-wide needs in the area of analysis and evaluation of operational data that have not been adequately met. In the broad sense, the Task Force perceives that its charter is to delineate these needs and then to recommend a systematic approach to filling them. These needs are listed below and discussed in the following sections:

1. Data Gathering
2. Categorization, Logging
3. Preliminary Screening and Early Dissemination
4. Analysis
5. Documentation
6. Peer Review
7. Implementation
8. Verification
9. Review and Overview
10. Feedback

In general, the major deficiency in current NRC activities associated with operational data is the ad hoc manner in which most activities are performed. In short, there is not a structured, systematic and coordinated NRC process for review and evaluation of operational data. Those elements which are being performed, such as IE's efforts in LER reporting, MPA's efforts in centralized LER compilation, and SD's efforts in reporting requirements, suffer from a lack of feedback as to improvements that are needed. The Task Force believes that without a structured and systematic evaluation of the operational data, feedback of needed improvements in these areas will not occur. Therefore,

criticism in the steps below is not directed at any individuals or offices, but results from the current unstructured process and lack of dedicated resources.

1. Data Gathering: The NRC needs to gather the relevant raw information or to arrange that it be gathered. This gathering function includes prompt distribution to a central data collection point and to initial "users" of the raw data, primarily the cognizant staff members of the line offices. In this step needed correction to the data must be made.

   Currently not all information is properly distributed to all "users" or to a centralized collection point such as MPA. For example, follow-up is needed on LERs to assure all applicable information is in the data base and information gathered by NRR needs to be put into a centralized collection point. The general quality of LERs is not consistent, not always accurate nor optimized for analysis purposes.

2. Categorization, Logging: The NRC needs a centralized group to collate, log, categorize, and publish the raw data. This work must be timely, thorough, and responsive.

   Significant improvement is needed to include all of the operational data in Section II. This will require offices gathering the data to assure it is distributed to MPA in an appropriate format.

3. Preliminary Screening and Early Dissemination: The NRC needs early selective dissemination, after preliminary screening, of those operational data judged important enough to merit such dissemination. This dissemination should be made before detailed analysis is undertaken.

This step is being performed more as a sideline to keeping NRC management informed (e.g. PNs and Weekly Commission Highlights) than for early feedback to the regulatory process, interested public and nuclear industry.

4. Analysis: The NRC needs systematic analysis of the operational data to determine their safety significance and feedback when required. This is the heart of the entire process, and necessarily involves judgment as to which data require various kinds and amounts of analysis. Analysis is, of course, continuous and dynamic, since new data may well alter the previous analyses. The various elements of this analysis function have been delineated by the Task Force as follows:

   (a) First, those significant accident sequences/scenarios and broad issues (e.g. training or QA) to which the operational information applies must be identified.

   (b) Next, the data must be analyzed for insights about safety, either those insights requiring some follow-up action or insight confirming the regulatory process. The analysis can be either probabilistic or mechanistic, either realistic or conservative, either theoretical or operational, or combinations depending on the circumstances and the judgment of the analysts. In many instances the same data will require analysis from several of these perspectives.

   (c) Follow-on measures must be identified, if appropriate. These may be recommended for immediate implementation, or for longer-term considerations. Follow-on measures might include any or all of the following: changes in facility operations or procedures, facility modifications; improvement in operator training; feedback to design;

changes in standards, regulations, or guides, changes in licensing review procedures; changes in the inspection program; research projects; and modifications to the risk assessment program. Further discussion of the systematic analysis activity is presented in Appendix A of this report.

The major deficiency in current activities is that there is no structured or systematic analysis of operation data. Therefore, some important analyses are not being performed. NRR's effort is ad hoc, largely responding to requests of other groups or at the almost independent initiation of a staff member. Similar weaknesses exist in the other offices; for example, RES and IE should consider reorienting their Office programs as a result of operational experience.

5. Documentation: The agency needs full documentation of the analysis This includes documentation of confirmatory analyses as well as any actions taken as a result of recommended follow-on measures. The documentation must incorporate bases for judgments, such as to the uncertainties and assumptions in the analysis, and enough detail to allow peer review. Documentation is needed in order to provide potential users with analyses performed and so that audits of the process can be made.

Currently, documentation is not systematic. Usually only negative findings are documented and then in various formats depending on the nature of the evaluation.

6. Peer Review: If the issue raised by the analysis is judged to be of major significance to safety, appropriate peer review should be sought, including, for example, requests for comments from cognizant staff

organizations, the ACRS, the public, consultants and colleagues in the broad technical community, or affected parties in the nuclear industry. For issues of high safety significance, it may be necessary to initiate follow-on actions before full peer review can be accomplished, but this must not stand in the way of a vigorous and full peer review on whatever (longer) time scale that review requires.

Only a few examples are available where such peer review has been solicited, e.g., analyses of ATWS and BWR pipe cracks.

7. Implementation: Implementation of any recommended follow-on measures is important. However, a follow-on measure recommended as an outgrowth of the analysis must be given a priority consistent with its importance relative to other issues under the purview of the implementing organization, and this priority assignment should normally be the prerogative of the NRC Office responsible for implementing or verifying its completion.

   In the past, several instances of slow implementation have occurred, principally due to conflicting priorities within the implementing offices. Clearly a prioritization system is needed for offices with substantial backlog.

8. Verification: Follow-up is required to verify the extent to which the implementation phase is carried out. This may fall under normal management responsibility for staff actions or routine Office overview of industry actions.

9. Review and Overview: All of the foregoing must be the subject of regular, periodic review and overview. This might be carried out by the ACRS, or

by a specially formed group (comprised, perhaps, of both NRC staff and outside experts), whose membership can provide an independent perspective. Alternatively, this might be identified as an explicit management responsibility.

The current review and overview is not specifically directed at operational data. It would appear that as a result of current ACRS activities, additional overview from that source will occur. However, no specific overview by NRC management is currently available.

10. Feedback. The entire operational analysis system needs a mechanism for feedback, so as to maintain and upgrade its capabilities in the face of changing events, methodological advances, and other factors. Of particular importance is the need to modify the data-gathering activity upon which the whole analytical system rests. Without this feedback, the agency will not be served well, over the long run, by whatever analytical function it establishes.

    Presently there is no coordinated feedback process into any of the steps above.

B. Considerations in Satisfying the Agency's Needs

A number of considerations were discussed by the Task Force. Among these were the issue of independence of the analysis function; the need for committed personnel and budget resources and priority; the readiness of access to various information; the ability for rapid dissemination; and the ability for implementation. Each will be outlined briefly here to provide additional perspective:

1. Need for Committed Resources and Priority: The Task Force finds a strong need for the establishment of a dedicated staff. In this context, we use the term "dedicated" to apply to the assignment of responsibility for analysis undiluted by other staff functions. Regardless of whether that staff be large and diverse, or small and centralized, thus requiring significant back-up from other NRC resources or contractors, its competence and effectiveness depend on its nucleus being dedicated solely to this operational analysis task. In other words, it is the Task Force's view that the NRC will be best served if this dedicated analysis staff is assigned clear responsibility for this important function without diluting the effort by assignment of other conflicting duties. The analysis staff also requires management backing to provide enough priority to enable obtaining, in a timely and effective fashion, part-time consultation from experts throughout the NRC staff or among its contractors, to assist in analyzing particular issues as they arise. The Task Force further recommends that the analysis function be provided with a separate budget allocation sufficient to cover administrative expenses, the hiring of consultants, and travel.

2. Independence: The Task Force finds a strong need for some sort of organizational or functional independence for the analysis function. It feels that unless those charged with operational data analysis are functionally separated from other responsibilities, the likelihood is unacceptably high that the required competence and perspective will inevitably be compromised by other demands on their resources and independence.

3. Access to Information: The analysis staff needs full and ready access to safety-related information wherever it may reside. In the longer term, an extensive in-house "library" of such items as detailed facility drawings and operations is probably needed. Computer access is required in many areas due to the large amounts of data.

4. Dissemination: The logistics for rapid dissemination of information or analyses and recommended follow-up measures is difficult but important. The Task Force concludes that the vehicles exist now for this purpose, but that some streamlining may be called for to facilitate their effective use.

5. Implementation Priorities: Implementation of recommended follow-up measures must be timely and effective. This requires the attention and backing of the management of whichever program office is affected to resolve the conflicting priorities of the specific group that must act on the recommendations. Often the recommendations stemming from evaluation of operational data will have a lower priority for implementation than other, more safety significant efforts of the line organization. Such decisions on priority of effort are difficult and must fall to the line management. It is this concern that leads the Task Force to emphasize the need for verification.

V. Proposed Evaluation Process

A. Description of Process and Options Considered

In recommending an NRC staff evaluation process for operational data, the Task Force determined that several basic steps were required to address the needs listed in Section IV. The steps shown in Table 1 appear to

be required if NRC is to institutionalize a structured analysis and evaluation of operational data.

TABLE 1

BASIC STEPS OF AN EVALUATION PROCESS

STEP 1 - Gather Specific Data (e.g., LER's, Inspection Reports, NRR Generic Letters, Foreign Data)
STEP 2 - Collate, Log, Categorize and Publish the Data
STEP 3 - Preliminary Screening and Early Selective Dissemination
STEP 4 - Analyze and Evaluate Data
STEP 5 - Document Evaluations
STEP 6 - Peer Review
STEP 7 - Implement Recommended Actions
STEP 8 - Verify Implementation
STEP 9 - Coordination and Overview and the Process Above
STEP 10- Feedback to Modify Procedures as Experience Requires

The Task Force consensus was that Step 1 should be performed much as it is in the current process, with the unit to whom the data is addressed taking the responsibility for gathering and assuring that any specific action required by that data is taken. However, we recommend that procedures be improved to assure that the data are evaluated for appropriate actions and that these evaluations are documented. For example, IE inspectors and DOR project managers should each evaluate and document that an LER is appropriately resolved at an operating reactor and that correct data are available for Steps 2 and 3.

We agree that the NRC staff should have a central group for performing Step 2, with MPA the most logical Office to carry out this function. The scope of operational data considered should be expanded to all sources discussed in Section II and each data gathering group should work with MPA to assure the data are available in a proper format so that it may be computerized. This is estimated to require 3 additional professionals.

In the near term, the Task Force believes that Step 3 should be performed by the unit gathering the information. To some degree the function is now being performed by IE through daily reports and preliminary notifications and by NRR and other Offices through daily staff notes and Weekly Commission Highlights. The Task Force believes that in the long term, upgrading of the Step 3 process may be needed, but that feedback from the analysis in Step 4 is required before a recommendation can be made.

The ongoing staff efforts in the remaining steps are not now structured well enough for the Task Force to recommend building from these in establishing an evaluation process. It is this lack of a structured and systematic evaluation that is the principal focus of the Task Force. We considered several process options, building from the base that currently individual events are usually sufficiently evaluated and initially resolved for the specific facility reporting the event; but what is mainly needed is assessment of trends and generic implications. Therefore, while we believe that upgrading of the first three steps is important, we gave most attention to upgrading subsequent steps. Four basic options were considered in order of progressively greater departure from the status quo, but these four are not necessarily progressively better options for satisfying the agency needs. These four options are summarized in Table 2 and described in more detail below. The options considered are not exhaustive, but were selected based upon the Task Force's judgment of reasonable alternatives. The incremental level of resources assigned was again based on collective judgment of the Task Force recognizing that the initial staffing would likely need to come from reallocation within existing staff and that more meaningful resource estimates would require some experience.

In examining the resource levels one should recognize that substantial staff effort is currently being applied to ad hoc evaluation of operational data. The Task Force could not accurately estimate this level of effort due to difficulties in separating this effort from the normal categorization of work in each office. A rough estimate was that about 10 percent of IE inspector effort (about 50 man years), and about 80 man years in NRR, might be attributed to the evaluation and implementation of operational data. The options discussed below are aimed mainly at systematizing and structuring this effort, and at supplementing it, but not replacing it.

OPTION 1

This option was chosen as one that represents the least perturbation of the existing process, but yet would improve the NRC staff's evaluation process, and in some respects significantly so. In this option, each program office would centralize and systematize its own analysis and evaluation function. NRR would act as lead in coordination of data involving reactor facilities. Although no central agency-wide group would overview the total evaluation process, the ACRS and normal management oversight would be available. Documentation of evaluations would be performed by each office with implementation of recommendations by the existing process.

Establishment of a centralized analysis and evaluation function within NRR, IE and RES was estimated to require an additional 7, 1 and 2 professionals, respectively (10 total). This additional staff was needed so that the present as hoc, partial evaluation process would be systematized and expanded. Also, it was estimated that the implementation of recommendations such as additional feedback, license changes, bulletins, research priorities, enlarged data

collection and standards changes resulting from this systematized evaluation process would require 7 additional people in IE (1 in each of 5 regions, 2 in headquarters), 3 in NRR, 1 each in of SD, RES and MPA (13 total).

OPTION 2

In option 2 each of the Program Offices of IE, NRR and RES would establish its own centralized "group" to analyze and evaluate data from the viewpoint of each Office's mission. While each "group"* would be able to draw upon technical expertise from throughout the NRC, at least one individual in each office would be identified as having lead responsibility. Additionally, a part-time, agency-wide overview committee, presumably composed of management, would be formed with a single dedicated staff professional to assure proper agency-wide coordination of the evaluation process, to verify that recommendations are implemented, and to assure proper feedback to improve the process. Documentation of data analysis and evaluation would be the responsibility of each office level "group" as would defining appropriate implementation actions within each office.

This option was estimated to require an additional 10, 3 and 3 professionals in NRR, RES and IE, respectively (total of 16). The agency-wide overview committee would probably have one full time professional. Resources to implement recommendations stemming from the data evaluations were assumed to be the same as in Option 1 (total of 13).

OPTION 3

In Option 3 a full-time, agency-wide technical organizational entity would replace the part-time management overview committee of Option 2. This full-

*The term "group" need not be a formal organization entity in this option, but would be left to the individual Offices to organize as each desires.

time entity would have sufficient resources independently to analyze and evaluate data, to verify implementation of its recommendations, to coordinate the activities of the program Office "groups," and to assure proper feedback to improve the evaluation process. The agency-wide entity would require priority in drawing upon technical staff throughout NRC as appropriate. The program Offices would have "groups" similar to those in Option 2 to analyze and evaluate data for the Office mission and to work within their Offices to implement recommendations.

The resources for the Office level "groups" would only be slightly reduced over that in Option 2 since in this option the agency-wide group would not have enough staff to concentrate its efforts fully in individual Office areas. NRR, RES and IE would require an additional 8, 2 and 2 professionals, respectively (total of 12). The agency-wide entity would require about 15 professionals. Resources to implement recommendations stemming from these data evaluations were assumed to be the same as in Option 1 (total of 13 staff).

OPTION 4

This option replaces the office level "groups" of Options 2 and 3 with an expanded agency-wide technical organizational entity. This agency-wide technical entity would perform all the steps in Table 1 for the agency except the actual implementation of recommendations. As in Options 2 and 3, the agency-wide entity requires priority in drawing upon technical staff throughout NRC as appropriate. Implementation would be done by the existing program Offices after coordination with the agency-wide entity.

Although the Office level "groups" do not exist in this option, the Task Force recognizes the need for some Office level support and liaison, estimated to be roughly 1 per program office.

The agency-wide entity was estimated to require approximately 30 full-time professionals. Resources to implement recommendations stemming from the data evaluations were assumed to be the same as in Option 1 (total of 13 staff).

B. Pros and Cons

The Task Force considered the pros and cons of the four options to determine the option that best utilized existing NRC capabilities and best addressed NRC needs.

Table 3 summarizes these pros and cons.

After much discussion, the Task Force could not reach a consensus, or even a majority, recommendation as to which option should be applied to reactor operational data. The Task Force did agree that at this time, the apparent differences between reactor operational data and those for NMSS licensed facilities, warranted separate treatment. As a starting point Option 1, as described in Appendix B, seemed appropriate for NMSS licensed facilities. However, the desirability of other options should be reassessed over the longer term for NMSS.

While not able to agree upon one option that would be best for NRC implementation, the Task Force agreed that any of options 2, 3 or 4 would offer substantial improvement over the status quo for power reactors and that one such approach should be promptly implemented.

C. Advocacy Positions for Options

The Task Force believed it worthwhile to document below an advocacy viewpoint of each of the options. We were almost evenly divided as to which was the best approach to implement and believed it useful to others to understand the trade offs as each proponent saw them.

OPTION 1

This option appeared to be best suited for NMSS facility data as is discussed in Appendix B. However, in comparing the various options, it became obvious to the Task Force that for power reactor operational data Option 1 was not a sufficient change from "business as usual" and probably would not result in important improvements over current efforts.

This option is the least effective in isolating those responsible for performing the analyses from other conflicting priorities. For example, if strong individuals were selected for this function, they would likely be tapped off often as a manpower source for other unexpected efforts and not have the time and attention the analysis effort requires.

These analyses could be uneven as in the status quo since little or no inter-office coordination or overview would be available. The lack of ov. sight could affect the effectiveness of implementation dissemination and feedback.

OPTION 2

The major advantage of Option 2 over other options is the clear accountability of the program offices to be responsible for evaluation of operational data and for the necessary actions that stem from those evaluations. This contrasts with the centralization of responsibility as in Option 4, where the potential exists for dual accountability and dual responsibility between the centralized analysis group and each of the program offices.

Another major advantage of Option 2 over more centralized approach of Option 4 is that evaluation from more than one perspective is better assured since each program

office would tend to view the operational data somewhat differently. The check and balance that Option 2 offers in terms of assuring adequate evaluation, dissemination and implementation is due to the different views that would come from NRR's licensing perspective, from IE's inspection and enforcement perspective and from RES's risk analysis and research perspective. These different perspectives would be made available throughout the NRC by the management oversight group. While Option 4 offers the potential for maximum independence from the program offices, only its view is assured organizationally.

Option 2 utilizes a management oversight group that would likely be quite effective in assuring timely and appropriate implementation and dissemination of significant safety data. This group would also have sufficient authority to implement recommendations for feedback into the process to ensure improvements.

Concentrating the analysis and evaluation of operational data in program office groups would appear to optimize the trade-off of ease of access to the technical expertise and knowledge that exists in the line offices with independence from conflicting priorities. Additionally, the effectiveness of implementation and dissemination would tend to be greatest at the program office level where essentially all of these actions take place. Other more centralized options are less efficient in this regard since they are further removed from the program offices.

OPTION 3

Option 3 has a full-time agency-wide group performing a portion of the analysis/evaluation process in coordination with individual groups within

the program offices thus providing a set of checks and balances.

A dedicated group within each line office provides the Office Director with a capability to carry out office responsibilities in data analysis. This group is privy to the informal data and historical perspective residing in the office and can easily draw upon office specialists. If needed, it can assist in implementing recommendations from its deliberations as well as those from the agency-wide group. It can provide the Office Director with the competence to assess or influence analysis and recommendations from other groups which he might otherwide have to duplicate or disprove.

The agency-wide group can bring needed independence to the analytical process. This group would tend to be immune from conflicting priorities and could have a different analytical perspective. They would provide a valuable coordination function and could audit line office analytical activities. Cross-fertilization would undoubtedly benefit all groups. The agency-wide group would tend to assure feedback from analysis into the data reporting requirements. The group would have specialists such as statisticians and analysts who could develop techniques and methods that could be adopted by the individual line office groups.

OPTION 4

Option 4 stresses independence and quality of the analysis function as most important considerations, and therefore tends to be more responsive to the task force charter which is to "...recommend action which will permit NRC to best use the existing operational data base and data system to promptly identify potential safety concerns". Option 4 gains its strength from independence from conflicting priorities and from independence of perspective

TABLE 2 - SUMMARY OF OPTIONS CONSIDERED

ITEM	OPTION 1	OPTION 2	OPTION 3	OPTION 4
Analysis/ Evaluation	Centralize function within IE, NMSS, MPA NRR and RES	Centralize groups within IE, MPA, NRR and RES	Full time agency group and groups within IE, MPA, NRR and RES	Full time agency group
Documentation	Same as above	Same as above	Same as above	Same as above
Implementation	Existing process	Existing process and coordination with centralized groups	Existing process and coordination with Agency Group and Office level Groups	Existing process and coordination with Agency Group
Verification	Within Program Offices by existing process	Part time NRC management group	Agency Group and Office level groups	Agency Group
Coordination	NMSS lead NRR lead	Part time NRC management group	Agency Group	Agency Group
Feedback	Within Program Offices by existing process	Part time NRC management group and centralized groups	Agency Group and Office level groups	Agency Group
Incremental Resources				
Analysis	NMSS (2) NRR (7) IE (1) RES (2) Total - 12	NRR (10) IE (3) RES (3) Management Group Staff (1) Total - 17	NRR (8) IE (2) RES (2) Agency Group (15) Total - 27	NRR (1) IE (1) SD (1) RES (1) MPA (1) Agency Group (30) Total - 35
Centralized Data Collection	MPA (3)	MPA (3)	MPA (3)	MPA (3)
Implementation	IE (7) NRR (3) SD (1) RES (1) MPA (1) Total - 13	Same as Option 1	Same as Option 1	Same as Option 1

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TABLE 3

COMPARISON OF SEVERAL
CHARACTERISTICS OF FOUR OPTIONS

		OPTIONS			
		1	2	3	4
A.	Impact of Resources Required (See also footnote 1)	Lesser ----------			----------Greater
B.	Degree of Centralization	Lesser ----------			----------Greater
C.	Effectiveness of Implementation and Dissemination				
	1. Intra-office	Medium	High	Medium	Low
	2. Inter-office	Low	Medium	High	Medium
D.	Efficiency of Use of Resources	(See Footnote 2)			
C.	Independent Analysis from Conflicting Priorities	Lesser----------			----------Greater
D.	Strength of Technical Direction	(See footnote 3)			
E.	Ease of Access to Supplementary Technical Expertise				
	1. Intra-office	High	High	Medium	Medium
	2. Inter-office	Low	Medium	High	Medium
H.	Independence of Perspective in Analysis	Lesser ----------			----------Greater
J.	Coordination Among Analytical Groups	Lesser ----------			----------Greater
K.	Effectiveness of NRC-wide Overview	Lesser ----------			----------Greater
L.	Control of Analytical Process				
	1. Office Level	Greater ----------			----------Lesser
	2. NRC-Wide	Lesser ----------			----------Greater
M.	Ease of Access to Intra-Office Information	Greater ----------			----------Lesser
N.	Office Level Support to Process	(See Footnote 4)			

in analysis; please see sections IV.B.1 and IV.B.2 of this report for a discussion of these points. Also contributing to expected high quality analysis of Option 4, as seen from Table 3, is an increased control of the analytical process and increased effectiveness of NRC-wide overview. In contrast, options 1 and 2 are weaker in these vital areas and may deteriorate into "business as usual". Option 1 could do this right away and Option 2 may take a little longer since both these options are weakest in independence.

From the independence viewpoint Option 3 is the only practical alternative to Option 4 and appears to have the advantage of requiring less resources than Option 4. However, it is doubtful that Option 3 would differ significantly from Option 4 in the number of people required. In fact, with experience Option 4 may be more efficient and therefore may require fewer people than Option 3.

As mentioned in the footnotes to Table 3, both Options 3 and 4 will require experienced people with broad technical expertise. However, the success of these options will depend more upon diligent, one-by-one review of incoming reports and attention to details than upon special technical or analytical talents or detailed knowledge of Program Office workings. Therefore, in the area of personnel qualification, Option 4 should suffer little disadvantage when compared to Option 3. Finally, Option 4 allows the Commission to hold accountable one person whose sole responsibility is thorough analysis of operational data. This should eliminate the confusion and inaction that results from overlapping responsibilities which in practice results in no one being responsible or being accountable for proper analysis of operational data.

FOOTNOTES

1. Personnel Qualification

An important consideration in the evaluation of any options is the required qualifications of the individuals screening and analyzing the data. A centralized independent agency group will require the most knowledgeable, experienced staff that understands the functions and workings of each NRC Program Offices. The broad technical expertise required to analyze the data will require that the very best people be utilized to staff that group. Otherwise, the significance of particular reports could be overlooked or a less effective recommendation made to the responsible offices. In the less centralized options, much of the required knowledge and experience will come from individuals within the Program Offices.

2. Efficiency of Resources

The Task Force was not able to reach consensus on the relative efficiencies of the various options. It was believed that a centralized effort for analysis and evaluation would tend to be more efficient than a dispersed effort. On the other hand, as the effort is more centralized, there would be a tendency for the centralized effort to overlap that analysis and evaluation that must take place in the Program Offices, resulting in a potential net agency-wide loss in efficiency.

3. Strength of Technical Direction

The Task Force sees no structural reason why the strength of technical direction should be easier or more difficult to accomplish in the several options. Of course, if one superbly qualified leader were to be found, the entire agency would benefit more in the more centralized options. However, with proper backing from higher management, any option could be provided with strong technical direction.

4. Office Level Support

To be successful, improvements in the processing of the data must be actively supported by office and line management. This support must recognize the goal of improved public health and safety and the responsibility that each office or division has in meeting that goal. Active interoffice cooperation and coordination will play a major role in the success of the program. Each of the alternatives proposed could be successful with proper management support. However a "business as usual" approach would most likely not result in the potential improvements in the evaluation of data or implementation of those results.

VI. Recommended Immediate and Follow-On Actions to Improve NRC's Review and Evaluation of Operational Data

The Task Force has divided its recommendations into those actions that should be promptly implemented and those actions that may require further consideration prior to implementation. Specifically, the Task Force recommends that the Commission commit NRC both to prompt actions to upgrade operational data analysis and to a series of follow-on actions leading to a longer-range substantial improvement in this area.

Immediate Actions for Interim Improvements

1. The Task Force recommends that each affected Program Office (IE, MPA, NMSS, NRR, RES and SD) designate a single member of its management with authority to implement immediate actions and provide liaison for the follow-on activities. One senior manager should be designated as responsible for all of these immediate actions.

2. The Task Force recommends that the analysis and documentation functions outlined in the Task Force report should be immediately initiated within the appropriate Offices in an effective way: centralized within the Offices to the degree possible, but in any event dedicated to this one task.

3. The Task Force recommends that the activities of data gathering, categorization, logging, preliminary screening and early dissemination of operational data be significantly upgraded as promptly as this can be accomplished. This will be required for any longer-term upgrading of such analysis in any event, and can be readily undertaken. In the short term, the Office of Management and Program Analysis should manage these activities and each Office gathering operational data, as outlined in Section II, should be instructed that it is their responsibility (1) to

assure that MPA receives copies of that data and (2) to screen the data for early dissemination of significant data prior to detailed analysis.

4. The Task Force recommends that NMSS institute the process described in Appendix B for its licensed facilities.

5. The Task Force recommends that each Program Office be surveyed as to past analyses of operational data. These analyses should be screened, disseminated and any recommended actions prioritized for implementation.

6. The Task Force recommends that prompt management attention be given within each Office (and agency-wide) to more effective dissemination and implementation of recommended actions resulting from analyses of operational data and to the verification of such implementation. Since the Task Force recommends that implementation activities be institutionalized within each Program Office, these short-term measures should be designed to lead smoothly to longer-term improvements.

Follow-On Actions for Longer-Term Improvements

1. The Task Force recommends that the steps in Section IV (Table 1) be adopted as the basis for a NRC institutionalized data analysis and evaluation process.

2. The Task Force recommends that the Commission promptly approve one of Options 2, 3, or 4 for analysis of power reactor operational data.

3. The Task Force recommends that a NRC administrative or line office be selected as responsible for the agency-wide activity associated with

power reactor operational data (for Option 2, the agency-wide activity would be coordination and oversight; for Option 3 and 4, it would include a new group of staff).

4. The Task Force recommends that a centralized file be established for documentation related to operational data, its analysis and implementation of recommended actions.

APPENDIX A

SYSTEMATIC ANALYSIS OF OPERATIONAL DATA

General

The most important step in the process of benefiting from operating experience is the systematic analysis of available data. The scope, type and frequency of analysis must be clearly defined and periodically reviewed and revised, when needed. It is expected that the analysis performed will indicate additional information needs which must be fed back into the reporting requirements. Similarly, if analysis indicates no real need for certain data then those data should no longer be reported. Also, feedback from the analysis will provide a check on its completeness and accuracy.

With presently available data, each event can be systematically reviewed for accident precursor implications. These reviews should involve assessments of possible additional failures that could lead to more severe consequences and assessments of the licensing implications of the failures which did occur in the event under review. Data can furthermore be systematically examined for such things as human errors, management weaknesses, procedure deficiencies, generic failure implications, test and maintenance deficiencies, common cause failure occurrences, and design and quality control defects. These analyses, which are largely subjective, depend on the judgment of the analyst and thus require highly competent and experienced personnel.

In addition, presently available data will allow certain kinds of quantitative analyses to be performed. These analyses will generally involve evaluations of the event frequencies for their trend implications, recurring component failures and their implications, and generic component failures reflecting systematic failure mechanisms. Some gross failure rate analyses and subsequent risk

analyses can be performed; however, because of the present lack of population data and the number of successes, these analyses will be limited in scope. Also, some causal analyses can be performed on the basic causes of failures and their implications; however, because of the present lack of detailed, substantive information, these analyses will also be limited in scope.

As more information is collected on populations, and as the quality of collected data improve, more comprehensive risk and reliability evaluations can be performed. These evaluations will involve component failure rate and component unavailability determinations. As system models are constructed and as reliability and statistical approaches are developed, these data can be used to identify component wear-out and burn-in, to identify component and system outlines, to compare plant-to-plant performances, to evaluate system unavailabilities and relative accident risks for plants or types of plants, and to quantify in more detail the implication of each event and the frequencies of events as to system unavailability, core melt probability, and accident risks. As cause of failure information increases, these quantitative assessments can be further separated into basic causes and ramifications.

Examples of Analysis

The Task Force does not believe that it should dictate or can in a short time recommend all the kinds of specific analyses that should be performed. Instead, it believes it would be more useful to list examples of analyses that might be performed, recognizing that the organizational entities with responsibility for analysis must do this job, in detail and on a high priority basis.

1. Periodic Analyses

Routine periodic searches of the total data base should be made with

particular attention paid to identifying trends, accident precursors, clusters of events and new accident sequences. Both computer and manual techniques should be used.

The following variables may be useful in obtaining insights available from analyzing operational data:

Type of Event
Type of Plant (PWR/BWR)
Age of Plant
Manufacturer (NSSS)
Model (BWR-II)
Architect-Engineer
Constructor
Operating Utility
System/Subsystem
Component/Piece Part
Manufacturer of Component
Event Cause
Consequences (Onsite/Offsite)
Radiation Release
Radiation Exposure
Rate of Occurrence
Corrective Action
Category
Repetitive Events
Systems Interaction
Test and Surveillance Frequency
Maintenance Frequency
Multi-Unit Site Effects
Common Mode Failures
Time of Event
Limiting Condition for Operation (Reached or Exceeded)
Technical Specification Violated
Degree of Redundancy
Degree of Diversity
Failure Mode

2. Specific Analyses

After performing the periodic analyses described above, additional analyses may be warranted in areas where safety implications are most severe. In some cases additional data will be required, and must be obtained.

Past examples of specific analyses include:

- Steam Generator Engineering Details and Water Chemistry
- Fuel Element Failure Analysis
- Diesel-Generator Reliability
- Snubber Performance
- Water Hammer
- BWR Off-Gas Systems
- BWR Pressure Relief Systems
- PWR Overpressure Transients
- BWR Pipe Cracking

APPENDIX B

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

REVIEW PROCEDURES FOR LICENSEE EVENT REPORTS

NMSS recognizes that improvement is necessary in the review of licensee event reports (LER), particularly in the identification of potentially generic issues. However, the problem faced by NMSS in the review of LERs differs from that of reviewing power reactor LERs both in size and in the type of review work required. For all material and fuel cycle licensees, we receive only 100-200 LERs per year. The reports will probably originate from a diverse group of licensees, and a very broad range of technical knowledge and experience is required for the reviews.

Most of the LER review work for material and fuel cycle licensees is now done by I&E personnel at the regional level. This has been effective as far as corrective actions for individual LERs is concerned. However, the personnel in one Region are not necessarily aware of LERs originating from licensees in other Regions, and therefore the identification and correction of generic problems may be weak, although NMSS and I&E personnel have identified several generic problems in the past and have taken corrective action. The present method of review can be improved by additional consideration of LERs, specifically to identify generic problems, and through a more formal system of review documentation and review control.

The method proposed for the review of LERs from material and fuel cycle licensees is illustrated in Figure 1. NMSS will assure that NMSS, the IE Regions and MPA receive and review all reports.

The function of the Licensee Operations Evaluation Branch in the Office of Management and Program Analysis in receiving LERs and distributing and publishing LER computer printouts would remain unchanged. Within NMSS, the Program

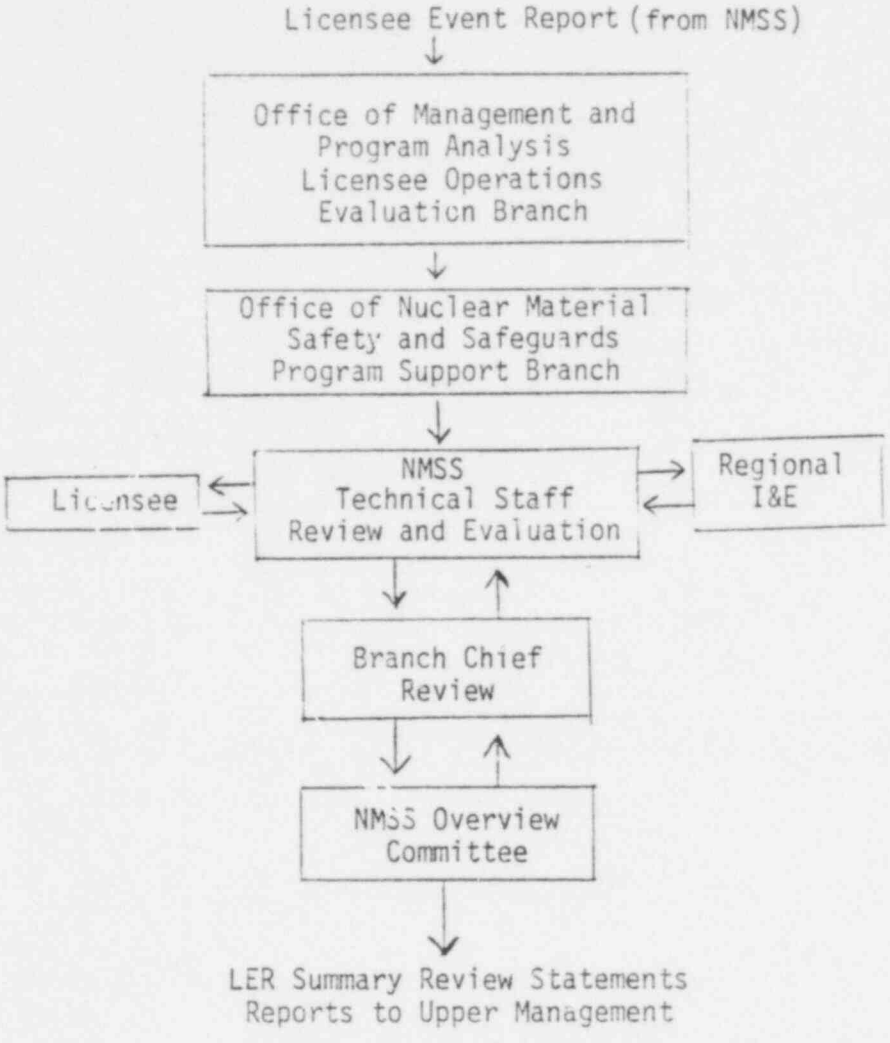
Support Branch would be given specific responsibility for receipt of LERs and for the scheduling and tracing of review work. Detailed review and analysis of individual LERs and the assessment of generic implications would be performed by technical staff within the appropriate licensing branch. The technical staff would communicate with the Regional I&E Office personnel and with the licensee as appropriate during the review and analysis effort. It is not intended that the NMSS review would replace the Regional I&E review; rather the NMSS review would supplement and strengthen the I&E review and give particular attention to the identification of potential generic problems.

At the conclusion of the review and evaluation procedure for each LER, the staff would prepare a summary statement describing the LER, the review done by the staff, the corrective actions taken by either the I&E Regional Office or NMSS and identifying any generic implications discovered. The statement would be reviewed by the appropriate branch chief and, after concurrence, forwarded to the overview committee. The overview committee would be composed of NMSS management personnel and appointed by the Director, NMSS. Their function in the LER evaluation process would be to provide a second broad review of all material and fuel cycle LERs to help assure that generic problems are promptly identified and that corrective actions are taken where appropriate. In addition, the committee would be responsible for periodically reviewing the overall LER review process, for making recommendations for improvements and for obtaining independent reviews of particularly significant generic problems if any are identified.

The LER review results would be documented in the summary statement prepared by the staff for each LER and through periodic reports by the overview committee to upper NRC management. Documentation will be made available to the public.

NMSS believes the procedures described above are appropriate for the review of material and fuel cycle LERs and will provide good assurance that problems are identified and corrected promptly. The procedure assures that LER reviews are performed by technical staff with training and experience in the proper areas of expertise and with access to industry wide LERs. Further the establishment of the overview committee assures proper management commitment to and control of the LER review process.

PROPOSED NMSS LER REVIEW AND EVALUATION PROCESS



Attachment 1

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

APR 04 1979

MEMORANDUM FOR: Harold R. Denton, Director, NRR
William J. Dircks, Director, NMSS
John G. Davis, Acting Director, IE
Saul Levine, Director, RES
Robert B. Minogue, Director, SD
Norman Haller, Director, MPA

FROM: Lee V. Gossick, Executive Director for Operations

SUBJECT: TASK FORCE ON OPERATIONAL DATA ANALYSIS AND EVALUATION

I am forming a Task Force to examine operational data analysis and evaluation activities within NRC.

I want the Task Force to concentrate on defining near term actions which will permit NRC to make the best use of the existing data base and data systems. Priority should be given to defining actions that will establish a structured analytical process to identify potential safety concerns promptly from the data. The focus should be on operational data from power reactors, although the possible applicability of recommendations from this Task Force to data from other licensed facilities should be recognized.

The Task Force should address the following:

-- methods to improve the review, systematic analysis and evaluation of operational data within NRC; and

-- approaches to highlight the responsibility and strengthen the capability of the licensing and inspection offices to be aware of and react promptly to potential safety concerns in the data.

The Task Force should consider factors such as the integration of all data sources (e.g. inspection data as well as licensee furnished data), the volume of data handled, changes to or creation of office procedures, and office resources that should be devoted to operational data gathering and analysis. To the extent that enhancements to the quality, completeness, and uniformity of data generated by the licensees for NRC affect the staff's ability to analyze or evaluate the data, such enhancements should

also be considered. However, operational data gathering in general is a topic outside the scope of this Task Force.

Based on my discussions with you, I have decided to appoint Donald K. Davis, NRR, as Chairman of the Task Force. Members will be Dennis M. Crutchfield, NRR, William A. Nixon, NMSS, Dudley Thompson, IE, Robert J. Budnitz, RES, Manuel S. Medeiros, SD, and Richard A. Hartfield, MPA.

As a first step, I want the Task Force to develop for my approval an expanded charter and schedule of activities that will lead to definition of near term actions by early May. I will send this information to the Commission next week.

Lee V. Gossick
Executive Director for Operations

Attachment 2

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

May 4, 1979

MEMORANDUM FOR: Harold R. Denton, Director, NRR
William J. Dircks, Director, NMSS
John G. Davis, Acting Director, IE
Saul Levine, Director, RES
Robert B. Minogue, Director, SD
Norman Haller, Director, MPA

FROM: Lee V. Gossick, Executive Director for Operations

SUBJECT: TASK FORCE ON OPERATIONAL DATA ANALYSIS AND EVALUATION

On April 24, 1979, I established a Task Force on Operational Data Analysis and Evaluation. As a first step the Task Force has developed, and I have approved, the enclosed expanded charter and schedule of activities.

Lee V. Gossick
Executive Director for Operations

TASK FORCE ON OPERATIONAL SAFETY DATA

ANALYSIS AND EVALUATION

CHARTER: Examine NRC analysis and evaluation activities associated with operational data and recommend actions which will permit NRC to best use existing operational data base and data systems to promptly identify potential safety concerns. The primary focus is on operating power reactors, although recommendations for evaluation of operational data from other types of facilities will be considered.

Specific Objectives:

1. Define prompt actions that will establish a structured evaluation process to identify potential safety concerns or trends from power reactor operational or empirical data. This process should utilize the existing organizational capabilities of NRC.
2. Assure that the process for review and evaluation of operational data emphasizes the importance of prompt regulatory actions prior to complete evaluation of potential safety concerns.
3. Recommend a division of responsibilities within the NRC offices with regard to generic compilation, verification, review, analysis and evaluation of operational data.

4. Recommend appropriate level of efforts to assure potential safety concerns in the data are promptly identified, resolved, and documented.
5. Recommend longer term actions to further improve the NRC's review and evaluation of power reactor operational data.
6. Consider analagous actions for operational data from non-power reactors, fuel cycle plants and material licensees.

Task Force Composition

D. Davis, Chairman, NRR

R. Budnitz, RES

D. Crutchfield, NRR

R. Hartfield, MPA

M. Medeiros, SD

W. Nixon, NMSS

D. Thompson, IE

Detailed Schedule:

1. Detailed charter and schedule - April 30
2. Define review and evaluation processes and resource needs - May 2
3. Determine responsibilities within NRC for review and evaluation of operational data - May 2
4. Summarize sources and quantities of operational data - May 4
5. Summarize status of relevant NRC activities - May 4
6. Define immediate actions required to establish the recommended review and evaluation process - May 7
7. Recommend longer term actions to further improve the NRC's review and evaluation of power reactor operational data - May 7
8. Task Force Report with recommendations submitted to EDO and NRC Office Directors - May 11