



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

U.S. NRC

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Hay [signature]
Butt [signature]

OCT 25 1985

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OFFICE OF INVESTIGATIONS
HEADQUARTERS

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

FROM: Robert D. Martin, Regional Administrator, Region IV

SUBJECT: RESULTS OF ALLEGATION INQUIRY

REFERENCE: RIV-85-A-0076

This memorandum summarizes the actions taken in response to your Request for an Investigation (Enclosure 1) regarding alleged wrongdoing by Gulf States Utilities at River Bend.

This matter has been reviewed by Region IV and OI and reported as an Assist to Region IV Staff, A4-85-014 (Enclosure 2). An NRR employee identified an alleged who reportedly identified concerns regarding GSU Technical Specifications. The alleged was questioned by OI and Region IV personnel and stated that his oral comments regarding GSU Technical Specifications had been "misinterpreted." The alleged stated he had reviewed approximately 30 percent of the Technical Specifications for River Bend and had found nothing which he would consider unsatisfactory. The alleged denied that he had said that the River Bend staff was aware of "errors, discrepancies, and problems" regarding the Technical Specifications. Region IV and OI consider this matter closed.

Robert D. Martin
Robert D. Martin
Regional Administrator

Enclosures:
As stated

cc:
J. Taylor
✓ B. Hayes

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PDR FOIA
PLETTIN86-651 PDR

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Report to the Commission

OIA Review of the Operating License Review Process for Power Reactors

Office of Inspector and Auditor

October 1984

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- This is An
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- Not to Be Released Outside Of NRC

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

October 3, 1984

MEMORANDUM FOR: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech

FROM: Sharon R. Connelly, Director *Sharon R. Connelly*
Office of Inspector and Auditor

SUBJECT: OIA REVIEW OF THE OPERATING LICENSE REVIEW PROCESS FOR
POWER REACTORS

Attached is our report on the results of our review of the process for issuing an operating license (OL) for a nuclear power plant. We conducted the audit at NRC Headquarters and Region I from September 1983 through April 1984 in accordance with an audit program provided to the Commission on April 1, 1983, and generally accepted Government auditing standards.

Our review focused on managing the OL process, in particular, the role and responsibility of the Project Manager (PM); the establishment and use of license review schedules; and, the use and disposition of the Office of Nuclear Reactor Regulation (NRR) staff as the licensing workload decreases.

FINDINGS

Our audit disclosed three areas in which we believe the OL process requires improvement and that problems in these areas affect the quality and depth of safety reviews. These areas are: 1) the inexperience of PMs, 2) the scheduling of OL reviews, and 3) the imbalance between the technical review staff and the licensing workload.

In the area of project management, the Director, Division of Licensing (DL), NRR, advised us that as many as one-half of all PMs have less than two years project management experience but are performing as the sole PM for operating license projects. Additionally, some PMs were hired directly out of college and had no previous technical or managerial experience. We also found that because the PM Handbook did not reflect the current licensing organization or responsibilities, DL hired a contractor in 1982 to revise the PM Handbook and subsequently had the DL staff do additional work on it. While a draft of the

CONTACT: Anthony Lipuma, OIA
49-24469
Peter Sicilia, OIA
49-24462

Handbook has been available for about one and one-half years it has neither been finalized nor provided to all PMs. As a result of these factors we believe there are variations in the methods and effectiveness with which PMs manage their reviews and that these variations can affect, and have affected, the quality of reviews conducted by NRR.

In the area of OL review schedules, we found that, contrary to Commission and EDO guidance, DL ignores Caseload Forecast Panel (CFP) estimates and uses applicants' fuel load dates as the sole basis for scheduling OL reviews. This practice has resulted in incomplete safety reviews at the time Safety Evaluation Reports (SER) are issued. For example, the strict adherence to such schedules requires the use of "open" and "confirmatory" issues at the time the SER is issued. One technical review branch chief advised us that his branch did not have the resources to complete one review on time and, as a result, the branch's entire SER input amounted to an open issue. We also found that there is no formalized method for tracking and resolving open and confirmatory issues.

Finally, in the area of NRR personnel utilization, we found that due to a declining workload and Full-time Equivalent (FTE) reductions there are imbalances in the technical review workload and the staff available to carry it out in some areas. Specifically there are staff "overages" in areas where the workload is light and staff "underages" in areas where the workload is heavy.

CONCLUSIONS

In the area of project management, we recognize that NRR has suffered a loss of PM talent and that DL felt it was necessary to hire new PMs and PMs without practical experience. However, we do not believe that this situation justified placing individuals into situations in which they were not provided adequate guidance and did not have sufficient experience to perform effectively. In our opinion, it is not probable that anyone just out of college or with minimal NRC experience could have developed the interpersonal skills or practical knowledge of the organization needed to perform effectively as a PM.

In the area of scheduling practices, NRR's policy of indexing an OL review exclusively to an applicant's fuel load date is at odds with Commission direction and ultimately detracts from the quality of safety reviews. Additionally, NRC licensing schedules are used by outside sources as independent verification of licensee estimated fuel load dates. Therefore, NRC's failure to recognize and use the true CFP dates has effects outside the agency beyond the scheduling of NRR's licensing reviews.

Finally, in the area of personnel utilization, we believe that the imbalance of technical reviewers in certain review areas has serious implications for the adequacy of license reviews. We are concerned that we did not find a plan to redistribute NRR resources to more efficiently and effectively accomplish the technical review workload.

RECOMMENDATIONS

Our report contains six recommendations which address the concerns identified above.

AGENCY COMMENTS

On August 29, 1984, the EDO provided comments on a July 5, 1984, draft of this report (see Appendix to report). In general, the EDO disagreed with the "inference" and "implied conclusion" he believed the report made regarding the quality and depth of safety reviews. He also generally disagreed with four of our six recommendations. He indicated that current practice was already consistent with one recommendation (#1) and that action had already been taken to implement another of the recommendations (#2). Although the EDO notes in his comments that our report identified problems requiring attention he does not identify which problems or what attention they will be given.

Our analysis of the EDO's comments begins on page 17 of the report. Our analysis states that contrary to the EDO's opinion our report neither said, nor implied, either that there were problems in the entire reactor licensing process or that the quality of safety reviews has fallen below a minimum acceptable level. Our report addresses three specific aspects of the reactor licensing process and how, in our opinion, problems in these three areas affect the quality and depth of reviews.

In regard to our recommendations, we believe the EDO's comments on four of the six recommendations either (1) did not address the specific content of our recommendations and are therefore non-responsive, or (2) indicate that no problems exist because present policies and procedures are adequate and are being followed. In the latter cases, we disagree that problems do not exist. As a result, we are elevating four of our recommendations to the Commission for resolution. We are not elevating recommendation 1 to the Commission because the EDO comments said that PMs are already assigned in a manner consistent with our recommendation. Even though we are aware of two cases in which PM assignments are not consistent with our recommendation, we do not believe this issue warrants Commission attention. As a result, we simply suggest that the Directors, NRR and DL, review their practices to determine if they are satisfied with the quality of project management for ongoing reviews. We are not elevating recommendation 2 to the Commission because the EDO indicates that corrective action has already been taken. We will, however, follow-up on these two recommendations in the near future to determine the resolution of the problems identified in our report.

Attachment:
As stated.

cc: (See Attached List)

cc: W. Dircks, EDO
S. Chilk, SECY
H. Plaine, OGC
J. Zerbe, PE
J. Fouchard, PA
C. Kammerer, CA
H. Denton, NRR
R. DeYoung, IE
J. Davis, NMSS
P. Norry, ADM
A. Rosenthal, ASLAP
P. Cotter, ASLBP
R. Fraley, ACRS
T. Murley, RI
J. O'Reilly, RII
J. Keppler, RIII
R. Martin, RIV
J. Martin, RV
R. Scroggins, ICC
T. Rehm, EDO

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ABBREVIATIONS

CFP - Caseload Forecast Panel
CP - Construction Permit
CRGR - Committee to Review Generic Requirements
DE - Division of Engineering, NRR
DL - Division of Licensing, NRR
DSI - Division of Systems Integration, NRR
EDO - Executive Director for Operations
FES - Final Environmental Statement
FSAR - Final Safety Analysis Report
FTE - Full-Time Equivalent
IE - Office of Inspection and Enforcement
LRP - Licensing Recovery Plan
NMSS - Office of Nuclear Material Safety and Safeguards
NRR - Office of Nuclear Reactor Regulation
OL - Operating License
O&P - Division of Organization and Personnel
Office of Administration
PE - Office of Policy Evaluation
PM - Project Manager
PPG - Policy and Planning Guidance
RIDS - Regulatory Information Distribution System
SER - Safety Evaluation Report
SES - Senior Executive Service
SRP - Standard Review Plan
TMI - Three Mile Island
TR - Technical Reviewer or Technical Review Branch

INTRODUCTION

On March 31, 1982, the Commission approved the Office of Inspector and Auditor's (OIA) 1982 audit plan, and directed OIA to prepare for Commission consideration a plan for auditing the Nuclear Regulatory Commission's (NRC) operating license review process for power reactors. In November 1982, OIA initiated a survey of the reactor licensing process with the purpose of gaining a general understanding of the process for issuing operating licenses and identifying areas for further analysis.

OIA provided an audit program to the Commission on April 1, 1983, which identified areas OIA believed, based on the survey, warranted further review. On May 4, 1983, the Commission directed OIA to audit the operating license review process for reactors. This report contains the results of that audit.

Background

The Atomic Energy Act of 1954, as amended, and Title II of the Energy Reorganization Act of 1974, as amended, provide NRC with the authority to license production and utilization facilities and are the legal bases for NRC's reactor licensing program. NRC carries out its reactor licensing responsibilities under Title 10, Part 50, U.S. Code of Federal Regulations - Domestic Licensing of Production and Utilization Facilities. In addition, throughout the years, NRC has developed a number of guidance documents such as the Standard Format and Content Guide, the Standard Review Plan, and many regulatory guides to help applicants prepare their applications, and to aid the NRC staff in reviewing applicants' submittals. These documents have helped to ensure completeness and consistency in the licensing process. NRC's primary goal in licensing nuclear power reactors is the protection of the health and safety of the public and the quality of the environment.

Within NRC, the reactor licensing process is centered in the Office of Nuclear Reactor Regulation (NRR). NRR has four divisions directly involved with the licensing review process. They are the Division of Licensing (DL), which is responsible for the overall management of the process; the Division of Human Factors Safety, which is primarily responsible for licensing reactor operators; and the Divisions of Engineering (DE) and Systems Integration (DSI), where the majority of the technical review of the application takes place. Other offices within NRC, including the Office of Nuclear Material Safety and Safeguards, the Office of Inspection and Enforcement (IE), and the Office of the Executive Legal Director, are also directly involved in certain aspects of the licensing process.

After the accident at Three Mile Island (TMI) in March 1979, NRC's reactor licensing process underwent a significant change. NRC diverted a large portion of its resources to identifying the lessons learned from the accident, and determining what new or amended requirements should be imposed on reactors to ensure their safe operation. This effort temporarily stopped NRC's power reactor licensing process, and resulted in a pause in the issuance of new licenses.

With the TMI lessons learned factored into the licensing program, NRC modified its licensing process and methods and, in early FY 1981, initiated a licensing recovery plan (LRP). The purpose of the LRP was to re-start the reactor

licensing process using the modified program and eliminate unnecessary delays in licensing new power reactors while maintaining an enhanced level of safety.

Under the LRP, licensing reviews are scheduled to ensure that regulatory decisions can be made prior to an applicant's estimated date for completing construction. NRC has stressed the need for accurate construction estimates by applicants and has requested quarterly updated schedules for each facility until issuance of the Safety Evaluation Report. NRC has also developed the capability to prepare independent estimates of construction completion and can use them to verify the applicant's projections. As our report will show, the LRP has had a significant effect on both the timeliness and quality of the reactor licensing process.

As of December 31, 1983, there were 52 nuclear power plant applications at various stages in the operating license review process. Of these, 29 were near term operating licenses which are scheduled for issuance by 1986. The remaining 23 units are scheduled to receive operating licenses (OL) by 1991.

Since 1978, NRC has received no new applications for nuclear power reactor construction permits (CP). Therefore, unless new applications are received, the life expectancy of the OL program is limited to the completion of the applications (OL and CP) currently under review.

Scope

We performed our audit during the period September 1983 through April 1984. Our audit was limited to the aspects of the operating license review process identified in the audit program provided to the Commission on April 1, 1983. Our audit was carried out in accordance with generally accepted Government auditing standards.

We conducted our audit at NRC Headquarters and in Region I. Our audit included interviews with project managers and technical reviewers in NRR, with present and former resident inspectors, with management officials in NRR, IE, and Region I, and with Caseload Forecast Panel members. We also reviewed correspondence and documents relating to the OL process, and performed independent analyses within specific areas.

FINDINGS

Our review disclosed that, in general, the current OL review process has accomplished the objective of the LRP of eliminating unnecessary delays in the licensing process. NRR accomplished this by concentrating on meeting SER dates and instituting controls and procedures, such as mandatory overtime, to assure strict adherence to meeting licensing schedules based on applicants' projected construction completion dates and, ultimately, on their estimated fuel load dates.

Our review also disclosed, however, that the effectiveness of OL reviews has deteriorated in some respects under the LRP program. Our review identified certain areas and management and staff practices that, in our opinion, detract from NRR's ability to perform thorough, comprehensive, and high quality safety reviews. Specifically, our review identified problems relating to the:

- Management of the OL Review Process;
- Scheduling of Safety Reviews and the impact of schedules on the quality of reviews; and
- Use and Disposition of NRR staff.

We also discussed the use and application of the Standard Review Plan (SRP) with management and staff in NRR's technical review divisions. While no consensus opinion was reached regarding the effectiveness of the SRP, we offer comments and observations on the SRP in a separate section of this report.

The details of our findings are presented in the following sections.

MANAGING THE OL REVIEW PROCESS

Within NRR, DL is responsible for administering and managing the OL review process. In this regard, DL is responsible for establishing and meeting OL review schedules, and coordinating the licensing reviews performed both within the technical divisions in NRR and in other NRC offices. Within DL, each reactor is assigned to a project manager (PM), who is responsible for carrying out DL's responsibilities.

Specifically, PMs are responsible for focusing and integrating staff licensing actions applicable to projects assigned to them, and for developing staff recommendations regarding proposed plant designs and operations. PM's efforts culminate with their preparation and issuance of the Safety Evaluation Report (SER) and Final Environmental Statement (FES), using input provided by NRR's technical review divisions.

In order to achieve quality reviews, PMs need to control, monitor, and track each review throughout the OL process. To accomplish this, PMs must be able to communicate effectively with both managers and the technical staff within NRC and in the applicant's organization. They must also coordinate the efforts of and resolve conflicts among NRR's technical reviewers (TR), other NRC offices and the applicant. To accomplish these objectives PMs must have and use a combination of interpersonal, technical, and managerial skills.

Our discussions with PMs revealed that they have many and varied concepts about their responsibility, authority, role, and function. Also, PMs vary in their views and understanding of how these four elements come together and relate to the NRR standard for PMs--a standard that the PM is the overall manager and controller of OL reviews.

NRR technical review staff told us that while some PMs are effective in accomplishing their total project management mission, others are not. We were told that many PMs do not take an active role in managing their projects, do not control their projects, do not coordinate the TRs' efforts, and do not resolve conflicts. In addition, some do not monitor or track OL reviews throughout the process. As a result, NRR technical review staff and management generally believe DL is not uniformly applying their project management program.

Managers and staff we spoke to in NRR's technical divisions also said that many PMs do not fully understand their responsibilities. In fact, many TR staff and management personnel indicated that they have had to assume a variety of PM responsibilities because they cannot rely on PMs. For example, one TR branch chief stated PMs do not force applicants to submit required information on time, or to respond within the agreed time to TR requests; therefore, the TR has to take additional steps to get the information. Another stated that because of similar problems his branch no longer works through the PM but now goes directly to the applicant for data and information. Both branch chiefs concluded that they cannot count on the PM to assure that they will get the information needed to perform thorough reviews and perform them on time.

One TR official remarked that he would not rely on some PMs because of bad experiences he has had. He added that in one case a PM delayed an information request to an applicant for six months which resulted in reducing the TR's time available to perform a thorough review and still meet his SER date. A second official remarked that the current breed of PM is not aggressive enough and, as a result, causes problems for TRs. A third official said that PMs do not resolve or pinpoint conflicts, or do not force applicants to submit required information to NRC on time; as a result, the conscientious reviewer is put in a compromising situation if the PMs' inaction results in lost available time to do the reviews. In these cases, TRs must decide between meeting the SER date and performing a thorough review. He also noted that TRs in certain discipline areas are over extended; therefore, when the time available to do the review is lost, something has to give. And, given the policy that prevails in NRR that all SER dates will be met, he finds that he must limit the depth of OL reviews.

In discussions with the Directors of DE and DSI, we learned that they agreed that PMs do not understand their roles. One division director characterized a PM as one who is in a management position that requires excellent interpersonal skills, the right personality, an ability to communicate, and a take charge attitude. However, he noted that today's PMs do not communicate with the technical reviewers as well as PMs in the past did. He said there was a time when PMs were not bashful about walking into his office, but now, he said, "you don't see the PMs anymore."

Another area of concern that repeatedly surfaced in discussions with the technical divisions' staffs and management deals with the PMs' role in conflict resolution. During our discussions, we were told that while some PMs actively attempt to resolve problems, others attempt to let the system itself resolve the problems. For example, a TR told us that if resolution of an issue requires coordination among TR branches, PMs may either get the branches together to resolve the problem or may leave it up to the branches to resolve the problem among themselves. The latter approach may ultimately delay resolution or more probably cause the technical divisions to take other actions to meet their SER dates.

Several factors appear to have combined to cause what we believe is a loss of the PMs' effectiveness. The first is inexperience of the PMs. The Director, DL, told us that as many as one-half of all PMs on board have less than two years project management experience but are performing as the sole PM for operating license projects. Some of these PMs were hired directly out of

college and had no previous technical or managerial experience and yet they now hold full PM responsibility in NRR. Based on our review of selected PM position descriptions and from discussion with one of these PMs, we found two new PMs who function as full-fledged PMs. Our discussions with NRR's less experienced PMs revealed a case in which a PM who came to NRC right out of college (about 1½ years ago) is functioning as the project manager for a particular plant and did not in any way consider himself to be an assistant PM. While our review of his position description did in fact reveal a title of "Project Manager," it stated that his regular duties were that of an individual who functions as an assistant.

We also found a situation where a new PM was confused about his role and overwhelmed by his job. In his frustration the PM neglected to notify a technical review branch that a licensing schedule date was drawing near; however, after the review date was missed, the technical branch's management discovered the oversight. A reviewer involved with this situation told us he contacted the PM and discovered the PM was confused about his mission and how to accomplish it. In fact, he said the PM did not realize the review date had slipped, explaining he was new, inexperienced, and on training on that date.

A second factor affecting the performance of PMs is NRR's failure to publish a current Project Manager's Handbook. Although NRR has had a PM Handbook for many years, it required revision because a previously published edition of the Handbook did not reflect NRR's current organizational structure. As a result, in 1982 DL hired a contractor to revise the Handbook, and subsequently had DL's licensing assistants do further work on it. While a draft copy of the Handbook has been available for about one and one-half years, it has not been finalized because DL wanted to provide more in-depth guidance in certain areas. We believe the detailed guidance provided by the Handbook is essential for less experienced PMs, especially if they are managing projects rather than assisting a more experienced PM. While NRR's more experienced PMs probably do not need detailed guidance as to their role and function, such guidance will assure consistency in the management of all OL reviews.

A third factor, which is complicated and compounded by the two previous factors, is NRR's organizational structure for conducting OL reviews. The OL program is administered by DL, but is implemented by the technical divisions. This organization is supposed to foster good internal control by segregating the conduct of individual technical reviews from the management of the overall licensing review. The system attempts to ensure that safety takes precedence over meeting schedules by preventing PMs from directly interfering with the depth of review to satisfy licensing schedules. The structure can be somewhat confusing and cumbersome especially if the PM does not understand the organization or how it works. For example, PMs report to DL management and are responsible for the overall administration and management of OL reviews; however, PMs have no direct authority over the reviewers who perform the technical reviews. In this regard, PMs must work through their management in DL and through the respective technical divisions' management to resolve administrative issues, such as potential schedule slippages, that cannot be resolved through direct interaction with reviewers. In order to accomplish their role, PMs must first understand their management and control mission and second, know how to accomplish it within NRR's structural framework.

As a result of these three factors, there are variations in the methods and effectiveness with which PM's manage their reviews. These variations can affect, and we believe have affected, the quality of the safety reviews conducted by NRR. One specific area, which was highlighted to us by technical reviewers, and which exemplifies the problems being experienced, was in handling amendments to the Final Safety Analysis Report (FSAR).

EXAMPLE

FSAR amendments are supposed to be routinely distributed to TR branches by NRC's Regulatory Information Distribution System (RIDS). However, PMs and TRs agreed that RIDS is not effective in getting amendments to TR branches that need them. As a result, amendments often do not get to the TRs in time for them to be adequately reviewed based on their schedule, and some amendments do not get to the TRs at all. In fact, one TR branch chief noted that as many as 40 percent of the amendments he needs do not initially get to his branch.

To compensate for these types of situations, some PMs notify TRs when amendments are received and/or hand carry copies of amendments to the appropriate TR branches in parallel with the RIDS distribution. Others do not, however, and in these cases there may be delays in getting the amendments to TRs. Therefore, TRs may not become aware of an amendment until late in the review process when there is not enough time for a thorough review, or the amendment may never reach the TR and go undiscovered unless the PM asks a TR for input on the amendment.

There are disagreements among the NRR staff regarding whether the PM is and should be responsible for making sure TRs are aware of FSAR amendments relating to their review areas. The point is, however, that the quality of the NRC's licensing review is often dependent on how the PM does his/her job and that many factors, including the formal guidance available and intangible factors which come with experience, such as the PMs understanding of the system and the needs of the technical reviewers, affect the way the PM does his/her job.

We discussed the concerns regarding PMs with the Director, DL. He agreed that the inexperience of many PMs has hampered the OL process and has affected OL reviews performed. He believes a contributing factor has been that the role of the PM has weakened over time. He noted that the role of a PM went from that of a true manager to that of a mere "paper stapler." According to the Director, this problem has been recognized and he is currently taking steps to strengthen and re-emphasize the role of the PM.

He also stated that the inexperience level of many PMs is due to the fact that there has been a tremendous loss of PM talent in recent years. He admitted, however, that the problem could be somewhat mitigated if guidance to PMs was available; therefore, he agreed with OIA that it is essential to publish a PM Handbook as soon as possible, even if it means publishing a draft copy so the PMs "will at least have something."

Conclusion

Since the PM is the nucleus for the entire OL review, he/she is expected to be the most knowledgeable NRC person regarding the licensing review for a nuclear power plant. It appears unreasonable to expect an individual with little or no practical experience in project management to efficiently and effectively perform the duties as project manager for a licensing review in NRR's complex organization. Compounding this situation is the absence of formalized guidance (PM Handbook) available to the PMs on how to carry out their responsibilities.

LICENSING REVIEW SCHEDULES

Following receipt of an FSAR, the PM develops a schedule for its review. According to the draft PM Handbook, DL should coordinate with the technical divisions in establishing schedules. It states: "The schedule for accomplishing the review should be negotiated between the LPM (Licensing Project Manager) and the cognizant reviewer and the appropriate branch chief... After the schedule is prepared and agreed upon by all NRC participants, the LPM prepares a memo to the Director, DL. This memo transmits the schedule, summarizes and gives reasons for deviations from standard assumptions, and requests approval. Early development of the initial schedule is the keystone to a well-organized and timely review. It is important that the LPM be heavily involved in that he is the focal point of information and of decisions in developing the schedule." Once an approved schedule is developed, the review activities of the various review branches and related offices are initiated.

We noted several problems with the process by which schedules are established. First, NRR does not use independent projections of applicants' construction schedules prepared by the Caseload Forecast Panel (CFP) to set licensing review schedules. Second, the schedules affect the quality of reviews because they do not adequately consider the staff's ability to do the job. In this regard, we were told that management expects the reviews to be accomplished in the prescribed time of 36 months, regardless of how many applications are under review, the number of reviewers to perform the work, and the balance of the regulatory workload. These two problems are discussed in more detail in the following sections.

Caseload Forecast Panel

NRC policy dictates that NRR establish license review schedules based on applicants' projected fuel load dates, as estimated by the utility and confirmed by the CFP. The CFP's function is to provide NRC management with an independent estimate of the applicant's fuel load date.

Direction for establishing these schedules is provided to NRR in the Commission's Policy and Planning Guidance (PPG), for 1982 through 1984, which states that staff reviews and public hearings should be completed on a schedule that assures that the licensing process will not unnecessarily be a critical path item which would delay reactor start-up. The 1982 and 1983 PPG also require that "The staff should make independent estimates of construction completion dates."

The 1984 PPG is silent on the issue of independent construction completion dates. We discussed the reason for this with the responsible Office of Policy Evaluation (PE) official who advised us that it was his decision alone to eliminate the requirement for independent construction completion dates from the PPG. He believed that this issue had been accorded a lesser priority by the Commission; therefore, he excluded it from the PPG. He acknowledged, however, that the intent of the function remains in effect. We believe, therefore, it remains the intent of the Commission that this function is to be continued, especially since the Caseload Forecast Panel is still intact and we found no evidence that indicates it is to be abolished.

Further guidance regarding licensing schedules was contained in a July 20, 1982, memorandum from the Chairman to the EDO, instructing the EDO to develop independent estimates for applicants' construction completion dates. The Chairman also advised the EDO that the staff should continue to use the applicant's schedule for the Bevill report; however, he qualified his intent by stating: "...the use of applicants' estimates for scheduling operating license reviews is acceptable only as long as the estimates are relatively close to the NRC's independent estimates. Scheduling of operating license reviews should not be based on applicant estimates in those cases where the NRC believes the applicant is significantly underestimating the construction completion date. In such cases, if the NRC and the applicant's management do not resolve the discrepancy, scheduling of the operating license review should be based on the NRC date with some allocation for uncertainties in the dates" (emphasis added). The EDO subsequently formalized the concept of a CFP to provide NRC with independent scheduling estimates and directed the Directors, Office of Resource Management and NRR, to carry out a program consistent with the Chairman's memo.

The CFP generally has three members, including an Engineering Specialist from the Office of Resource Management who is the only permanent member. The other two members of the CFP for each project are usually the PM and the resident inspector for the plant under review. A CFP site visit consists of spending two to three days at a reactor site to evaluate construction progress, and subsequently estimating the fuel load date using established techniques. The CFP visits each construction site shortly before the FSAR is docketed and at other times during the OL review as deemed necessary.

While it is NRC's practice to initially schedule OL reviews to the applicant's fuel load date, the CFP has two major purposes:

- (a) to provide NRC management with a judgment on the reasonableness of the applicant's schedule; and
- (b) to facilitate management attention and focus on those projects for which schedule reconsideration might be appropriate.

If the CFP estimated fuel load date differs by more than six months from the applicant's date, a management level meeting between NRC and the utility must be set up to resolve the differences.

Our audit disclosed, however, that while the CFP does independently estimate fuel load dates, CFP estimates are generally ignored by DL and are not factored into license review schedules even though some NRR staff and

management believe the CFP estimates are more realistic than those of the applicants. Additionally, we found at least two formal CFP reports which did not contain estimated fuel load dates when published, even though draft copies of these reports did contain such information. Furthermore, as of October 1983, there were at least ten ongoing reviews based on applicants' fuel load dates even though their fuel load dates differed with CFP's independent estimates by more than six months.

In determining why the applicants' fuel load dates were used for scheduling, we learned that it is DL's policy to schedule reviews based solely on the applicants' estimated fuel load date without considering the CFP estimates. This policy was enunciated in an exchange of memoranda between the Director, DL, and the Assistant Director for Licensing, DL. Specifically, on March 18, 1983, the Assistant Director wrote a memorandum to the Director suggesting a management meeting for the Nine Mile Point-2 plant. The reason for the meeting was a nine month difference between the applicant's fuel load date and CFP's estimated date. On April 4, 1983, the Director, DL, advised the Assistant Director that "Prior to finalizing a review schedule, we should attempt to resolve construction completion schedule differences where the NRC and applicant dates are not within 6 months. Regardless of the outcome of that meeting, the NRC is committed to schedule according to the applicant's schedule" (emphasis added). At the conclusion of his memo, the Director, provided guidance for establishing OL review schedules and in that guidance repeated his directive regarding NRC's commitment--that the applicant's date is always used for scheduling purposes.

We asked the Director, DL, why he issued instructions to base review schedules exclusively on utility estimates contrary to the Chairman's direction. He replied that because of a controversial CFP estimate, it was his impression that the CFP was "dead" and its estimates were not to be considered.

The failure of NRR to use CFP estimates for scheduling licensing reviews is not only contrary to Commission and EDO direction but has had an effect on the quality of NRC's reviews, as will be shown in the next section. Our review also disclosed that it also apparently has an economic impact on the utility and the public.

One project manager advised us that states' public service commissions use the CFP estimates of fuel load dates when considering rate increases requested by the utilities. It was the PMs' belief that the states rely on NRC's estimate as an independent estimate of the fuel load dates. This belief is confirmed in a series of letters received by NRC in April 1984 from the Governor of Kansas, four U.S. Representatives from the State of Kansas and the Kansas State Corporation Commission.

These letters were written to protest the cancellation of an upcoming CFP visit to the Wolf Creek Generating Station. All three letters indicate the reliance placed on CFP estimates as an independent assessment of the construction completion date. Furthermore, all three letters state that NRC's independent estimates are used to evaluate rate increases requested by the utility.

The Governor notes that at one time there was an eight month difference between the NRC and the utility estimate for completion of the Wolf Creek Plant. He further states that:

According to published accounts the utilities estimate that an eight-month extension of the construction would add approximately \$400 million to the current projected cost of \$2.67 billion.

Any increase in the cost of Wolf Creek -- which most Kansans already believe to be excessive -- would be cause for very serious concern not only for its implications for ratepayers but for the utilities as well.

The State Corporation Commission's letter in discussing the CFP stated:

While the NRC has carried out these visits for the purpose of staff scheduling, we at the Kansas Corporation Commission, as well as those at other state regulatory commissions, have found the visits to be an indispensable tool in preparing for rate cases and in estimating project timetables and costs.

Given the utility industry's rather spotty history in projecting when nuclear plants, including Wolf Creek, will be ready to load fuel, we do not see how either the NRC or this Commission can function efficiently without some sort of independent assessment of when fuel will be loaded.

Impact of Schedules on Quality of Reviews

While NRR's scheduling practices have allowed NRR to successfully avoid licensing delays, other problems have resulted. Specifically, we found that because NRR staff are involved in and must allocate their time among many regulatory activities (in addition to OL reviews), they are often confronted with confusion and conflict between meeting licensing schedules and other regulatory priorities. This problem is due in part to the fact that OL schedules are developed by DL while other activities are controlled by NRR's technical divisions. Confusion is compounded by the fact that priorities are influenced by factors such as managers' Senior Executive Service (SES) contract commitments tied to OL processing schedules, which cause reviewers to devote time and effort to meet review schedules that the utilities themselves can not meet. This condition not only diverts technical review effort from other areas where technical divisions believe the immediate need is greater, but also causes TRs to postpone or subordinate other technical work to meet the SER input date, even though the staff knows that the applicant is behind schedule. This situation is further compounded by the fact that we were told that NRR has no formal guidance as to what type of work (OL reviews, Safety Evaluation Program, System Assessment of Licensee Performance, etc.) has priority. We were advised, however, that due to pressures imposed on the staff by those controlling the schedules, reviewers do attempt to meet all schedules (i.e., the OL schedules and their management's schedules per the balance of work).

Reviewers' attempts to meet all schedules ultimately affects the depth and level of review performed and the overall thoroughness and quality of reviews. For example, a PM noted that one of the first plants to meet its schedule under LRP was the Waterford 3 plant and, as a result, Waterford became a

landmark case. However, based on our discussions with the PM and our review of the December 1983 Blue Book, we found that even though the scheduled SER date was met there were significant slippages in meeting milestones leading up to the SER. Specifically, the applicant's response to reviewers' questions were received four months and seven days late, and the TRs' SER input to the PM were not all received until seven months and twelve days after they were scheduled to be to the PM.

Despite the fact that milestones within the schedule were not met, the SER date was met. However, since the SER was issued in July 1981, NRR has issued 5 supplements to the SER; the applicant has amended the FSAR 33 times; and three fuel load dates have been missed. Also, the resident inspector told us that approximately one-fourth of the utility's commitments in the FSAR had not been met, and the PM told us that Waterford 3 is now having several problems trying to get a license to operate. Further discussion with the PM revealed that Waterford was reviewed on schedule, despite the time lost in intermediate milestones, because many creative practices and techniques were used, such as issuing the SER with as many as 400 open items which were rolled over into 20 broad "open areas."

Open Issues and Confirmatory Items

One of the creative techniques used in licensing reviews to meet schedules is the use of open issues and confirmatory items.

An open issue is any issue upon which the NRC staff and the applicant have not reached agreement at the SER issuance date. An issue may be classified as open if 1) the applicant has not provided data to the staff, or 2) the staff does not accept the applicant's approach or position but has a clear position it intends to impose on the applicant without the need for additional information. It is NRR policy that an SER will generally not contain more than 20 open issues.

The consensus of TRs we spoke to was that there is a direct correlation between the use of unrealistic review schedules and the number of open issues in SERs. It also explains why, during our interviews with TRs, we were told they generally did not have difficulty meeting their SER input dates. For example, one TR noted that an SER input date can always be met -- you just issue it with open items. Therefore, in effect, the staff is issuing its findings and conclusions (on the applicant's FSAR) in a Safety Evaluation Report based on an incomplete review. One TR branch chief told us that for one review, his branch did not have the resources to devote to the technical review. In that case, he said the branch's entire SER input amounted to an open issue.

Our audit also disclosed that as the SER input date draws near, there is a concerted attempt by the staff to convert open issues into confirmatory items. Confirmatory items are areas where NRC and the applicant have agreed on a course of action, although these agreements may not yet be formalized in writing. NRR in reality considers the item resolved and it is therefore accorded a lower priority than an open issue. Generally, NRR staff and management did not believe that attempts to convert open issues to confirmatory items are improper because they believe that issues are only converted if there is a solid basis for doing so.

While it may be argued that there is no real significance to having open issues or confirmatory items, we believe there is the potential that these cases may never be closed and that an operating license may be issued without taking these matters into consideration. This belief is based on our finding that there is no formal system for following up on open issues and confirmatory items and that open issues may be closed without formally documenting why. Specifically, in our discussions with the NRR staff, there was no consensus as to who is responsible for tracking and resolving these issues. Some felt that it is the PM's responsibility; others believed that it is IE's responsibility, and that the SER serves as notification to IE regarding the status of unresolved issues.

Region I officials complained that while the SER does list open issues they are neither consulted nor advised when issues are closed. Furthermore, they noted that because of personnel changes in NRR they have sometimes been unable to determine when or why a particular issue was closed. One DL branch chief confirmed that the resolution of open issues is not always formally documented.

We also discussed the issue of tracking and controlling open issues and confirmatory items with a resident inspector and an IE official. The resident inspector advised us that the SER for his plant indicated that he was responsible for resolving open issues and confirmatory items. He noted, however, that he does not report to NRR and, therefore, NRR does not determine his schedule or priorities. Furthermore, he said that he does not have time to do all the things that NRR expects of him.

IE's Director, Division of Quality Assurance, Safeguards, and Inspection Programs advised us that IE currently has no tracking mechanism to ensure that the utilities abide by the commitments made when an open issue is converted to a confirmatory item.

Furthermore, an NRR official advised us that applicants do not always abide by their commitments to NRC. For example, the applicant's licensing representative may commit to a particular action, thereby inducing NRR to convert an open issue to a confirmatory item. However, utility management may override their licensing representative and not agree to that course of action; but, NRR may have already converted the open issue. The result could be that there will be no further attempts at resolution by NRR and the formal documents expected by NRR will never arrive.

In discussions with the Director, DL, we were told that PMs must and should keep tabs on, and control over, projects and "...the PM's job is to control the overall review." In addition, in regard to schedules, he stated that he felt the OL process is functioning better now than ever before in that there are no more scheduling problems and little over scheduling, therefore under LRP they have been effective in a time management sense. He attributed the improvement to mandatory staff overtime, an accelerated scheduling policy, and related post-TMI implemented, in-house programs initiated under the LRP. However, he realized there are problems with PMs regarding control and effectiveness in managing OL reviews. In addition, he stated that with LRP, the licensing process is rolling so fast, NRR does not think about what it is doing. Sometimes NRR finds that staying off the critical path directly correlates with "techniques" NRR uses to meet its licensing time schedules

(such as conditions placed on licensees for unresolved issues). He believes that if too many conditions are used (some of which are 20 pages long) you would have to question how well NRC is performing its safety review mission.

Conclusion

We believe that NRR's policy of indexing an OL review exclusively to an applicant's estimated fuel load date is at odds with Commission and EDO direction and ultimately detracts from the level and quality of safety reviews. The use of unrealistic schedules 1) unnecessarily compresses the review and necessitates the use of open issues, for which there is no formalized tracking system, and 2) unnecessarily diverts reviewers' attention from other work.

Furthermore, sources outside NRC look to CFP estimates as independent measures of fuel load dates. NRC should therefore recognize that its acceptance or rejection of CFP estimates can have effects beyond the scheduling of NRR license reviews.

USE AND DISPOSITION OF NRR STAFF

Over the next few years, the OL process "self destructs"; that is, according to current forecasts, by 1988 all but one of the OL applications currently in NRC will have been reviewed and licenses to operate will have been issued. NRR recognizes this situation and is reducing their manpower requirements dedicated to casework, accordingly.

This is shown in NRR's budget requests for staff dedicated to casework, which drop from 135 full-time equivalent (FTE) positions in FY 1983 to 110 in FY 1984, to 90 in FY 1985. By FY 1987, the balance of 90 positions will be eliminated. Therefore, NRC must decide what to do with the employees who fill the positions which will be eliminated, and must take appropriate action to reduce its staffing. However, in spite of NRR's recognition that some action is needed, we found that NRR's management has neither made required decisions nor established a unified policy on the disposition of employees in excess of their FTE ceiling. This inaction has affected the conduct of licensing reviews.

Up to this time, staff reductions in NRR have been handled through attrition and staff movement within NRC. However, the effect of this situation has been the creation of "overages" and "underages" in certain engineering disciplines within the technical divisions. After TMI the LRP resulted in a mass hiring program to fill the many engineering disciplines needed to initiate and complete technical reviews. However, the number of disciplines required has been reduced because there is no longer a need for disciplines involved in "front-end" review work (site reviews, for example). The result is that staff excesses in "front-end" disciplines and shortages in "back-end" disciplines have been created. Compounding this situation is the fact that NRR's balance of work further competes for the attention of TRs involved in "back-end" reviews.

In discussions with one TR official, we were told that this situation is extremely frustrating. In this case, the TR division is a key licensing division that was at the time over ceiling by approximately 30 FTEs. He said

in his division he was understaffed in some disciplines and overstaffed in others. The problem is that in the underage areas the demand for technical review is high, and in the overage areas the demand for technical review is low.

Two NRR officials advised us that other offices and even other NRR divisions have openings for which they believed their "overage" personnel could qualify, however, the hiring entity has often hired from outside the agency rather than transferred personnel from within. We were told by one NRR manager that he has people with disciplines no longer needed in his operations, and who he believes would make effective PMs, but he can not seem to get them transferred to DL. While officials fully recognize that there may not be a direct fit for all "overage" personnel, they believe that in the absence of a unified NRC plan, pressure has not been put on NRR or other office managers to give priority consideration to displaced NRR candidates. In discussing this situation with the Director, DL, he told us he did consider "overage" TRs for the vacant PM positions but did not believe all the personnel referred fit DL's needs.

Conclusion

The lack of a comprehensive plan for handling reductions in NRR staff has created several problems within NRR. First, staff imbalances have been created which we believe have adversely affected the quality of licensing reviews and the staff's ability to complete the balance of its work. Second, it has created the feeling among managers with "overages" that their staff were not being fairly considered for vacancies in other organizations within NRR and throughout NRC. Although we did not discuss this situation with the staff, we believe such a plan would allow the staff to know where they stand in an organization whose technical role is shifting.

STANDARD REVIEW PLAN

During our review we discussed the effectiveness and application of the Standard Review Plan (SRP) with technical review staff and management. Due to time constraints and the broad scope of our audit we did not do detailed work regarding the SRP. However, management and staff made comments on the SRP's effectiveness and use which we believe may be useful to NRC in assessing the value and future modifications to the SRP.

Guidance for reviewers and directions governing their related licensing functions are documented in the SRP. The principal purpose of the SRP is to assure quality reviews and to provide uniformity and consistency in the conduct of reviews.

During our review, however, we were told that licensing reviews are performed in less than a standard way, and some not in a manner consistent with the SRP. For example, one reviewer told us no two reviews are done alike in spite of the SRP which purports to standardize reviews. He said each reviewer has his own techniques and methods for performing analyses and reviews of applications, some of which are very advanced and sophisticated, while others are crude and not so reliable.

During our discussions with TRs, we learned that there is no general agreement as to the application of the SRP. For example, the SRP rule which was

promulgated in 1982 does allow an applicant to deviate from the SRP criteria, however, such deviations must be highlighted in the FSAR, and the applicant must provide adequate justification for the deviation. It is then up to the technical reviewer to decide whether to allow such deviation. We found that TRs differ in their approaches to handling such deviations. Specifically, some TRs allow deviation when accompanied with adequate justification while others hold applicants strictly to the letter of the SRP.

Another problem mentioned to us during our review is the potential inadequacy of the SRP. A TR division director noted that the SRP is somewhat outdated, and is behind the current state of the art. He advised that while he would prefer to have an updated SRP, with state of the art criteria and standards, he does not have the resources to devote to this effort because of the current HTE situation in NRR. He stated that such an endeavor would require an intensive effort because new SRP requirements would have to be thoroughly prepared, documented, and submitted to the CRGR for approval. In addition, he said it is because of CRGR oversight that reviewers are now more aware and cautious of ratcheting. Therefore, this combined condition affects the quality of reviews because reviewers allow items to get through that they know are below current standards.

Finally, in discussing the SRP with NRR staff and managers, they told us they have problems with it as an effective "tool" in performing reviews. We were informed that the SRP contains "gray areas," which result in confusion as to which TR branches should perform a given review. For example, a safety review for "mechanical" draft cooling towers had to be conducted. However, since it was the first time a review of mechanical draft towers was required, a TR branch had not been designated, and the reviewer's responsibility had not been established. Because the SRP assigns reviews related to water supplies to NRR's Hydrologic and Geotechnical Engineering Branch (HGE), and because HGE traditionally has reviewed and analyzed "natural convection" draft cooling towers, it was assigned the review for "mechanical draft towers." In a discussion with a reviewer, we were told that mechanical draft tower reviews require thermodynamic analysis, for which HGE does not have the expertise. That expertise is in another branch. Therefore, he believes the Hydrologic Branch should not be performing these reviews.

OVERALL CONCLUSION

We believe that the efficiency and effectiveness of OL reviews has in some respects deteriorated under the LRP. The causes of this deterioration relate primarily to NRR's policies and practices regarding project management, scheduling licensing reviews, and the use and disposition of NRR staff.

In the area of project management, we recognize that NRR has suffered a loss of PM talent and that DL felt it was necessary to hire new PMs and PMs without practical experience. However, we do not believe that this situation justified placing individuals into situations in which they were not provided adequate guidance and did not have sufficient experience to perform effectively. In our opinion, it is not probable that anyone just out of college or with minimal experience could have developed the interpersonal skills or organizational savvy to perform effectively as a project manager.

In the area of scheduling practices, NRR's policy of indexing an OL review exclusively to an applicant's fuel load date is at odds with Commission direction and ultimately detracts from the quality of safety reviews. As we have shown, establishing and adhering to unrealistic review schedules affects 1) the completeness and thoroughness of an OL review in that issues may remain open at SER dates for which there is no effective tracking system, and 2) the balance of technical review work by forcing reviewers to unnecessarily shift their priorities.

Additionally, we have shown that Caseload Forecast Panel estimates are used by outside sources as independent measures of fuel load dates. Therefore, NRC's recognition and use of CFP dates has effects outside the agency beyond the scheduling of NRR's licensing reviews.

Finally, in the area of personnel use and disposition, we believe that the imbalance of technical reviewers doing "front-end" and "back-end" review work has serious implications for the adequacy of license reviews. The number of TRs in "back-end" areas (where the licensing workload is great) is not commensurate with the need for their services. This situation is aggravated by the fact that NRR's balance of work further competes for the attention of TRs in the "back-end" of the review process. We are especially concerned that we do not see any affirmative action within NRC to correct this situation.

RECOMMENDATIONS

In order to improve the effectiveness of NRC's reactor licensing program and to better assure the public health and safety, we recommend that the Director, NRR:

1. Direct DL to institute a formal policy whereby inexperienced PMs are assigned to work under the guidance of senior PMs until such time as they are prepared to accept full PM responsibility.
2. Direct DL to immediately publish the PM Handbook, or at least provide PMs with a current draft, and assure that PMs are carrying out their responsibilities in accordance with the Handbook.
3. Direct DL to use CFP estimates in scheduling license reviews consistent with Commission and EDO guidance.
4. Institute a system to track and control all open issues contained in SERs and, in coordination with IE, establish responsibility for resolving these issues.
5. Direct the staff to discontinue the practice of converting open to confirmatory issues unless utility management has documented such commitments to NRC.

We also recommend that the EDO:

6. Direct the Director, NRR, in coordination with the Directors, Offices of Nuclear Material Safety and Safeguards, IE, and the Division of Organization and Personnel, and other organizations as appropriate, to develop a unified plan for handling staff reductions within NRR.

ANALYSIS OF EDO COMMENTS

On August 29, 1984, the EDO provided comments on a July 5, 1984, draft of this report (See Appendix). In his comments, the EDO expressed strong disagreement with the "inference" and "implied conclusion" he believed the report made regarding the quality and depth of safety reviews. In conclusion, the EDO felt the report should be rewritten to "properly convey the findings of the draft."

We believe the EDO has read more into the audit report than we said. We do not say, nor imply, either that the entire licensing process has problems or that the quality of safety reviews has fallen below a minimum acceptable level. We do say, and believe the report adequately supports, that there are problems in the three areas addressed in the report and that these problems affect the quality and depth of reviews. We intended that the report present its findings and recommendations in the manner suggested by the EDO, i.e., "as a means of improving the process rather than a means of returning to an acceptable level from a serious deterioration in quality."

We have evaluated the EDO's detailed comments and have attempted to clarify our report language where appropriate. We have not, however, made substantive changes to the findings, conclusions, or recommendations as a result of the EDO's comments.

With the exception of Recommendation 2, we believe that the EDO has not been responsive to our recommendations. While the EDO has provided narratives commenting on each recommendation, we believe that the narratives either (1) do not address the specific content of our recommendations, or (2) indicate that no problem exists because present policies and procedures are adequate and are being followed. In the latter instance, we disagree that problems do not exist.

Our analysis of the EDO's responses to our specific recommendations follows.

Recommendation 1

"Direct DL to institute a formal policy whereby inexperienced PMs are assigned to work under the guidance of senior PMs until such time as they are prepared to accept full PM responsibility."

The EDO's response states that our recommendation is consistent with current practice even though a formal policy does not exist. He does not, however, commit to formalizing such a policy. In general, the EDO states that "the level of experience of the project management staff has been of concern to NRR management for some time," and the "attrition higher than expected and FTE limitations have adversely impacted the PM staff." He disagrees with our conclusion, however, that PM experience affects the quality of review. He notes that only a small fraction of the DL professional staff can be considered less senior since many of the new PMs have other NRC experience or outside project management experience.

We agree that not all PMs are inexperienced. However, many NRR personnel we spoke to from technical reviewers to division directors had concerns over the

way many PMs were managing licensing reviews. We believe this finding is consistent with the EDO's comments. In regard to the report finding that some entry level personnel are functioning as PMs, the EDO states that no entry-level PMs are assigned to active OL cases. We disagree and point to Susquehanna 1 and 2, whose PM had been with NRC 15 months (not three years as Attachment 2 of the EDO's response stated) when Susquehanna 1 received its OL and about three years when Susquehanna 2 received its OL. We also note that the PM for Millstone 3, a currently active OL, has been with NRC less than three years. Even though these PMs came to NRC with outside experience, they lacked significant NRC licensing and PM experience. As a result, we believe these two cases support our finding.

We believe our report has highlighted a problem which needs attention by NRR management, that is, that there are inexperienced PMs responsible for licensing reviews and that they are receiving no special guidance or supervision. We are not going to elevate this issue to the Commission for resolution because the EDO indicates that current practice is consistent with our recommendation. We do, however, encourage the Directors, NRR and DL, to carefully look at the practices that have been followed in assigning PMs to OL reviews and determine whether they are satisfied with the quality of project management for ongoing reviews.

Recommendation 2

"Direct DL to immediately publish the PM Handbook, or at least provide PMs with a current draft and assure that PMs are carrying out their responsibilities in accordance with the Handbook."

The EDO agreed with this recommendation and indicated that the PM Handbook in draft form has been provided to all DL personnel and to each new PM since late 1982. We accept the EDO's response and will follow up at a later date to assure that all PMs have the Handbook and to determine the status of issuing the Handbook in final form. We specifically note, however, that we know of one PM, on whose plant review problems have recently been experienced, who did not have a copy of the PM Handbook in any form and was not aware of other guidance in the form of NRR office letters as late as early August 1984. The Directors, NRR and DL, should consider taking steps to assure themselves that the PM Handbook and all other guidance relating to licensing reviews is available to PMs and that PMs are aware of it.

Recommendation 3

"Direct DL to use CFP estimates in scheduling license reviews consistent with Commission and EDO guidance."

The EDO's comments in regard to this recommendation are not responsive. The EDO's comment that "the use of CFP estimates has been and remains consistent with EDO guidance" misses the point of our report and recommendation in several respects. First, our report points out that DL has a written policy not to use CFP estimates for scheduling reviews. Second, this DL policy is at odds with guidance from the Chairman and the EDO regarding use of independent NRC estimates for scheduling reviews. Third, the EDO states that the Program Guidance implementing the PPG states that licensing reviews should be conducted consistent with the schedules in the Bevill reports; the Bevill

reports are principally applicant's estimated completion dates; and the Commission approves the Bevill schedules; therefore, reviews are carried out consistent with Commission guidance. This logic is confusing and tends to rationalize use of applicant schedules while ignoring the central issues relating to CFP estimates. It also depicts the Commission as providing contradictory guidance to the staff to both use and not use CFP estimates in scheduling licensing reviews. The EDO response in this regard is also inconsistent with later comments which state that the CFP is to be continued. If, as the EDO states, CFP estimates are not supposed to be used to schedule reviews, why is there a need for the CFP?

Because we consider the EDO's comments as unresponsive to this recommendation and because our report identified licensing review scheduling practices which are inconsistent with Commission and EDO guidance, we are elevating this recommendation to the Commission for resolution.

Recommendation 4

"Institute a system to track and control all open issues contained in SERs and, in coordination with IE, establish responsibility for resolving these issues."

The EDO disagrees that there are an excessive number of open items in licensing reviews. Furthermore, he states that open issues are adequately tracked and controlled in each SER and succeeding supplements and after licensing as conditions of licenses. In addition, he states that "in various forms over the last few years, DL has maintained formal status reports on open items for tracking within NRR." He also notes that coordination between NRR, and IE, the Regions and NMSS, has improved and responsibilities are better defined. He did not state, however, what improvements had been made or which organization has what responsibilities.

We believe the EDO's response does not appear to be based on a full reading of the information in our report. As a result, we would like to clarify what our points are in this report section.

1. We found the staff uses open issues to meet unrealistic licensing schedules. We do not say there are an "excessive number" of open issues but do believe the number would be smaller if more realistic schedules were used for some reviews.
2. We found that NRR's policy of not having more than 20 open issues in an SER forces the staff to combine individual items into broad issues. This tends to mask the true number of items to be resolved.
3. We found that there was no consensus among the NRR staff we spoke to as to who is responsible for tracking and resolving open issues. The fact that DL's tracking system, according to the EDO, has been "in various forms over the last few years" may contribute to the staff's unfamiliarity with it.
4. We found that the regions are not satisfied with the relationship with NRR for open issues and that no system exists to ensure that when

utilities make commitments to resolve open issues those commitments are carried out.

In summary, we believe the EDO's response simply defines procedures and controls which are supposed to be in place and ignores the information in our report which indicates that those procedures and controls are not working as designed.

Recommendation 5

"Direct the staff to discontinue the practice of converting open to confirmatory issues unless utility management has documented such commitments to NRC."

The EDO states that it is already policy to have the utility document commitments, although he does not identify where the policy is stated. Furthermore, while he agrees that problems may have occurred in the initial stages of the LRP, he states "we do not believe that they occur today." The EDO's "belief" that this problem is not occurring does not address the information in our report. We, therefore, consider this recommendation unresolved.

Recommendation 6

"Direct the Director, NRR, in coordination with the Directors, Offices of Nuclear Material Safety and Safeguards, IE, and the Division of Organization and Personnel, and other organizations as appropriate, to develop a unified plan for handling staff reductions within NRR."

The EDO's response to this recommendation notes that NRR's total FTE requirements do not decrease in FY 85-87 compared to FY 84. We did not mean to imply that total FTE requirements would decrease, since our audit did not include a review of total NRR staff requirements. We have clarified the report language where appropriate to clearly say FTE's dedicated to casework are decreasing.

The EDO also states that since FY 83 it has been his policy to make staff reductions through attrition rather than Reductions-In-Force and to encourage reallocation of skills within NRC. He said for the past two years they have concentrated on reallocating staff from units with overages to units where these skills could be effectively used. He states, however, that there have been "problems...in finding skill and grade-level matches." We agree with the actions taken within NRR but do not believe they have been effective or go far enough to solve the problems being experienced in the review process and by the people in NRR. Many NRR managers we spoke to during our review were not satisfied with actions being taken to resolve the staffing problems. The EDO's response simply tells us what has been done in the past without making any commitments to additional action, thereby implying that nothing more needs to be done. We disagree and consider this recommendation to be unresolved.

In summary, we believe the EDO's comments on our draft report tend to dismiss the audit findings without a fair consideration of their merit or implications. The EDO's position throughout the comments appears to be one which says that all the controls, policies and procedures needed are in place and working as intended; therefore, no action is needed on OIA's findings. This position is inconsistent with the information we obtained during the course of the audit.

Because we consider the EDO's comments on four of our six recommendations to be non-responsive, we are referring them to the Commission for resolution in accordance with NRC Bulletin 1201-3.

General Comment

The EDO made several comments in his response to our draft report which we believe should be addressed.

The EDO generally criticized the draft report as being "built upon perceptions, a few facts, and statements gleaned from interviews and pieced together out of context in a way that indicates that the auditor has only a partial understanding of the licensing process and did not fully appreciate its complexity." We disagree. The "perceptions" reflected in the report are those of NRC employees, from technical reviewers, inspectors, and project managers, to NRR, regional, and IE division directors, as to how the review process works. We believe the fact that those perceptions are different than the way the system is described by the EDO is not an indication that the report is faulty, but is evidence that the system is not functioning as intended.

In regard to the EDO's statement that we have only a "partial understanding" of the licensing process, we believe he has interpreted the limited scope of our audit to be a limited understanding of the process. We did not, and never intended to, audit the entire reactor licensing process. Our audit was limited in scope to problem areas identified during our survey and which the Commission later asked us to audit. Further, we did not selectively utilize facts or piece information together out of context. In preparing our report, we considered all the information relating to control mechanisms, policies, procedures, and guidance documents, which we identified or which were identified for us. We recognize that we are dependent on the staff to identify significant policies and procedures to us and we are confident that we provided ample opportunity to those we interviewed to identify significant aspects of their jobs and the review process. In our opinion, the staff's failure to identify for us some of the information the EDO is now presenting in his response indicates that the staff was either unaware of the policies or procedures or did not believe them to be effective. In either case, we believe that our report reflects how aspects of the review process are actually carried out rather than how they are supposed to be carried out.

We also disagree with the EDO's statement that we do not appreciate the complexity of the review process. In fact, our findings, conclusions and recommendations regarding the need for strong and experienced PMs are based largely on the complexity of both the review process and the organizational structure in place to carry it out.



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

AUG 29 1984

MEMORANDUM FOR: George H. Messenger, Acting Director
Office of Inspector and Auditor

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: OIA REVIEW OF THE OPERATING LICENSE REVIEW PROCESS
FOR POWER REACTORS

By memorandum dated July 5, 1984, you forwarded to me for comment a draft report on the results of OIA's review of the Operating License (OL) review process for power reactors. The draft report states that OIA is concerned that three factors (project management inexperience, OL review schedule, and overall NRR staffing concerns) may directly affect the quality and depth of safety reviews. It also provides six recommendations to improve the effectiveness of NRC's reactor licensing program. Before providing our views on your conclusions and recommendations, I must point out that we strongly disagree with the inference in your report that the quality and depth of safety reviews have deteriorated to a point where it may be a safety concern.

The report leaves the impression that a serious problem exists. Careful review, however, indicates that this impression is built upon perceptions, a few facts, and statements gleaned from interviews and pieced together out of context in a way that indicates that the auditor has only a partial understanding of the licensing process and did not fully appreciate its complexity. Rather than diminishing in effectiveness, the OL review has, in fact, expanded substantially in its review of licensee submittals in the last few years. The staff is reviewing plants in greater depth than ever before, and exposing the process to an ever increasing level of scrutiny. The report also focuses much too heavily on the role of the Project Manager, ignoring the role of many technical reviewers and inspectors and several levels of their management in NRR, the Regions, NMSS and IE who participate in various aspects of the OL reviews.

The enclosures to this memorandum provide detailed comments on the report and its recommendations. The following summarizes our response to your principal conclusions.

Project Management Staffing

The draft report concludes that there are many inexperienced Project Managers (PMs), that these PMs are being placed in situations in which they are not provided adequate guidance, and that they do not have sufficient experience to perform effectively.

We do not completely agree with these conclusions. The matter of the level of experience of the project management staff has been of concern to NRR management for some time. The attached Figures 1 and 2, which were taken from an NRR management meeting summary of earlier this year, more accurately describes the PM experience levels than does the OIA report. Note that of the PMs at that time (May 1984):

- about 36% had 2 years or less NRC PM experience,
- about 17% had 2 years or less NRC total experience.

Of the 17%, a number of these personnel had experience in the industry prior to joining the NRC and only a very few individuals were entry-level personnel directly from college. We therefore believe the OIA report is significantly in error to focus on a few such entry-level personnel and draw broad conclusions based on those individuals. Attached Figure 3 clearly indicates the small fraction of the DL professional staff that can be considered less senior. The OIA report is also misleading in that entry-level personnel have not been directly assigned the lead PM function for active OLs. As described more fully in the enclosed details, all "new" PMs are assigned to a training program, are assigned to assist a more senior PM, or were assigned to a relatively inactive future project to ensure time for the individual to gain on-the-job experience.

In summary, while there have been a major and unavoidable changeover in the PM staff, it was recognized and steps have been and will be taken to address this situation. While there clearly have been difficulties in training such a large number of personnel at the same time the NRC was engaged in the post-TMI Licensing Recovery Program, we do not agree that the final safety levels in OL reviews have deteriorated. They have more likely improved.

OL Review Schedules

The draft report concludes that NRR's policy of indexing an OL review exclusively to an applicant's fuel load date is at odds with Commission direction and ultimately detracts from the quality of safety reviews. The draft report states that "DL ignores the Caseload Forecast Panel (CFP) estimates and uses the applicants' full load dates as the sole basis for scheduling OL reviews." This is clearly not true. On several occasions, DL has briefed the Commission on the approach being followed regarding applicants' dates and CFP dates, and we believe there is a common understanding.

The OIA draft report also states that the current approach to scheduling OL reviews based on applicants' estimated completion dates is inconsistent with Commission and EDO guidance. I note that the Program Guidance which implements the PPG states:

"Reactor construction permit and operating license reviews should be conducted consistent with the schedule contained in the quarterly status report to the House Appropriation Subcommittee on Energy and Water Development."

The quarterly report referred to in the above guidance is based primarily on the applicants' estimated completion dates and is approved by the Commission. Thus, the scheduling practice being used is consistent with the guidance.

Generally speaking:

- a. NRR establishes review schedules based on the applicant's schedule,
- b. These schedules are set forth in the "Bevill" report,
- c. The NRC maintains independent completion schedules,
- d. If the NRC estimate and the applicant's schedule differ significantly, NRC and utility management meets to resolve the difference. This usually results in either the staff or the applicant changing their estimate such that the difference is no longer significant.

This has been the situation for some time. Note that earlier this year, the key staff individual who coordinated the Caseload Forecast Panel left the NRC. While the loss of that individual meant that the CFP as it had been known took on a different character, NRR itself took the initiative to propose to continue the use of a modified-CFP approach to assist during the period of recruitment of a new RM CFP expert.

The OIA report also states that the use of applicants' dates results in the issuance of SERs with "open" or "confirmatory" items. While we believe the establishing of any review schedule may lead to "open" items at the time of issuance of a Safety Evaluation Report, all such items have been and will continue to be resolved to the staff's satisfaction prior to the issuance of an operating license.

In conclusion, we believe the use of CFP information is consistent with Commission guidance and that the use of the applicants' schedules (where applicable) have not inappropriately created problems via "open" SER items. Further, the OIA report does not satisfactorily address the complex nature of or significant issues surrounding the fact that any review schedule can become a self-fulfilling prophecy.

Use and Disposition of NRR Staff

The draft report concludes that the imbalance of technical reviewers in certain review areas has serious implications for the adequacy of license review. The draft report accurately notes that NRR has overage in certain skill areas.

However, the report incorrectly implies that no actions have been taken to address these overage skills. For the past two years, NRR has concentrated on reallocating staff from overages in organizational units to units where these

skills could be effectively used. For example, in FY 1983 and FY 1984, NRR reassigned overages from the Division of Engineering to other divisions to attempt to match existing skilled personnel to changing needs. In fact, a number of staff from several divisions were transferred to Project Management roles. Further, the Office of Administration maintains a list of agency overage skills that are referred to selecting officials as vacancies occur that may need these skills. There have been problems, however, in finding skill and grade-level matches.

We do not mean to suggest that the licensing process is without problems. The NRC's licensing "pause" that followed the TMI accident clearly created a backlog of OL reviews, which when coupled with a very large attrition of staff, presented a rather difficult situation. The Recovery Plan which followed has effectively gotten licensing of OLs back on track, and we believe that reviews being completed on OLs provide an adequate safety basis. The report identifies some issues that warrant attention. Many of these we have already noted and had taken some form of corrective action. Where problems in these areas persist, further corrective actions will be taken. We will be examining this aspect of our procedures as a result of this report. Summary Table 1 (attached) contains our comments with respect to your recommendations.

Summary

The implied conclusion on the quality of safety reviews which I discussed earlier is my most serious concern. If the audit has found that a safety review was inadequate, the factual basis for this finding should be clearly demonstrated and not hypothesized on the basis of a number of assumptions. In the absence of a sounder factual basis, we recommend that the report be redrafted to properly convey the findings of the audit, i.e., the recommendations should be represented as a means of improving the process rather than a means of returning to an acceptable level from a serious deterioration in quality.

In summary, I believe the draft OIA report is incomplete, takes selected matters out of context, and does not adequately address all relevant facts concerning the issues raised.



William J. Dircks
Executive Director for Operations

Enclosures: As stated

SUMMARY TABLE 1

Recommendations

Recommendation 1: Direct DL to institute a formal policy whereby inexperienced PMs are assigned to work under the guidance of senior PMs until such time as they are prepared to accept full PM responsibility.

Response: Though such a policy has not been formalized, the recommendation is consistent with current practice. Nevertheless, we recognize that attrition higher than expected and FTE limitations have adversely impacted the PM staff. In recognition of this, one of the major items discussed at the recent NRR Management Conference was the situation of PM staffing and the steps that could be taken to bring in additional qualified PMs. NRR had previously internally transferred a number of technical reviewers to the role of PM in order to alleviate this situation. Another action which has been implemented is to pursue and keep fully open the outside pipeline for new PMs. For further discussion, see pages 1-3 of Enclosure 1.

Recommendation 2: Direct DL to immediately publish the PM Handbook, or at least provide PMs with a current draft and assure that PMs are carrying out their responsibilities in accordance with the Handbook.

Response: We agree with this recommendation and, in fact, a revised PM Handbook has been provided to all DL personnel.

Recommendation 3: Direct DL to use CFP estimates in scheduling license reviews consistent with Commission and EDO guidance.

Response: The use of CFP estimates has been and remains consistent with EDO guidance. For further discussion, see page 4 of Enclosure 1.

Recommendation 4: Institute a system to track and control all open issues contained in SERs, and in coordination with IE, establish responsibility for resolving these issues.

Response: The OIA report implies that use of applicants' estimates results in open items. The report, however, does not support the contention that there are an excessive number of open items nor does it support the contention that the depth and quality of the safety review needed to support licensing is inadequate. The staff believes that reviews are thorough, and has successfully taken such reviews through the ACRS, the hearing processes, and Commission reviews.

Open issues in the SERs are adequately tracked and controlled in each SER and succeeding supplements. All significant issues requiring followup subsequent to licensing are tracked by conditions of licenses. Coordination between NRR and IE (and in fact Regions and NMSS) has improved and responsibilities are now better defined. For further discussion, see page 6 of Enclosure 1.

Recommendation 5: Direct the staff to discontinue the practice of converting open to confirmatory issues unless utility management has documented such commitments to NRC.

Response: It is our policy to have the utility document each of its commitments to the NRC. The problems described in the report may have occurred in the initial implementation stages of the Licensing Recovery Plan but we do not believe that they occur today.

Recommendation 6: Direct the Director, NRR, in coordination with the Directors, Offices of Nuclear Material Safety and Safeguards, IE, and the Division of Organization and Personnel, and other organizations as appropriate, to develop a unified plan for handling staff reductions within NRR.

Response: Current projections show that the NRR total FTE requirement will not decrease in FY 85-87 compared to FY 84 so that staff reductions do not appear imminent. The decrease in resources needed to review OLS is offset by the increase in resources necessary to ensure that the increased number of licensed reactors continue to operate safely. A policy was implemented during FY 83, the first year when overages occurred, to make necessary staff reductions through attrition as opposed to Reduction-In-Force (RIF) and to encourage reallocation of skills within the NRC. For the past two years, NRR has concentrated on reallocating staff from overages in organizational units to units where these skills could be effectively used.

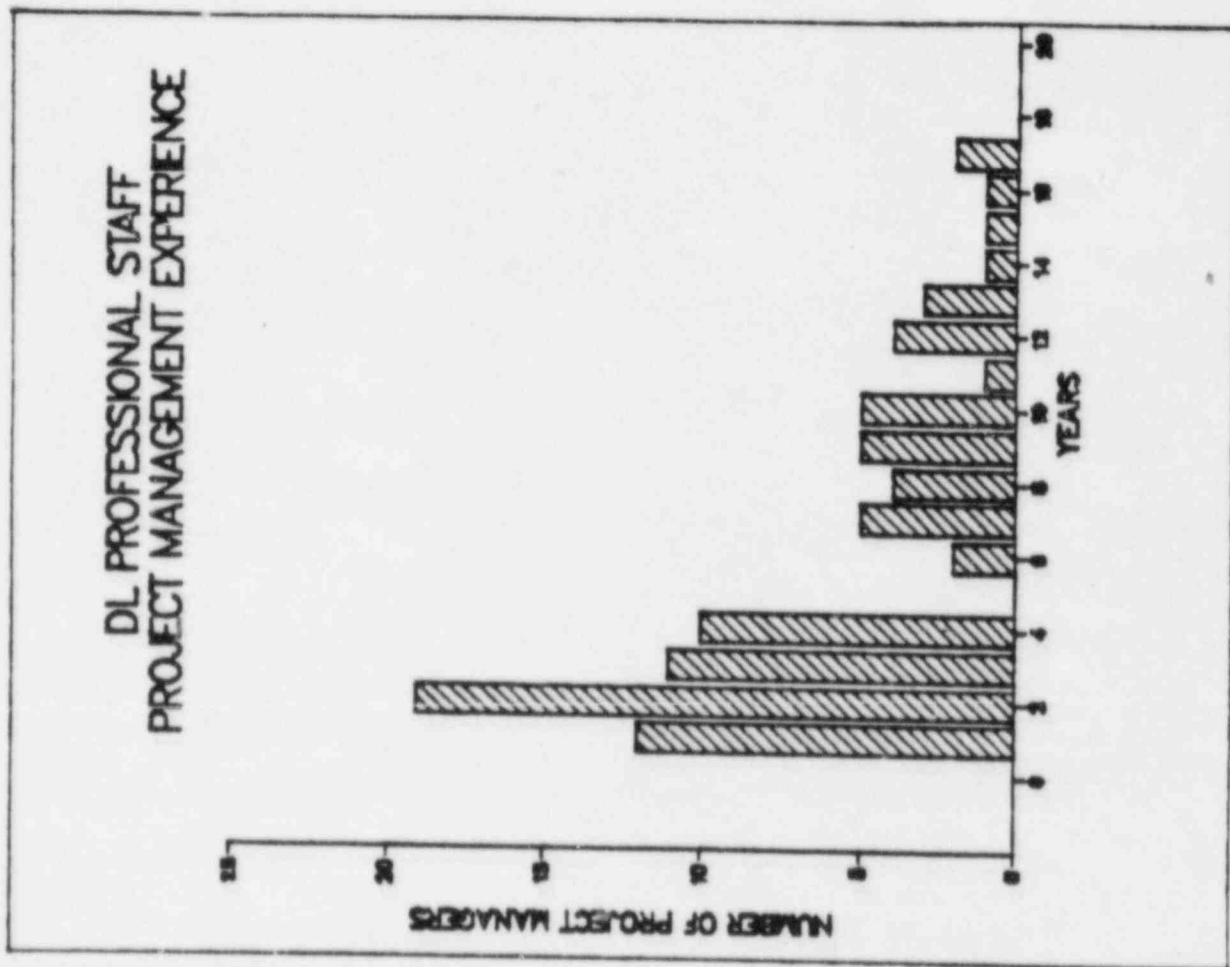


Figure 1

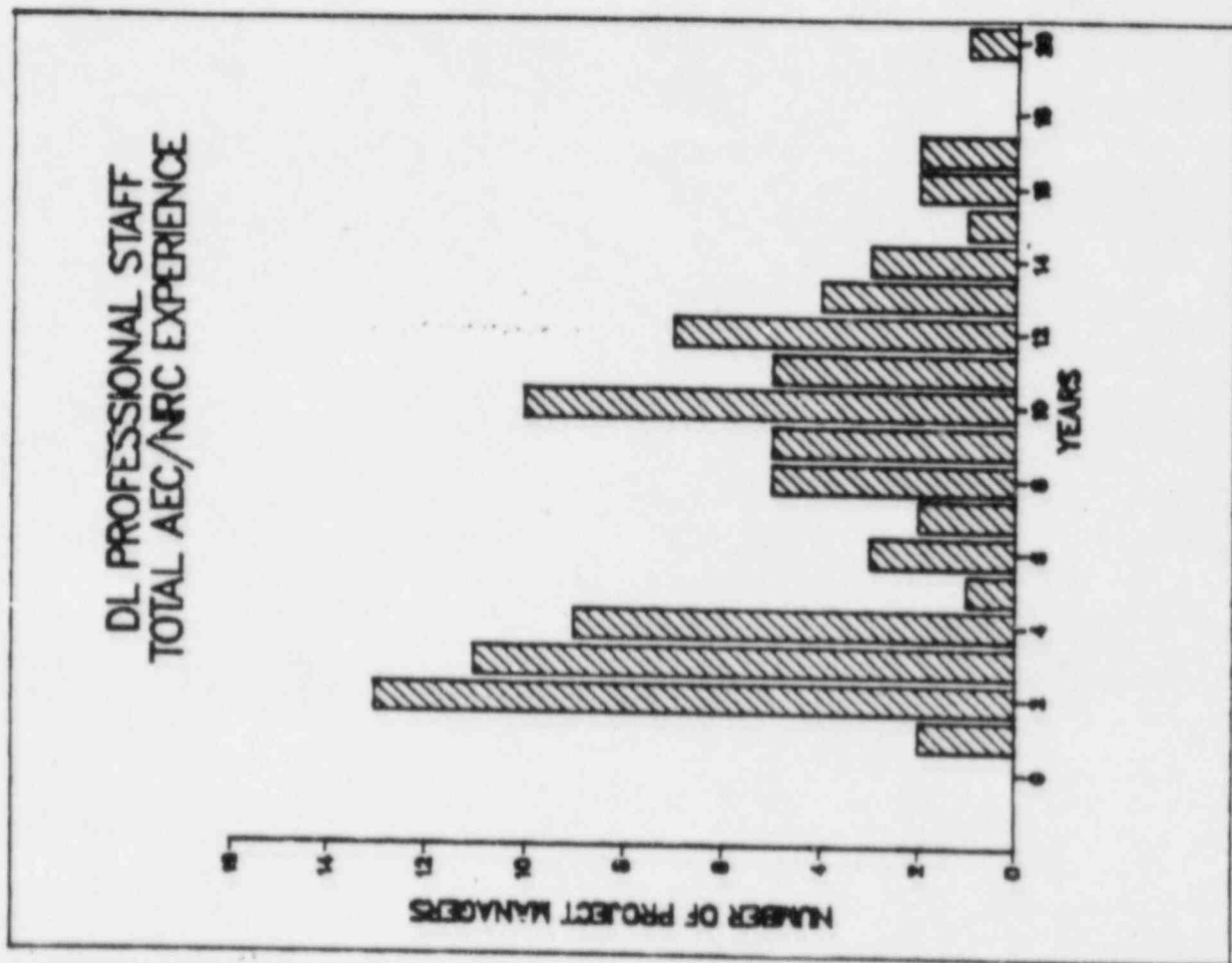


Figure 2

**DISTRIBUTION OF GRADE LEVELS
DL**

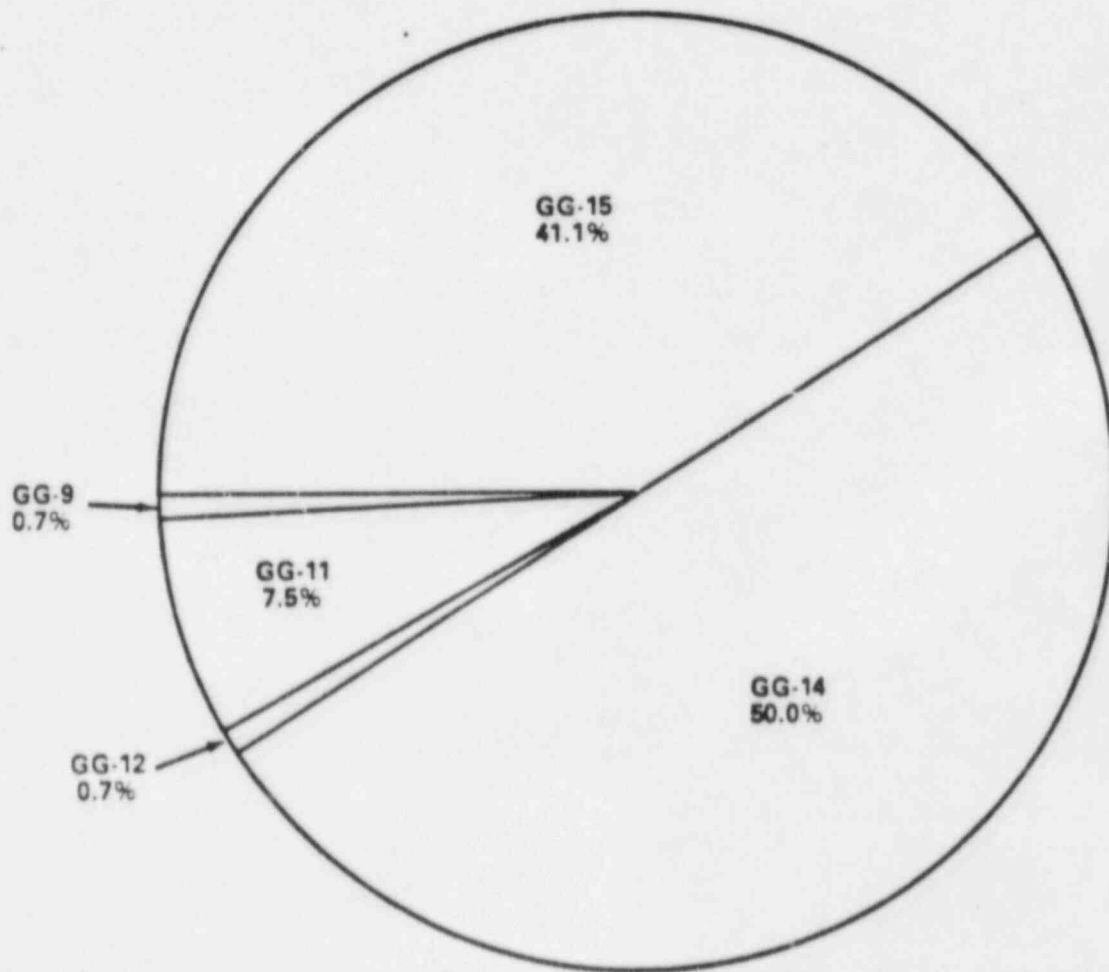


Figure 3

Encl. 1

Detailed Discussion and Comments
on Draft OIA Report

1. Managing the OL Review Process

The report indicates that the auditor did not fully understand the role of the PM and the various interactions of the review organizations. For example, this section of the report begins with a description of DL's responsibilities and the role of the PM. Specifically, it is stated that among other things PMs are responsible for, "...developing staff recommendations regarding proposed plant designs and operations." This is not accurate. PMs participate in developing staff positions on the acceptability of design and operating practices and are responsible for relating these to the applicant.

PMs may not have clearly articulated their perception of their job, or the OIA auditor, being unfamiliar with the role of the PM, may have misinterpreted the PM's description of their role. Managers have many different styles of accomplishing their duties, and the same is true of PMs. Also, the stage of the OL review and the specific plant assignment could have some impact on responses to questions related to responsibility, authority, role, and function.

Technical review branches have stated that some PMs do not actively manage their projects. Certain TR branch chiefs stated that they have gone so far as to directly contact the applicant for information. This is clearly a breakdown in internal communication. The technical branches should have relayed their dissatisfaction with the PM's performance to DL management. Going outside the prescribed procedures (e.g., circumventing the PM in contacts with the applicant) undermines our operating procedures and does nothing to correct the underlying problem. While this is a problem that requires attention as a related matter, it should be noted that the report fails to recognize the existence of the procedures used for obtaining additional information from the applicant in response to staff questions and does not properly account for organizational interactions and management involvement. (See Attachment 1.)

As far as the PMs' responsibility in having applicants respond on time, the PMs and the applicants are aware that late responses to Q's have the potential for impacting the SER schedule. This creates substantial pressure on the applicant and in most instances is sufficient to preclude any unnecessary delays in responding to Q's. While problems exist, the report assigns too much emphasis to this issue as a measure of a PM's experience. Oftentimes, the applicant relies upon owners groups or vendors to provide information in response to NRC requests. For a variety of reasons, this information could be delayed from the source such that even the applicant has only marginal control. Delays, for

whatever reason, create difficulties in the review process, and it is of concern to technical reviewers. However, the audit did not develop a full appreciation of these issues and, therefore, attributed the difficulties to PM inexperience.

Regarding the PM's role in conflict resolution, it is true that the PM should get involved when plant specific designs make it difficult to satisfy the SRPs of two different branches. However, the SRPs themselves are structured to handle this potential conflict. Each SRP section identifies a primary review branch. That branch is responsible for coordinating with the secondary review branch(es) in a timely manner in order to deliver a complete SER section to the PM. The PM can and should monitor this process, but unless the conflict arises from a unique plant feature, the review process has been structured to handle these conflicts. The report fails to adequately consider this process, and therefore, attributes much of the perceived problems to the inexperience of PMs.

Project Managers have a structured work environment that includes a supervisor, a licensing assistant, and other PMs. There is a constant interaction and exchange of information among the PMs. All correspondence is routed through at least one level of management. The DL Branch Chief takes special care to review work performed by inexperienced PMs. Also, new PMs are required to attend training courses to enhance their technical and interpersonal skills. Although it is our intention and normal practice to use entry-level PMs as assistants on active cases, DL has experienced periods when manpower shortages required the use of new PMs as the project manager for a case. In each instance, the case assignment was for a plant whose licensing date was three years in the future. The PMs who functioned in these roles were given adequate direction and supervision by senior PMs and the branch chief.

The revised PM Handbook has been provided in draft form to each new PM since late 1982. This, in conjunction with other NRR and DL written guidance, should provide sufficient guidance to new PMs. Also, as we have noted, new PMs are encouraged to seek guidance from senior PMs, and the branch chief closely monitors the work of entry-level PMs.

Regarding the organizational structure for NRR's review, DL would agree that the matrix organization has its strengths and weaknesses. New PMs may find difficulties with this structure early on but are assisted through interaction with other PMs and/or management in our organization.

One of the principal conclusions of this section is that many of the perceived problems result directly from the inexperience of the PMs in DL. In support of this, the report repeats a statement made by the Director, DL, to the effect that as many as one-half of all PMs on board have less than two years' project management experience. In this statement, the Director, DL, was referring specifically to project management experience within the Division of Licensing. Not accounted for is project management

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experience outside of DL and overall experience within the NRC. As indicated by their grade level, the large majority of the existing PMs in licensing areas have significant experience (i.e., GG-14/15). In addition, where inexperience may be a problem, the placement of the PM is carefully considered in order to minimize the impact. This is clearly demonstrated in Attachment 2, which shows the level of experience the assigned PMs had for the plants licensed after TMI. The latter parts of the review process, which are the most critical from a project management perspective, are being handled by senior, experienced PMs in the large majority of cases.

With regard to entry-level PMs, only a limited number have been hired. The goals of such hiring is to support the agency EEO program since the pool of minorities and women applicants at the entry-level is significantly higher than that for senior applicants. Entry-level PMs are utilized with caution and receive close supervision during their training period. Formal training is not accounted for in the report; this training is extensive. In addition, individually designed plans to meet the specific needs of the particular PM are also developed. Attachments 3 through 5 are provided as background information in order to demonstrate the nature of this individualized training program.

2. Licensing Review Schedules

The report states that "management expects the reviews to be accomplished in the prescribed time of 36 months, regardless of how many applications are under review, the number of reviewers to perform the work, and the balance of the regulatory workload." This statement, if true, could discount the entire NRC budget process where the number of applications under review, in addition to other regulatory work, are all carefully considered in order to establish the proper resource levels. The length of the OL review is a fundamental assumption in this budget process. While we have seen considerable variance in the length of this review, an average length has been selected for planning purposes. The standard schedule (Attachment 6) has been developed based upon past OL experience to provide adequate review time for each review branch to carry out its SRP review and prepare its SER input.

Based on the standard template, a plant specific schedule is prepared for each plant, by the PM, when the applicant tenders the FSAR for an acceptance review by the staff. At the time the plant is typically about 40-60% complete and the applicant's construction completion date is approximately 36 months away.

The project manager obtains concurrence up through the Director, DL and the plant specific OL review schedule is transmitted to the NRR Division Directors. Attachment 7 provides a copy of a typical OL review schedule and the memorandum transmitting the schedule to the review Division Director. As presently constituted the suggested Level D Schedule Template provides the review branches 3½ months to prepare questions to the applicant, 3 months to prepare a draft SER following receipt of the applicant's responses, and 6 months to prepare the input to the SER. Based upon past reviews, the amount of review time provided to the TR branches allows adequate time to carry out a comprehensive review.

It is possible that many of the comments reported could be attributed to perceptions created during the early LRP phase. The schedules established during that timeframe were more aggressive than today's standard template. However, because of these somewhat shortened schedules, elevated management attention was used to ensure the adequacy of the reviews. For example, weekly Assistant Director-level meetings were held to discuss the status of open items for the plants under review.

The review schedule that is prepared for the OL review is based upon the applicants initial construction completion date estimated at the time of tendering the FSAR for acceptance review. Subsequent to establishing that schedule the staff will carry out Caseload Forecast Panel visits to the site to assess the status of construction at the site as compared to the applicant's estimated date for completion. The procedure previously used by the panel has recently been modified to reflect current caseload management practice. (Attachment 8)

NRC sends its Caseload Forecast Panel to nuclear power plants to assess construction and preoperational test status and to estimate readiness for initial fuel load, strictly for internal resource planning purposes. Summaries of NRC findings, including copies of some of the information provided by the applicants, are made available to the public. While some state governmental units have expressed an interest in using NRC estimates for readiness to load fuel as an independent check on what the applicant is telling them, that estimate is clearly of no safety significance and is not intended to be a part of the NRC purpose for carrying out the caseload forecast. Attachment 9, for example, is one of the letters sent in response to the Wolf Creek issue raised in the report.

While NRC caseload forecast estimates are often not used for scheduling of licensing activities, other NRC Offices such as IE and the Regions do plan resources on NRC estimates. When there is a significant difference between the NRC and applicant estimates (greater than six months) meetings are held to attempt to resolve the difference. It should be noted that recent experience with meetings of this type have shown that it is not always the applicant's schedule that is changed. The NRC has accepted, in some cases, the applicant's schedule after re-examining the supporting justification.

The draft OIA Report states that "because NRR staff are involved in and must allocate their time among many regulatory activities (in addition to OL reviews), they are often confronted with confusion and conflict between meeting licensing schedules and other regulatory priorities." The report further states that this problem is due to the fact that OL schedules are developed by DL and other activities are controlled by the technical division, managers' SES contract commitments are being tied to OL schedules, and the lack of guidance on priorities of work. The report then concludes that these conditions divert technical resources from areas where the technical divisions believe the immediate need is greater.

First, the report is in error concerning who controls schedules for NRR regulatory activities, other than OL reviews. NRR has six major programs--Operating Reactors, Systematic Evaluation of Operating Reactors (SSEOR), Operator Licensing, Casework (including OL reviews), Safety Technology and TMI-2 Cleanup. Operator Licensing and TMI-2 Cleanup do not involve the same people involved in OL reviews, since Operator Licensing requires effort from only license examiners in the Division of Human Factors and Regions, and TMI-2 Cleanup efforts are primarily provided by the TMI Program Office. Of the four remaining programs, DL is the lead division and, therefore, oversees the schedules for Operating Reactors, SSEOR and Casework. In fact, DL performs the same project management function for Operating Reactors and SSEOR as it does for OL reviews. For Safety Technology, the Division of Safety Technology is the lead division and, therefore, is primarily responsible for managing schedules for activities in this program. (See U.S. Nuclear Regulatory Functional Organization Charts--NUREG-0325, dated 6/1/84, Pages 35-40.)

The report implies that OL reviews are given an undue high priority because of the managers' SES contract commitments tied to OL review schedules. This implication is wrong. The NRR technical divisions and DL contracts have four program critical elements which parallel the major programs with which they are involved (Operating Reactors, Systematic Evaluation of Operating Reactors, Casework and Safety Technology). Likewise, the Division of Licensing has three program critical elements, one of which relates to OL reviews. By definition, all critical elements are weighted equally and, therefore, have the same priority. Thus, the SES contracts, as written, do not provide any incentive for a technical division to meet OL review schedules at the expense of other priority regulatory activities.

The report further states that there is no formal guidance on priorities. This is also wrong. The primary means which NRR provides guidance on expected accomplishments and priorities is the NRR Operating Plan. The Operating Plan has been issued annually since FY 1982. The plan uses the Commission and EDO guidance as the basis for establishing priorities and establishes the premises for resolving conflicting priorities.

Another implication is that there is insufficient resources to meet the OL review schedule and other regulatory activities. As is stated in the Operating Plan: "The Operating Plan specifically identifies the planned accomplishment and allocates to each Division/Program Office the necessary resources to meet the planned accomplishments" (emphasis added).

In summary, NRR establishes priorities for its regulatory activities through its lead division management concept, Operating Plan and SES contracts. None of these gives or implies a higher priority on meeting OL review schedules at the expense of other regulatory activities. Further, adequate resources are budgeted and allocated to meet all planned regulatory activities, including OL Review schedules. If these resources become inadequate, NRR/NRC management makes the decision on which program activities are of lowest priority and therefore should be deferred.

The report states on page 22 that as many as 400 open items were rolled over into 20 broad open areas on Waterford. Discussion with the current PM on Waterford indicated that there were 25 outstanding issues which were contained in 49 SER Sections at the July 1981 issuance of the Waterford SER. Even if multiple items within each outstanding issue were considered separately such as fire doors, sprinklers, lighting, etc. There were only 60-70 individual open items in the Waterford SER, not 400 as stated. The report also suggests that while certain dates for the applicant's responses were missed, the SER was issued on schedule, implying that the review time must have been compressed. In fact, when DL management reviewed the first draft of the SER, it was determined that it was not ready for issue due to the number of open items. The issuance of the SER was then delayed six weeks to permit additional time for the resolution of open and confirmatory items.

The report is in error where it states on page 23 that confirmatory issues are areas where resolution has not been formalized in writing. Confirmatory items are issues where the method of resolution has been formally documented but the resolution has not yet been achieved, i.e., the applicant has agreed to submit a new analysis but the analysis has not yet been completed.

The report states that there is no formal system for following up on open issues and confirmatory issues. This is simply not correct. Open issues and confirmatory issues are formally tracked in Section 1 of each SER and SSER (Attachment 10). Each open and confirmatory issue is tracked and reference given to the SSER section in which the issue was closed. In addition, in various forms over the last few years, DL has maintained formal status reports on open items for tracking within NRR.

When an SER open issue is closed, it is referred to the Regional Office for verification of completion. The region is formally provided with a memorandum (Attachment 11) which documents the request, identifies the item that needs verification and references the SER section where the open item is discussed. The regional action related to the verification is tracked and documented in the Regional Operation readiness letter provided to DL prior to issuance of the OL.

3. Use and Disposition of NRR Staff

The OIA Report (page 26) implies that as the casework review declines, the total NRC FTEs will decline. This is not true. The current projections show that the NRR total FTE requirement does not decrease in FY 1985-1987, compared to FY 1984. The primary reason for this is that the decrease in resources needed to review OLs is offset by the increase in resources necessary to ensure the increased number of licensed reactors continuing to operate safely. Further, many of the skills needed for OL reviews are the same ones that are needed to review operating reactor licensing actions. (See Attachment 12.)

There are, however, some unique skills that are needed for the review of certain aspects of OLs, primarily in the environmental area, which are not necessary or needed in significant numbers once a reactor is licensed. However, it is not true that NRR and NRC management has not developed a strategy or taken action to address this problem. First, a decision was made by NRC and NRR management to manage the situation through attrition as opposed to Reduction-In-Force (RIF). During FY 1983, the first year when overages occurred, the EDO placed restrictions on outside-NRC recruitment to help ensure that skills were reallocated to where they were needed. (See memorandum William J. Dircks to Office Directors and Regional Administrators dated October 1, 1982 regarding Implementation of FY-83 FTE Management Plan.) Likewise, NRR, in implementing the EDO guidance, developed a plan to reassign people to needed positions within NRR.

Enclosure 2

Specific Comments on Draft Report
Requiring Clarification and Change

1. Managing the OL Review Process

Page 5 "DL responsible for establishing and meeting OL review schedules, ..."

- Review schedules are established with the concurrence of each applicable organization.

Page 6 "PMs are responsible ... for developing staff recommendations regarding plant designs and operations."

- The intended meaning of this statement is not clear.

Page 6 "We were told that many PMs do not take an active role in managing their projects, ..."

- This sentence is objectionable, particularly because of the lack of qualifiers such as "at times" or "on occasion", etc. The statements are simple absolutes - "do not resolve", "do not coordinate", "do not control". The use of "we were told" should not absolve the auditor of the need to verify the accuracy of the information used when it is presented in such a way as to suggest that it is factual and represents the opinion of the auditor.

Page 8 "The better approach may ultimately delay resolution or more probably ..."

- It is unclear whether this statement was made by a technical reviewer or is a conclusion of the auditor. This is a problem throughout the report.

Page 8 "Several factors appear to have combined to cause this loss of PM's effectiveness."

- The report has not demonstrated a loss of effectiveness.

Page 9 "Based on our review of selected PM position descriptions ... we found that at least two new PMs function as full-fledged PMs."

- Recommend deleting "at least". The phrase is used to suggest a bigger problem exists than the auditor was actually able to confirm.

Page 10 "This organization is supposed to foster good internal control ..."

- The use of "supposed" and "attempts" indicates a bias in the auditor which is not substantiated in this report.

Page 10 "The structure can be somewhat confusing and sometimes unworkable, ..."

- It would seem that if there are aspects of the structure that are "unworkable", they should be identified in the report and recommendations for corrective action provided.

2. Licensing Review Schedules

Page 20 "This problem is due in part to the fact that OL schedules are developed by DL while other activities are controlled by NRR's technical divisions."

- OL schedules are developed by DL in conjunction with the technical divisions. Schedule problems can be elevated to the Director, NRR, for resolution; thus, DL is not maintaining absolute control over OL schedules as suggested by the report.

Page 20 "... priorities are influenced by factors such as managers' Senior Executive Service (SES) contract ..."

- Priorities are reflected in SES contracts, not established by the contracts. If the statement were true as written, then the problem would be pervasive throughout the SES system and not unique to OL processing.

Page 21 "... even though the staff knows that the applicant is behind schedule."

- It is unclear who "the staff" is in this statement. Technical reviewers are not generally in a position to evaluate the overall schedule and progress of the applicant. The perception that the applicant is behind schedule can result in delaying work on that project in favor of another where the "immediate need is greater." This can ultimately lead to real delays, thus fulfilling the initial perceptions.

Page 21 "However, based on our discussions with the PM and our review of the December 1983 Blue Book, we found ..."

- The representation of the Blue Book data is inaccurate. The single entry for responses to Q's and TR's SER inputs actually represent several submittals, only the last of which is recorded in the Blue Book as a completion date.

Page 22 "Therefore, in effect, the staff is issuing its findings and conclusions (on the applicant's FSAR) in a Safety Evaluation Report based on an incomplete report."

- This statement is wrong!! Findings and conclusions are issued only for the portion of the review which has been completed.

Page 23 "While it may be argued that there is no real significance to having open issues or confirmatory items, we believe there is potential that these cases may never be closed ..."

- There is no factual basis for this belief. Considering that this statement then leads to one of the major recommendations in the report, there should be some better substantiation before staff resources are expended in response to a belief.

3. Standard Review Plan

Page 24 "He noted, however, that he does not report to NRR and, therefore, NRR does not determine his schedule or priorities."

- It appears that this statement is presented to suggest that certain actions related to open items are, therefore, not completed. If so, the inference is wrong. If not, then the statement is not relevant and should be deleted.

Page 29 "For example, one reviewer told us no two reviews are done alike in spite of the SRP which purports to standardized reviews."

- The introduction to the SRP states that its principal purpose is to ensure the quality and uniformity of staff reviews. It appears that the auditor has interpreted this too narrowly and views the SRP as a cookbook. The introduction goes on to state - "However, for any given application, the staff reviewers may select and emphasize particular aspects of each SRP section as is appropriate for the application."

Page 29 "Specifically, some TRs allow deviation when accompanied with adequate justification, while others hold applicants strictly to the letter of the SRP."

- If adequate justification is provided for a deviation, the TR is not empowered to hold an applicant "strictly to the letter of the SRP." This paragraph should be deleted.

Page 30 "Therefore, this combined condition affects the quality of reviews because reviewers allow items that they know are below current standards to get through."

- "Current standards" is a moving target. The problem is well-known and has been the subject of considerable debate.

come from the Division of Emergency Preparedness in IE, the LPM should be aware of such meetings, help to set them up if requested, and attend if requested.

On any site visit where the applicant provides special transportation or "other special conveyances" such as helicopters, it is NRC policy to pay a fair share of such transportation. It is the LPM's responsibility to arrange for this.

2.4.9 Applicant Appeals Meetings

If an applicant strongly disagrees with an NRC staff position, he has the option of appealing to a higher level of staff management. Although an applicant is not prohibited from contacting any level of NRC management, the LPM should request that all such contacts be initiated through the LPM.

For a pending appeal, the LPM should discuss in detail with the applicant and the appropriate reviewers the positions taken by the staff and the applicant. Before the meeting the LPM should make sure that NRR management up through the Division Director level is aware of the background of the issue, the applicant's position, and the staff's position.

Appeals meetings are held first with the Assistant Director and then, if necessary, with the Division Director and the Director of NRR. The LPM (or higher DL management) normally chairs the meeting and directs the discussion toward an acceptable solution. At the end of the meeting, the LPM should summarize any agreements reached. After the meeting, as with all meetings, the LPM writes a summary that is sent to the applicant and the service list.

2.4.10 Preparation of Request for Additional Information

During the course of the staff review of an application, it is usually necessary to request additional information about a number of issues of concern to the staff. Reviewers are expected to formulate a single set of specific questions in order to elicit all necessary additional documented information from the applicant. A meeting with the applicant before transmittal of the request for additional information may not always be necessary, particularly if the specific information needed is clear and not subject to misunderstanding. The questions are generated by the reviewer, reviewed by the reviewer's management, and sent to DL for use by the LPM in issuing a letter requesting additional information from the applicant. Each review branch numbers its questions in accordance with a specific numbering system designed to help identify the subsequent responses and to minimize the need for retyping question lists in the project branches (see NRR Office Letter 29).

Multiple rounds of questions and answers between staff and applicant should be minimized. A single, comprehensive set of questions should be prepared and given to the applicant following docketing. The questions will be designed to obtain all the clarification and additional information necessary to prepare a complete SER or Environmental Statement (ES) input in every review area. This approach should be applied to all review areas to the maximum extent possible.

The responsibility of the LPM in preparing this request and letter is to review the questions to determine their acceptability (technical adequacy, clarity,

and scope) for transmittal to the applicant; to assemble the questions by subject matter maintaining consistency with the content of chapters in the FSAR; and, finally, to compose the accompanying letter including appropriate directions to the applicant. The key task in this sequence of events is the review of the questions for acceptability. Based on his knowledge of the application, the LPM should be in a position to understand and critically review each question generated by the reviewers. An adequate basis must exist for each staff position, and the LPM should understand the underlying rationale for the request. Further, if the LPM feels there are areas not adequately addressed, the reviewer should be requested to prepare specific questions or document the bases for not requiring further information. If the review branch chooses, draft SER positions may be sent to the LPM for transmittal to the applicant, either with or in lieu of questions.

The request for additional information also serves as the public record of the staff's safety concerns about the application at that stage of the review and evaluation process. The request, if properly prepared, can materially assist in obtaining a quality review and in expediting the review process. It is for these reasons that the LPM must take special care in producing the request for additional information. In reviewing the questions, the LPM must consider the following:

- (1) The questions should be directed toward obtaining a clear understanding of the design and related safety and environmental features.
- (2) The thrust of the question should be clear and unambiguous. The applicant cannot be expected to provide information that the reviewer thought was requested, but really was not.
- (3) It should be determined whether the question is new and whether it expands the scope of review defined in the SRP or ESRP. If so, a management decision to delete or modify the question may be needed. The LPM should elevate such concerns to the appropriate level of management if agreement cannot be reached with the reviewer.
- (4) The question should be pertinent and important to safety or environmental concerns. Questions of a trivial nature and those requesting information that is interesting to the reviewer but not related to safety or environmental concerns should not be asked.
- (5) The potential response to the question should be visualized as well as the ensuing step by the staff. If the response leads nowhere, the question probably should not be asked.
- (6) Redundant questions should be deleted. Sometimes different branches ask similar questions.
- (7) Consistency in the level of review performed by the various branches, as expressed by the level of detail of the questions, needs to be checked and maintained.

- (8) Where appropriate, the question should include or reference the staff position on the particular issue such as a Regulatory Guide, a General Design Criterion, or an SRP section.
- (9) If necessary, the LPM may add or significantly modify questions in the request for additional information. However, the agreement of the cognizant technical reviewer should be sought. If resolution cannot be obtained, elevation to higher levels of management may be necessary.

The letter that transmits the request for additional information to the applicant should contain a brief summary of the areas in which information is being requested and should contain a schedule for submittal of responses that, if met, will permit the staff to maintain its review schedule. The applicant should be advised that he must provide complete and technically adequate responses in order to avoid jeopardizing the schedule. Copies of the request for additional information are sent to the service list.

Once the request for additional information has been transmitted to the applicant, it becomes the LPM's responsibility to facilitate the timely submittal of applicant responses. The LPM should verify that the applicant understands the questions and should try to become aware of impending delays in the applicant's response as soon as possible. If it is determined that the applicant cannot meet the schedule date specified in the transmittal letter, the LPM must obtain a new date from the applicant, evaluate the resulting impact on the project review schedule, and inform the applicant of the revised schedule. This is an undesirable situation that should be avoided whenever possible. The LPM should emphasize to the applicant the importance of submitting timely, complete, and technically adequate responses to preclude delays. It is typical that an applicant delay will result in the project losing its place in line to be reviewed, thereby resulting in a delay in the review schedule greater than the applicant's delay.

2.4.11 Review of Applicant Responses

Responses to the request for additional information are submitted in the form of amendments to the application that are distributed by the Document Management Branch to all prior recipients of the application. Primary responsibility for review of each response rests with the reviewer who identified the need for the information. Consistent with the LPM's overall responsibility, responses should also be reviewed by the LPM. It is important that all applicant responses be evaluated not only for technical adequacy, but also for clarity and potential ambiguities. If full cooperation and understanding have been achieved among all parties during the previous processes, no further questions should be necessary.

The LPM must ensure that the staff review of applicant responses proceeds at an acceptable rate. This can only be accomplished by frequent contact with the reviewers to determine as quickly as possible significant areas of technical difficulty. These areas can be identified to the applicant by telephone or through meetings, followed by appropriate documentation. In this way, the LPM can effect an expeditious staff review.

LIST OF NEW OLs SINCE TMI ACCIDENT

<u>PLANT</u>	<u>OL ISSUED</u>	<u>PROJECT MANAGER *</u>	<u>YEARS OF EXPERIENCE *</u>		
			<u>NRC</u>	<u>YEARS</u>	<u>PM</u>
North Anna 2	8/80	Al Dromerick	15		9
Sequoyah 1	9/80	C. Stahle	10		10
Farley 2	3/81	L. Kintner	17		17
Salem 2	5/81	J. Kerrigan	5		3
McGuire 1	7/81	R. Birkel	16		16
Sequoyah 2	9/81	C. Stahle	10		10
Diablo Canyon	11/81	B. Buckley	9		9
		H. Schierling	14		10
La Salle 1	8/82	A. Bournia	12		12
San Onofre 2	9/82	H. Rood	11		11
Grand Gulf 1	6/82	D. Houston	12		4
Susquehanna 1	7/82	R. Perch	3		3
Summer 1	8/82	W. Kane	9		9
San Onofre 3	11/82	H. Rood	11		11
McGuire 2	3/83	R. Birkel	16		16
St. Lucie 2	4/83	V. Nerses	7		7
La Salle 2	12/83	A. Bournia	12		12
WMP-2	12/83	R. Auluck	5		2
Susquehanna 2	3/84	R. Perch	3		3

* As of date OL was issued.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
FEBRUARY 01 1982

MEMORANDUM FOR: Darrell G. Eisenhut, Director
Division of Licensing

THRU: Thomas Novak, Assistant Director
for Operating Reactors, DL

FROM: John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

SUBJECT: SPECIALIZED TRAINING PROGRAM FOR ALBERT W. DeAGAZIO

1. Formal NRC Courses

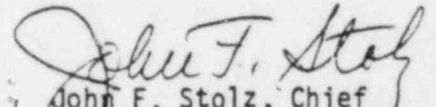
- a. PWR Technology Course (R-104P) ✓
(1 week) 1/18-1/22/82 (completed)
- b. B&W Facility Design and Operations (Simulator) Course
(R-904 replacement) when available approximately 8/82 (2 weeks)

2. Meetings and Visits

- a. Introductory Meeting:
H. Denton, D. Eisenhut, T. Novak, OELD case lawyer (completed).
- b. Davis-Besse 1 site visit/familiarization 2/82
- c. Region III visit/familiarization 2/82
- d. Attend SALP meetings (2) 6/82
- e. Attend ACRS meeting 3/82
- f. Attend Commission briefing or open
meeting 2/82
- g. Attend any public hearings held in
Washington area when
available
- h. Visit Incident Response Center to gain
familiarity w/operations and ORPM
function 2/82

3. On-the-job Training/Reading

- | | |
|---|-------------|
| a. NRR/DL Procedures/PM Handbook | 11/81-1/82 |
| b. 10 CFR 50.59; 10 CFR 50.90; 10 CFR 50.109 | 12/81 |
| c. NUREG-0737 | 12/81-1/82 |
| d. Noticing procedures, 10 CFR 2.105 | 1/82 |
| e. 10 CFR 50; 10 CFR 51 | 12/81 |
| f. Atomic Energy Act Sections 182,189 | 2/82 |
| g. NEPA | 3/82 |
| h. FSAR familiarization especially Chapters 3, 4, & 6 | 11/81-12/81 |
| I. ORB#4 reading file (one month) | 12/81 |
| J. Tech. Specs. | 12/81-1/82 |
| K. Davis-Besse 1 SER/EIS | 1/82-2/82 |
| L. Typical OL amendment sequence | 12/81 |


John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

cc:
RPurple
TNovak
GLainas
SVarga
DVassallo
RClark
DCrutchfield
JStolz
ADeAgazio
RIngram



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

Attachment 4

DEC 1 1983

MEMORANDUM FOR: Darrell G. Eisenhut, Director
Division of Licensing

FROM: Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

SUBJECT: TRAINING/WORK PROGRAM FOR NEW AD/L PROFESSIONALS

Attached is the proposed training/work plan for the first eight months which I plan to use for Marilyn Ley.

This plan was developed by DL management using input from entry and senior level PMs. This plan can be revised as we gain experience or adjusted to suit the background of the particular trainee.

Your comment on this plan is requested. If you find this plan acceptable, I will develop a similar plan for Mary Jo Campagnone. /

A handwritten signature in dark ink, appearing to read "Tom Novak", is positioned above the typed name.

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

Project Manager Trainee Work Training Program

These schedules are subject to change in response to changes in priorities. However, we intend to follow this type of plan.

<u>Start</u>	<u>Description of Work Program</u>	<u>Activity Level</u>	<u>Finish</u>
		P= Part Time F= Full Time	
01/01/84	Work with system oriented issue including interface with Technical branches, applicant. Prepare SSER closing out open issue. (Palo Verde)	P	03/30/84
01/01/84	Attend hearing to gain insight into public's role in licensing (Shearon Harris)	P	03/30/84
01/15/84	Work with technical staff and PM to resolve ACRS comments on Shearon Harris	F	02/08/84
02/08/84	Formal Training: Nuclear Reactor Concepts	F	02/09/84
02/13/84	Formal Training: PWR Tech. (R-104P)	F	02/17/84
02/27/84	Participate in Case Load Forecast Panel to gain knowledge of Physical plant and scheduling (Seabrook)	F	03/02/84
03/19/84	Plant Tour (Reinforcing the R-104P Course Work)	F	03/20/84
03/21/84	Work at Resident Inspector's Office to understand PM/RI interface	F	03/22/84
03/15/84	Formal Indoctrination on LPM Handbook*	P	03/30/84

*Indoctrination includes:

- a. what constitutes an open item
- b. what constitutes a confirmatory item
- c. what constitutes a license condition
- d. list of key terms (e.g. backfitting, important-to-safety, petitions, contentions, safety-related, etc.) and concise definition of the items & significance to lic. process.
- e. about the "Rainbow" books
- f. signature authority
- g. L. A. functions & responsibilities
- h. Organization of NRR & functions & responsibilities of the DSI, DE and DST Branches
- i. a current list of difficult/important/critical issues in the licensing process and how we are handling them
- j. all about the (editorial) process of putting a SER & FES together
- k. green ticket, blue ticket, yellow ticket items
- l. board notification & hearing process
- m. public relations (i.e. how to deal with reporters, verbal public inquires, etc.)

02/15/84	Assist in issuing low power license (Waterford)	P	06/30/84
02/15/84	Assist in preparing an SER for publication, including interaction with review branches (WNP-3)	P	06/30/84
03/30/84	Assist in closing open items in preparation for license issuance, including tech specs (Seabrook)	P	06/30/84
03/01/84	Attend SALP Board Meeting (Seabrook)	F	03/02/84
04/84	Formal Training: Conflict Resolution	P	04/84
04/84	Formal Training: Briefing & Presentation Techniques	P	04/84
04/15/84	Attend SALP Meeting with Applicant	F	04/16/84
04/23/84	Work with OELD attorney on preparing testimony and/or responding to interrogatories.		04/27/84
05/14/84	Formal Training: PWR Tech. (R-204P)	F	05/25/84
06/84	Formal Training: Reg. Process	P	06/84
06/84	Attend ACRS Meeting to learn the role of the PM and technical staff.	P	06/84
06/84	Attend Commission Meeting on full power authorization.	P	06/84
07/09/84	Formal Training: PWR Simulator (R-604P)	F	07/13/84
07/16/84	Assignment at Regional Office to gain insight on interfaces.	F	07/20/84
07/23/84	Assist PM in issuing SER, including interaction with editorial staff. (Beaver Valley)	P	10/23/84
07/23/84	Assist in issuing Q-1's to learn ratchet control (STP)	P	10/23/84
08/84	Formal Training: Effective Writing	P	08/84
08/84	Formal Training: Time Management	P	08/84



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

MAY 10 1984

MEMORANDUM FOR: Darrell G. Eisenhut, Director
Division of Licensing

THRU: Gus C. Lainas, Assistant Director
for Operating Reactors, DL

FROM: James R. Miller, Chief
Operating Reactors Branch #3, DL

SUBJECT: TRAINING PROGRAM FOR DEE B. OSBORNE
AS PROJECT MANAGER

The enclosed sheets detail the formal and informal aspect of ORB#3's proposed training program for Mr. Dee Osborne so that he can rapidly assume the full time PM duties on Millstone 2. I would appreciate your review and approval so that the formal coursework can proceed without delay.

James R. Miller

James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Enclosures:
As stated

cc w/enclosures:
D. B. Osborne
J. Leonard

LEVEL D SCHEDULE TEMPLATE (SUGGESTED)

Attachment

Milestone

A. SER

	Time Increment (Months)	Total Lapsed Time (Months)
Tender	0	0
Docket	2	2
Q Inputs to PM	3	5
Q sent to Applicant	1/2	5 1/2
Applicant Response due	2 1/2	8
Draft SER Inputs to PM	3	11
SER Draft	1	12
SER Inputs to PM	4	16
SER Issued	2	18
ACRS Meeting	1	19
SSER Issued	2	21
Start Hearing	5	26
ASLB Decision	6	32
Comm. Effectiveness	1	33
Comm. Dec. on FP License		

B. Environmental Reports

Tendered	0	-
Docketed	2	0
Site Visit Agenda to PM	3/4	3/4
Site Visit Agenda to Applicant		
Site Visit	1/4	1
Q Input to PM	3/4	1 3/4
Q Sent to Applicant	1/2	2 3/4
Applicant Response	1/4	2 1/2
Input to DES	1 1/4	4
DES Issue	2	6
Input to FES	2	8
FES Issue	4	12
	2	14

*Use 13 months for heavily contested cases between SSER Issued and ASLB Decision.

LEVEL D SCHEDULE TEMPLATE (SUGGESTED)

Attachment

Milestone

A. SER

	<u>Time Increment (Months)</u>	<u>Total Lapsed Time (Months)</u>
Tender	0	0
Docket	2	2
Q Inputs to PM	3	5
Q sent to Applicant	1/2	5 1/2
Applicant Response due	2 1/2	8
Draft SER Inputs to PM	3	11
SER Draft	1	12
SER Inputs to PM	4	16
SER Issued	2	18
ACRS Meeting	1	19
SSER Issued	2	21
Start Hearing	5	26
ASLB Decision	6	32
Comm. Effectiveness	1	33
Comm. Dec. on FP License		

B. Environmental Reports

Tendered	0	-
Docketed	2	0
Site Visit Agenda to PM	3/4	3/4
Site Visit Agenda to Applicant	1/4	1
Site Visit	3/4	1 3/4
Q Input to PM	1/2	2 3/4
Q Sent to Applicant	1/4	2 1/2
Applicant Response	1 1/4	4
Input to DES	2	6
DES Issue	2	8
Input to FES	4	12
FES Issue	2	14

*Use 13 months for heavily contested cases between SSER Issued and ASLB Decision.

Att:

MAR 18 1983

Docket Nos.: STN 50-546
and STN 50-547

DISTRIBUTION:
Document Control (STN 50-546/547)
NRC PDR
PRC System L01shan
LB#1 Rdg JStevens
MRushbrook
PO'Connor
TNovak
SBlack
DEisenhut/RPurple

MEMORANDUM FOR: R. H. Vollmer, Director, Division of Engineering
R. J. Mattson, Director, Division of Systems Integration
H. L. Thompson, Director, Division of Human Factors Safety
T. P. Speis, Director, Division of Safety Technology
E. L. Jordan, Director, Division of Emergency Preparedness
and Engineering Response, IE
J. M. Taylor, Director, Quality Assurance, Safeguards and
Inspection Programs, IE
R. F. Burnett, Director, Division of Safeguards, NMSS

FROM: Darrell G. Eisenhut, Director
Division of Licensing

SUBJECT: SCHEDULE FOR OL REVIEW OF MARBLE HILL 1/2 OL APPLICATION

The purpose of this memo is to advise you of the safety and environmental review schedules for Marble Hill 1/2.

The Marble Hill OL application acceptance review has been completed and the application was docketed on February 25, 1983.

The schedule for the review of the Marble Hill OL application is included in the enclosure. All the milestones which are included in the NRC monthly report to Congress (Bevill Sub-Committee) are identified with an asterisk. Please provide any other intermediate milestones which may be required in certain disciplines such as emergency planning, security and instrumentation and control systems.

Construction of Marble Hill 1/2 is about 45% and 25% complete, respectively, and fuel load is scheduled by the applicant for June 1986.

The safety review questions should be submitted to the project manager by August 15, 1983. Environmental review questions resulting from the site visit should be submitted to the project manager within two weeks following the June 27, 1983 site visit. Each question should be accompanied by a reference to the applicable Standard Review Plan section.

OFFICE							
JRNAME							
DATE							

Please note that Marble Hill replicates the Byron Station design and is being reviewed in accordance with the Commission's "Statement on Standardization of Nuclear Power Plants," dated August 31, 1978. As such, the staff's review of the replicate portions of the Marble Hill design will reference the Byron SER (NUREG-0876) dated February 1982. Your review branches will not conduct a custom review of the replicate portions of the Marble Hill design (yellow pages) unless you determine that significant new information has been identified that substantially affects the conclusions that have been documented in the Byron review.

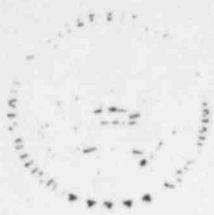
The project manager for Marble Hill is Paul O'Connor located in room 322 (X29764). Please assure that each of your branches has received all portions of the FSAR or ER necessary for their review and have scheduled their review so as to provide their inputs to the Project Manager in accordance with the enclosed schedule.

151
Darrell G. Eisenhut, Director
Division of Licensing

Enclosure:
As Stated

cc w/enclosure:
NRR A/D's
NRR B/C's
G. McCorkle, NMSS
F. Pagano, IE

OFFICE	DL:LB#1	DL:LB#1	DL:LB#1	DL:NRD			
SURNAME	PO'Connor: CW	BJYoungblood	Novak	DEisenhut			
DATE	3/4/83	3/9/83	3/9/83	3/11/83			



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

MAR 10 1983

Docket Nos.: STN 50-546
and STN 50-547

MEMORANDUM FOR: Marble Hill Reviewers (see attached list)

FROM: Paul O'Connor, Project Manager, Licensing Branch No. 1, DL

SUBJECT: MARBLE HILL REVIEW - PROCEDURE AND SCHEDULE

The review schedule for the Marble Hill Review is attached. Please review this schedule and inform me immediately if you are unable to accommodate this schedule for any reason.

Marble Hill is being reviewed in conformance with the Commission's "Statement on Standardization of Nuclear Power Plant" under the replicate plant concept. The base plant for this review is Commonwealth Edison's Byron Station.

In accordance with the standardization policy, the staff review of the replicate portions of the Marble Hill design (yellow pages) will reference the appropriate sections from the February 1982, Byron SER (NUREG-0676). Reviewers will not conduct a custom review of these replicate portions of Marble Hill unless the cognizant Assistant Director determines that significant new information has been identified that substantially affects the conclusions that have been docketed in the Byron review.

Please note that FSAR Chapters 14 and 15 contain all Byron/Braidwood responses to NRC questions considered relevant to the Marble Hill review.

These questions and answers are already a part of the Marble Hill docket. Each review branch should compare all proposed questions to these previously answered questions to be sure that we do not ask the same question over again.

Paul O'Connor, Project Manager
Licensing Branch No. 1
Division of Licensing

Attachment

REVISED SCHEDULE FOR LICENSING ACTIVITIES FOR

MARBLE HILL - 1/2

<u>SER</u>	<u>DATE</u>
Tender	11/23/82
Docket	02/25/83
Q's to PM	08/15/83
Q's to Applicant	09/02/83
Applicant Response	12/02/83
Draft SER to PM	03/02/84
SER Draft	04/06/84
*SER Inputs to PM	10/05/84
*SER Issued	12/07/84
*ACRS Meeting	01/10/85
*SSER Issued	04/15/85
*Start Hearing	09/15/85
*ASLB Decision	05/15/86
*Commission Decision	06/01/86
Fuel Load Date (Applicant)	06/00/86

<u>ER</u>	
Tendered	11/23/82
Docketed	02/25/83
Site Visit Agenda to PM	06/01/83
Site Visit Agenda to Applicant	06/13/83
Site Visit	06/27/83
Q Input to PM	09/01/83
Q's to Applicant	09/15/83
Applicant Response	11/01/83
Input to DES	03/30/84
*DES Issued	05/30/84
Input to FES	09/30/84
*FES Issued	11/30/84
Start Hearing	09/01/85

*Bevill Schedule

MAR 25 1983

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

Attachment 8

JUL 5 1984

MEMORANDUM FOR: Ronald M. Scroggins, Deputy Director
Division of Resource Management

FROM: Darrell G. Eisenhut, Director
Division of Licensing

SUBJECT: CASELOAD MANAGEMENT

Per our discussions, I propose the following as a joint approach to handling Caseload Forecast Panel type decisions for the foreseeable future. While I understand RM is considering recruiting a replacement for Mr. Lovelace, pending his replacement, I propose that Caseload Management Teams be as follows.

The Caseload Management Teams would be comprised of the PM, the Resident Inspector, a representative from RM, and two or three regional representatives to be selected by RM (in coordination with the PM). The regional representatives would be staff with recent inspection experience in support of licensing a similar plant. The Caseload Management Team would be headed by the DL Branch Chief.

I propose the following procedures be used by the Caseload Management Team:

- (1) DL would issue a letter to the utility one month prior to the site visit requesting information necessary for making an estimate of plant readiness for fuel load.
- (2) The Team would visit the site and tour the facility. A pre-tour meeting may be held to discuss the information provided in response to item (1).
- (3) A meeting summary would be written which describes the activities at the site and presents relevant data obtained during the visit.
- (4) The Team would evaluate the information and reconvene in headquarters to develop the estimate. When a consensus has been reached, an internal staff meeting would be held with the Director, Division of Licensing and an appropriate management representative from RM. If the Team needs more information to come to a decision, or if the applicant has requested to provide additional information, a meeting would be held in headquarters to receive further information on the construction and prep status. Such a meeting, which would be open to the public, would include senior applicant and NRC staff management.

- (5) After consultation with the Director, Division of Licensing and RM management, the DL Branch Chief may announce the staff estimate. If our estimate is within 6 months of the applicant's date we would assume the applicant's date is adequate for use in resource scheduling for the NRC licensing review. If our estimate is more than about 6 months beyond the applicant's date, a management level meeting would be held (in headquarters) with the applicant's management to finalize the staff's estimate. The staff would take appropriate followup scheduling action, as necessary. A transcript of this meeting, which would be open to the public, would be placed in the PDR. This meeting is optional when the staff's estimate is within 6 months of the applicant's date.
- (6) The project manager would prepare a meeting summary which presents the results of the Caseload Management Team's review.

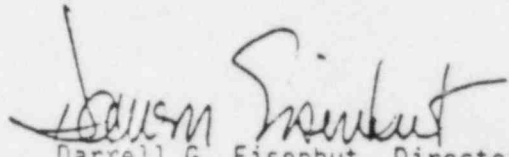
Since I believe such Management Team reviews could be a viable approach for handling the CFP effort in the foreseeable future, I would commit to the required time and effort from the DL Branch Chiefs to direct the effort.

I further recommend that a Caseload Management Team visit the following sites* during the remainder of this fiscal year:

- (1) Wolf Creek**
- (2) Vogtle
- (3) Nine Mile Point 2
- (4) Harris
- (5) Beaver Valley 2

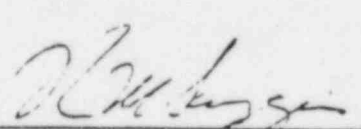
Additionally management level meetings to resolve schedule differences would need to be held on the following plants:

- (1) Perry
- (2) River Bend


Darrell G. Eisenhut, Director
Division of Licensing

* The criteria is that previous caseload visits indicated significant variance between staff and applicant fuel load estimates, or committed to subsequent site visits; or is considered necessary by the NRC.

** Site visit was held week of May 21, 1984.


Approved: Ronald M. Scroggins, Deputy Director
Division of Resource Management

APR 30 1984

Mr. Michael Lennen, Chairman
 State Corporation Commission
 Fourth Floor, State Office Bldg.
 Topeka, Kansas 66612-1571

Dear Mr. Lennen:

This letter is in response to your letter of April 10, 1984 concerning various aspects of the Nuclear Regulatory Commission caseload forecasting process at nuclear power plants under construction. NRC does not plan to discontinue caseload forecasting efforts at this time. You are aware that the NRC performs this process solely for internal resource planning purposes. Tentatively we have rescheduled the Wolf Creek forecast meeting for mid-May 1984. We have started recruitment for a replacement for Mr. Lovelace, and until that position is filled will continue to utilize other NRC staff members for forecast meetings.

We cancelled the Wolf Creek meeting to allow Mr. Lovelace to help finalize other caseload forecasts prior to his departure. It was not possible to accomplish both a visit to Wolf Creek and finalization of other plant estimates.

NRC will provide notification of the rescheduled Wolf Creek meeting and will make the findings developed by the staff publicly available.

Sincerely,

(Signed William J. Dircks)

William J. Dircks
 Executive Director for Operations

Distribution:

WDircks, EDO
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RM/BC	RM	RM	NRR	EDO	
RHartfield	RScroggins	LBarry	HDenton	WJDircks	
4/27/84	4/27/84	4/27/84	4/27/84	4/30/84	

1.7 Summary of Outstanding Items

Listed below is an update of all of the outstanding items that require resolution prior to issuance of the operating license. The status of each of these items is given along with the document section where the item appears.

Part A*

- A(1) Seismic and dynamic qualification of seismic Category I mechanical and electrical equipment (SER Section 3.10).**
- A(2) Environmental qualification of safety-related electrical equipment (SER and SSER #4 Section 3.11).**
- A(3) TMI Action Plan (SER Section 22)
 - I.A.1.1 Shift Technical Advisor
 - I.D.1 Control room design review
 - III.A.1.2 Upgrade emergency support facilities (Removed SSER #4).
- A(4) Onsite Emergency Preparedness (Removed SSER #4).

Part B*

- B(1) High-energy pipe break hazards analysis (Closed SSER #1).
- B(2) Pump and valve operability assurance program (SER Section 3.9.3.2).
- B(3) Fire protection program - alternate shutdown panel (Closed SSER #3).
- B(4) TMI Action Plan (SER Section 22)
 - I.C.1 Guidance for evaluation and development of procedures for transients and accidents.
 - I.C.8 Pilot monitoring of selected emergency procedures for near-term operating license applications.
 - II.B.2 Plant shielding to provide access to vital areas and protect safety equipment for postaccident operation (closed SSER #2)

*Part A lists the site-specific items while Part B contains the SNUPPS items which are common to both Wolf Creek and its sister plant Callaway.

**This item includes both plant-specific and duplicate-plant information.

1.8 Confirmatory Items

The following is an update of each of those confirmatory items in Section 1.8 of the SER. As a result of revisions to the Final Safety Analysis Report, additional information provided via letters, and the submittal of the draft Technical Specifications, several confirmatory items have been resolved. These items are noted below.

Part A*

- A(1) UHS dam dispersiveness (Closed SSER #1).
- A(2) Main dam seepage (SER Section 2.5.6.8).
- A(3) Site-specific seismic structural analysis (Closed SSER #1).
- A(4) Identification of base metal and heat-affected zone surveillance material (Closed SSER #2).
- A(5) Pressure-temperature limits (Closed SSER #2).
- A(6) Fire protection site visit (SER Section 9.5.1.8).
- A(7) Security plan (Closed SSER #1).
- A(8) TMI Action Plan (Closed SSER #4).
 - II.K.1 IE Bulletins on measures to mitigate small break LOCAs and loss-of-feedwater accidents (Closed SSER #4).
 - III.A.2 Improving licensee emergency preparedness--long-term (Closed SSER #4).
- A(9) Onsite Emergency Preparedness (SSER #4 Section 13.3).

Part B*

- B(1) Additional seismic instrumentation and control room indication (Closed SSER #1).
- B(2) Analysis of steam generator tube plugging (Closed SSER #4).
- B(3) Testing of pressure isolation valves (Closed SSER #2).
- B(4) Fuel assembly structural response to seismic and loss-of-coolant accident (LOCA) forces (Closed SSER #2).
- B(5) Preservice inspection testing program (SER Sections 5.2.4.1 and 6.6.1).
- B(6) Steam generator inservice inspection (Closed SSER #4).

*Part A lists the site-specific items while Part B contains the SNUPPS items which are common to both Wolf Creek and its sister plant Callaway.

- B(7) ECCS analysis (Closed SSER #1).
- B(8) Steam generator level control and protection (Closed SSER #4).
- B(9) Capability for safe shutdown following loss of a bus supplying power to instruments and controls (SER Section 7.4.3.1).
- B(10) Operator actions required to maintain safe shutdown from outside control room (SER Section 7.4.3.2).
- B(11) Reactor coolant temperature indicators on the auxiliary shutdown panel (SER and SSER #3 Section 7.5.2.1).
- B(12) Volume control tank level control and protection interaction (Closed SSER #4).
- B(13) Boron dilution control (SER Sections 7.6.7.3 and 15.2.3.1 and SSER #3 Section 7.6.7.3).
- B(14) Environmental qualification of control systems (SER Section 7.7.11.3).
- B(15) Circuitry for automatic transfer of diesel generator from test to auto control mode (Closed SER #3).
- B(16) Diesel generator reliability qualification testing (Closed SER #3).
- B(17) Circuitry for bypass of protective circuitry (Closed SER #3).
- B(18) Circuitry for inservice testing per Regulatory Guide 1.108 (Closed SSER #3).
- B(19) Low and or degraded grid voltage (SER, SSER #3 Section 8.3.1.2).
- B(20) Use of regulating-type transformer as isolation device (Closed SSER #3).
- B(21) Isolation of control room and remote circuits (SER and SSER #3 Section 8.3.1.6).
- B(22) Sequencing of loads on the offsite power system (SER and SSER #3 Section 8.2.2.3).
- B(23) Submerged electrical equipment (Closed SSER #3).
- B(24) Separation between redundant safety-related cables inside control panels (Closed SSER #3).
- B(25) Compliance with position 1 of Regulatory Guide 1.63 (SER Section 8.3.3.6).
- B(26) Monitoring of rocker arm lube oil system temperature for diesel generators (Closed SSER #4).
- B(27) Reactor coolant pump locked rotor accident (Closed SSER #1).

B(28) TMI Action Plan (SER Section 22)

- II.D.1 Performance testing of BWR and PWR relief and safety valves (SER and SSER #3).
- II.E.1.1 Recommendation GS-2, physical locking of isolation valve. (Closed SSER #4).
- II.E.4.2 Containment isolation dependability (Closed SSER #4).
- II.F.1 Additional accident monitoring instrumentation Attachments 1, 2, and 3 (Attachment 3 Closed SSER #2, Attachments 1 and 2 Closed SSER #4).
- II.K.2.13 Thermal Mechanical Report--Effect of High-Pressure Injection on Vessel Integrity for Small-Break LOCA With No Auxiliary Feedwater (Closed SSER #2).
- II.K.3.2 Report on overall safety effect of PORV isolation system (Closed SSER #2).
- II.K.3.11 Justification of use of certain PORVs (Closed SSER #4).
- III.D.1.1 Integrity of systems outside containment likely to contain radioactive material.

B(29) Test of engineered safeguards P-4 interlock (Closed SSER #4).

B(30) Automatic indication of block of signals initiating auxiliary feedwater following trip of main feedwater pumps (Closed SSER #4).

B(31) Actuation of valve component level windows on the bypassed and inoperable status panel (Closed SSER #4).

B(32) Post accident monitoring (SSER #2 Section 7.5.2.3.1).

B(33) Indicators, alarms, and test features provided for instrumentation used for safety functions (Closed SSER #4).

B(34) Interlocks for reactor coolant system pressure control during low-temperature operative (Closed SSER #4)

B(35) Capacity and capability of offsite circuits (SSER #3 Sections 8.2.2.1).

1.9 License Conditions

The following is an update of each of the license conditions described in Section 1.9 of the SER. License Condition B(18) has been removed based on a review of Revision 12 to the SNUPPS FSAR.

JUN 22 1983

Jacket Nos.: STN 50-454
and STN 50-455

MEMORANDUM FOR: R. Spessard, Director, Division of Engineering, Region III
FROM: D. G. Eisenhut, Director, Division of Licensing, NRR
SUBJECT: REGION III CONFIRMATION OF BYRON SER ITEMS

The Byron Safety Evaluation Report (SER), NUREG-0876, and Supplements 1 and 2, contain many items which need to be confirmed by Region III prior to fuel load. Enclosure 1 lists those items for which the SER explicitly requires confirmation. We have not included the following items:

Pre-Operational Tests - Monitoring pre-op tests is a usual Region III responsibility.

Fire Protection (Section 9.5) - NRR will confirm most of the items during its site audit scheduled for July 1983. After the audit we will notify you of any items that need Region III confirmation.

Emergency Preparedness (Appendix D) - Confirmation of emergency preparedness items are already being done by Region III.

Industrial Security (Section 13.6) - Confirmation will be done by Office of Nuclear Material Safety and Safeguards.

Enclosure 1 has been developed to assist you identify specific items of confirmation.

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
As stated

OFFICE	DL:LE#1	DL:LE#1	DL:AD/LX	DL:DIR		
TURNAM	Colshar, 10	BJ Youngblood	TM Novak	DG Eisenhut		
DATE	06/20/83	06/21/83	06/21/83	06/21/83		

ENCLOSURE 1

BYRON SER ITEMS FOR IE VERIFICATION

<u>Section</u>	<u>Page</u>	<u>Item</u>
2.2.2	2-9	Relocation of training route SR 774
6.2.2	6-14	Outer screen added in recirculation sump
6.2.4	6-17	Class IE emergency power to remote-manual isolation valves on reactor coolant pump seal water injection lines
	6-18	New valves on hydrogen recombiner lines
	6-19	New valves on chilled water return lines
	6-20	Upgrade essential service water system lines to and from containment fan coolers to Quality Group B, Debris screen added to miniflow purge system supply duct
6.2.5	6-22	Class IE power supply to hydrogen recombiners
6.3.4.1	6-32	Confirmatory test for sump design
7.3.2.2	7-14	Compliance with IE Bulletin 80-6

OFFICE							
SURNAME							
DATE							

JUL 19 1984

MEMORANDUM FOR: Jack W. Roe, Deputy Executive Director
for Operations

FROM: Edwin G. Triner, Director
Division of Budget and Analysis
Office of Resource Management

SUBJECT: FY 1986 BUDGET - CHAIRMAN'S RECOMMENDATION

Attached are the POD and POS reports you requested that contain the
FY 1985, FY 1986, and FY 1987 Budget showing the Chairman's recommendation.

Original Signed by
Lester J. Schaub
Edwin G. Triner, Director
Division of Budget and Analysis
Office of Resource Management

Attachments:
As stated

cc: L. Barry, RM
R. Scroggins, RM

bcc: E. Triner, RM/B
R. Shumway, RM/B
L. Schaub, RM/BOS
N. Monaco, RM/BP;
R. Sanetrik, RM/BOS
A. Turovlin, RM/BOS
P. Gorham, RM/BOS
L. Donnelly, RM/BR
RM/B R/F (5)
RM/BOS R/F
RM/BOS S/F: FY 1986 Budget - Chairman's Recommendation

RM/BOS	RM/BOS	RM/B	RM/B		
Gorham	Schaub	Shumway	Triner		

U.S. NUCLEAR REGULATORY COMMISSION
FY 1986-1987 INTERIM REVIEW - PROGRAM/STAFF SURVEY
PROGRAM SURVEY AND STAFF TRENDS
(Dollars in thousands, Staff Years in Full-Time Equivalents)

Schedule 1
Page 1
Date Prepared: 2/1/88
Print: 11/11/87

Program 180

DECISION UNITS	FY1984 ESTIMATE		FY1985 COM. REC'D.		FY1986 REQUEST		FY1986 COM. REC'D.		FY1987 REQUEST		FY1987 COM. REC'D.		FY1987 FTE		FY1987 FTE	
	0	FTE	0	FTE	0	FTE	0	FTE	0	FTE	0	FTE	0	FTE	0	FTE
10 OPERATING REACTORS																
HEADWRITERS	11,343	264	11,059	290	15,732	349	17,460	341	15,736	393	17,120	375	0	0	0	0
REGIONS	50	27	65	24	66	25	70	25	68	28	70	28	0	0	0	0
TOTAL	11,393	291	11,124	314	15,798	375	17,530	366	15,804	421	17,190	403	0	0	0	0
20 SYSTEMS OF CIV. ENCL. OF OPERAT. REACTOR																
HEADWRITERS	255	15	1,000	17	2,350	18	2,350	18	6,227	45	5,000	39	0	0	0	0
REGIONS	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
TOTAL	255	15	1,000	17	2,350	19	2,350	18	6,227	46	5,000	40	0	0	0	0
30 OPERATOR LICENSING																
HEADWRITERS	3,400	8	3,491	14	3,275	14	3,200	14	2,475	14	2,400	14	0	0	0	0
REGIONS	0	37	0	43	0	62	0	59	0	67	0	67	0	0	0	0
TOTAL	3,400	46	3,491	58	3,275	76	3,200	73	2,475	81	2,400	81	0	0	0	0
40 CANDIDATE																
HEADWRITERS	12,653	191	8,039	155	3,923	123	6,330	124	2,275	79	2,800	78	0	0	0	0
50 SAFETY TECHNOLOGY																
HEADWRITERS	12,719	122	10,651	121	17,593	168	14,960	148	15,198	150	13,200	139	0	0	0	0
60 TMI-2 CLEANUP																
HEADWRITERS	334	13	350	13	350	13	350	13	350	13	350	13	0	0	0	0
70 PWS																
HEADWRITERS	0	29	0	29	0	29	0	29	0	29	0	29	0	0	0	0
REGIONS	0	11	0	11	0	11	0	11	0	11	0	11	0	0	0	0
TOTAL	0	40	0	40	0	40	0	40	0	40	0	40	0	0	0	0
PROGRAM TOTAL	40,904	642	35,390	639	43,233	715	44,720	687	42,701	723	41,030	687	0	0	0	0
REGIONS	50	76	65	78	66	98	70	95	68	107	70	107	0	0	0	0
TOTAL	40,954	718	35,455	717	43,299	813	44,800	782	42,349	830	41,100	794	0	0	0	0