UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

April 5, 1996

MEMORANDUM TO: Stewart D. Ebneter, Regional Administrator

FROM: Jon R. Johnson, Differing Professional View Panel, Chairman

SUBJECT: RESULTS OF DIFFERING PROFESSIONAL VIEW PANEL APPOINTED TO REVIEW "LESSONS LEARNED FROM CRYSTAL RIVER EVOLUTION"

This memorandum forwards a Differing Professional View (DPV) Panel Evaluation Report (Attachment 1) which responds to your March 8, 1996, memo appointing Messrs. Crienjak, Verrelli and me to conduct a review of concerns submitted by Mr. C. Rapp to Mr. A. Gibson by memorandum dated February 5, 1996.

Panel

This Panel was established and conducted its activities in accordance with Regional Office Instruction No. 2304, Rev. 1, July 11, 1996, and Management Directive 10.159, Revised August 29, 1991. The panel also followed recent guidance in the EDO's September 1, 1995 Announcement by actively involving Mr. Rapp in the Panel's activities. An overview of the Panel's activities is described in Attachment 6.

Method of Review and Evaluation

The Panel met and discussed the concerns submitted by Mr. Rapp to more fully explore his concerns and get assurance that we understood his concerns. The Panel then determined, with Mr. Rapp's assistance, those key staff members needing to be interviewed, and those documents needing to be reviewed.

The Panel scheduled and conducted five formal interviews of staff members and two separate interviews of Mr. Rapp. Documents reviewed included investigation transcripts, records of Region II enforcement panel minutes, inspection reports issued, various lessons learned reports on the Chernobyl accident, and several NRC policy documents. Several of these are also listed in Attachment 5.

The Panel decided that it should not interview licensee personnel. First, it would not be appropriate since several investigations had been conducted with transcripts available. Secondly, several inspections have already been conducted to fully explore the technical aspects of the issues. And finally, because of the ongoing parallel enforcement process including the enforcement conferences with Florida Power Corporation (FPC) and six individual operators it would be disruptive.

Additional Issue

During the review process, the panel was informed by Mr. Rapp that he disagreed with apparent procedural violations being proposed against individual operators at Crystal River, and had not concurred with the Inspection Report (IR 95-22). Since this concern was related to the upcoming predecisional enforcement

conference the Panel Chairman referred this separate issue directly to the Director, of the Division of Reactor Safety so that it could be fully explored prior to concluding the enforcement process.

Evaluation Report

The report that follows (Attachment 1) is formatted with a re-statement of the concern, followed by a discussion, and finally a conclusion. A recommendation is included where the Panel deemed appropriate.

Conclusions

The Panel determined early in the review that Mr. Rapp's concerns were sincere and that the five summary statements were, for the most part, generally good guidance, these were:

(1) Inspect first, then investigate
(2) Refrain from making inappropriate comparisons
(3) Don't surprise the licensee
(4) Include all knowledgeable persons in the enforcement process, and
(5) Don't single out an individual

The Panel further concluded however, that the underlying basis for these five concerns was not supported by the details provided nor by information reviewed by the Panel.

Recommendations

The Panel recommends that Enforcement panel decisions be documented similar to Allegation panels with consensus decisions, assigned action and schedules.

Attachments: (See Page 3)

Attachments:
1. DPV Panel Evaluation Report
2. Memo from Mr. C. Rapp to Mr. A. Gibson dated February 5, 1996
2.a Memo from L. Reyes to J. Johnson dated February 29, 1996
3. Memo from Mr. C. Rapp to Mr. J. Johnson dated March 4, 1996 nominating staff for the Panel
4. Memo from Mr. S. Ebneter to Differing Professional View Panel dated March 8, 1996
5. List of Documents Reviewed
6. DPV Panel Activities
7. Note from J. Johnson to A. Gibson dated March 11, 1996
8. Memorandum from Mr. E. Merschoff to C. Rapp dated August 9, 1995
9. Memorandum from Mr. A. Gibson to C. Rapp dated March 12, 1996
10. Memorandum from Mr. C. Rapp to A. Gibson dated March 20, 1996
11. Newspaper Article from St. Petersburg Times, March 14, 1996

cc w/atts: L. Reyes

DIFFERING PROFESSIONAL REVIEW

PANEL EVALUATION REPORT

J. Johnson

R. Crlenjak

D. Verrelli

ATTACHMENT 1

Concern #1: Inspect First, Then Investigate:

It was apparent from the interviews with the operators that substantial technical and managerial issues were involved. While I was sent with OI to resolve any technical matters, it would not have been appropriate to explore technical details during the OI interviews. This resulted in developing an incomplete understanding of the technical development of Curve 8.

Also, the September 4th evolution would have been discovered during an inspection. Engineering knew of this additional evolution because of the REDAS data they obtained to address the problem report written as a result of September 5th. During routine inspection follow-up with engineering, the REDAS data would have been reviewed. Also, operator logs would have been reviewed in greater detail. Both these records clearly showed the evolutions of September 4th and 5th.

Also, a complete understanding of the technical issues would have better assisted OI in making the determination if procedures were willfully violated. This was extremely important for the September 4th event.

Discussion:

The concept of inspecting before investigating is generally good guidance. The scope and depth of inspection in cases of potential wrongdoing is determined on a case specific basis. Agency guidance is set forth in the NRC Enforcement Manual, Section 7.5.1.2.

In the Crystal River case, an OI investigation was initiated at a November 21, 1994, Enforcement Panel whereat the Resident Inspectors proposed two violations for an event that occurred on September 5, 1994. Inspections had been conducted before the investigation was initiated and formed the basis for the Enforcement Panel. Inspection by the Residents continued exercising caution to avoid compromising the OI investigation of wrongdoing. Inspections documented in Inspection Reports (IRs) 94-22; 94-25; 94-27; 95-02; 95-07; 95-08 were conducted prior to the issuance of the OI Investigation Report 2-94-036 and the Special Inspection Report 95-13 which identified apparent violations being considered for escalated enforcement.

During interviews with C. Rapp he stated that he had received verbal instructions from a manager to assist OI on a trip to Crystal River to resolve any technical issue. He did not review pertinent background material (resident reports or panel documents) or discuss the issue with the residents before accompanying OI to the site.

Conclusion:

From the above, it is concluded that inspection was conducted before the investigation and that the Agency's guidance for Cases Not Requiring Immediate Action was followed.

Recommendation: None

ATTACHMENT

Concern #2: Refrain From Making Inappropriate Comparisons:

The comparison of these evolutions to Chernobyl substantially reduced the credibility of NRC inspectors to make technical evaluations. While licensee management may have understood this comparison was made to emphasize the magnitude of this situation; the working level viewed this comparison as typical of unknowledgeable NRC personnel. It is already difficult to gain even a small measure of technical credibility without having to "live down" such comparisons.

Discussion:

The Panel interviewed several NRC staff members, and reviewed several documents. It is clear that references to Chernobyl were made when discussing aspects of the Crystal River Makeup Tank event. As an example, see newspaper article, Attachment 11. The Panel also questioned Mr. Rapp several times to determine in more detail the essence of his concern. Mr. Rapp said that basically his job of inspecting the technical aspects of this event was made more difficult because of the comparison.

The Panel also learned that the Crystal River engineering and operations staff were probably as much bothered by FPC management's continuing comparisons to Chernobyl as they were of NRC's.

The Panel evaluated the appropriateness (accuracy as well as benefits and detriments) of making this comparison. While it is certainly obvious to all that there were absolutely no similarities in consequences between the Crystal River MUT event (no resulting plant transient) and Chernobyl (31 deaths), there were several similarities in the deficient administrative controls and safety reviews. Certain of these similarities are shown in the following table, and relate to a test that operators believed would help explain how part of the plant worked, but involved inadequate safety reviews and administrative controls.

NRC staff interviewed by the NRC Panel understood that the analogy was used in order to get the attention of FPC management and convey the message of the potential which exists for procedural violations to act as precursors to more serious events. Several staff members said that all comparisons or analogies should be accompanied by qualifications and perspective. The Panel determined that this was done essentially by the discussion that the Chernobyl accident began by an "unauthorized test."

The Panel recognizes that following an adverse event or personnel integrity issue it may be difficult to conduct an investigation or inspection. It is not unusual for licensee staff to be either defensive or reluctant to volunteer certain errors or wrongdoing. The Panel determined from the two investigators that the reference to Chernobyl did not impact their investigations. Furthermore, the Panel believes that, although some FPC staff may feel that the NRC was over reacting, the overall inspection effort was not significantly impacted by the comparison.

COMPARISON OF CERTAIN ADMINISTRATIVE FACTORS
REGARDING THE CHERNOBYL ACCIDENT AND THE
CRYSTAL RIVER "MAKEUP TANK EVENT"

Chernobyl	Crystal River
• Test was performed to demonstrate the electric power versus time relationship following a loss of power.	• Test was performed to demonstrate the pressure versus level relationship in a tank.
• Test was not evaluated or approved by the RBMK design group for safety.	• Test was not evaluated nor approved by the plant safety review committee.
• Operators allowed the plant to operate with unapproved ECCS and RPS conditions.	• Operators allowed the plant to be operated in an unacceptable region of a plant curve.
• Test was initiated on mid-shift, continued and went out of control on the next mid-shift.	• Test was conducted on mid-shift without day shift support personnel.
• Shift supervisor never admitted guilt.	• Shift supervisor feels that he was doing the correct thing.
• Operators felt a sense of urgency.	• Operators were concerned that engineers would soon issue a report "closing" out their concern.
• Operators and management exhibited an insufficient understanding of the reactor design and potential behavior.	• Operators and management did not understand fully the design basis of the MUT curve and NPSH design for the charging pumps.

The fact that the Crystal River Makeup Tank event has serious generic implications is underscored by the inclusion of it as an example in the INPO utility CEO conference (INPO President's) keynote report to the Industry about Control Room Activities.

Conclusion:

The DPV Panel agrees with Mr. Rapp that we should refrain from making inappropriate comparisons. However, the Panel also concluded that in this case, it was, and is, appropriate to make certain comparisons to Chernobyl.

A recent Nuclear Energy Agency report, "Chernobyl, Ten Years On...," November 1995, Organization for Economic Cooperation and Development, France, describes Chernobyl as a test carried out without a proper exchange of information and coordination between the team in charge of the test and the personnel in charge of the operation and safety of the reactor. This is also the essence of the Crystal River Makeup Tank event and the reason why the Panel believes that this was an appropriate comparison.

Recommendations: None

Concern #3: Don't surprise the licensee

1) Evidently, the regulatory "good practice" of open and honest communications was not followed in this instance. 2) The licensee was not aware that the NRC was interested in these evolutions until NRC senior management questioned the licensee at a meeting to discuss corrective actions to setpoint issues. This particularly surprised the licensee because they had kept the senior resident informed of their response to the operators' actions. 3) It is evident that the licensee took stronger action than originally planned directly due to NRC senior managements' interest.

Discussion:

1) The individuals interviewed by this Panel generally felt that it is appropriate under special circumstances (such as recent 50.72's) for NRC managers in charge of a meeting to introduce information in a meeting with the licensee that may not be specific to the meeting agenda. This is appropriate provided the information is significant and relative to the licensee's operations such that licensee management should be informed at a level which would permit discussion. The licensee can and should decline to comment if they were not informed or prepared. Additionally, it should be noted that the licensee and the resident inspectors did maintain an ongoing dialog concerning the September 5 event and the actions being taken by both the NRC and the licensee.

2) The transcripts of OI's interviews with licensee management concerning the subject events revealed that, although there was an element of surprise regarding the issue being raised in one meeting (Nov 22nd), their surprise was with the level of concern to which the matter had risen within the senior management ranks of the NRC and not the subject matter.

3) The transcripts did not reveal that the licensee took additional actions relative to the involved individuals after realizing the level of NRC concern. However, it is possible that licensee management, after considering the level of NRC concern, reassessed their views of the involved operators' actions and the significance of the event and took different (stronger) actions.

Conclusion:

The Panel agrees that the licensee should not be surprised by questions asked about information that is not pertinent or that is of minor significance. However, for significant matters, it is not inappropriate for NRC managers in charge of a meeting to enter into discussion on new topics (example, recent 50.72's) that are significant. The significance should be at a level that licensee senior management would have been informed to the point that they could discuss the subject issues. For this issue there was an ongoing information exchange between the resident inspectors and the licensee. Finally, it can be argued that introducing this matter during the meeting was in keeping with the Principles of Good Regulation - Openness; Nuclear regulation... must be transacted publicly and candidly.

NRC managers should not expect licensee management to guess or otherwise address a question unless they are knowledgeable and are prepared to answer the question. As an example, licensee managers are routinely cautioned at predecisional enforcement conferences not to feel pressured to answer a question unless they are prepared to, and in those cases they can respond to the NRC at a later time.

Recommendation: None.

Concern #4: Include all knowledgeable persons in the enforcement process:

Even though I had participated in the interviews and reviewed the procedures involved, I was excluded from the enforcement process. I was not included in developing the proposed violations and was only peripherally involved with the enforcement panel via conference call. My involvement earlier would have highlighted the recurring technical and managerial issues and the need for a detailed inspection.

Discussion:

Senior Regional managers routinely remind the staff of their responsibility to raise potential safety issues to the appropriate level of management. The discussion in ROI No. 0912 states the intent of the Escalated Enforcement Process" is to collect and evaluate all available information pertinent to an escalated enforcement case at an early stage..."

Based on interviews with C. Rapp and others involved in the Crystal River case, a review of the Enforcement and Investigation Coordinator Staff (EICS) case file, and memoranda from C. Rapp to Region II managers, it is apparent that C. Rapp was involved in the enforcement process by attending nine meetings during the period July 6, 1995, to January 26, 1996.

It was at these meetings that C. Rapp expressed his professional objection to the proposed procedural violations for the Crystal River operators (see Memo to A. F. Gibson from Curtis Rapp, dated March 20, 1996, Attachment 10).

The panel determined that Mr. Rapp was not included in the task of initially drafting the proposed violations in the July 1995 time period. The DRP Project Engineer (R. Schin) drafted the NOVs for the licensee, and the DRS Operator Examiner (R. Aiello) drafted the NOV for the operators based on the consensus of the enforcement panel. This task is the administrative portion of the enforcement process. During that time period C. Rapp was tasked to review the OI interview transcripts to identify any other safety issues that may need to be addressed. This was a related and important task.

By memorandum dated August 9, 1995, Mr. Merschoff advised C. Rapp that "It is important to me that your knowledge in this case and the issues at hand be fully explored during the decision making process of the case". Thus, it is indicated that Regional management invited C. Rapp's participation in the enforcement process.

The EICS case files contained numerous documents of the Panel meetings including staff's proposed actions, personal notes and other reference material. However, there was no summary of the consensus decisions of the Panel and the assignments for future actions. Thus staff members conceivably could have different opinions of the results of each deliberation.

Conclusion:

From the above it is concluded that Mr. Rapp was involved appropriately in the enforcement process by being able to provide his professional opinion but was not involved in the task of drafting proposed NOVs. He was involved in the review of the NOVs. His non-concurrence that procedural violations occurred was considered by management, and he was involved in NRC meetings and discussions in preparation for the enforcement conferences.

Recommendation:

1) The Panel recommends no further action regarding Mr. Rapp's complaint about participation in the process.

2) During this review of case files an additional issue was raised by the panel. The Panel recommends, as an enhancement, that EICS document the results of an Enforcement Panel similar to that being done for Allegation Review Boards. This should include a summary of consensus decisions, follow-up actions, assigned responsibilities and schedule.

Concern #5: Don't single out an individual

1) During the OI interviews with licensee management, the licensee stated they scrutinized the shift supervisors' action more closely due to NRC senior managers' concern on another matter. This other matter involved supposedly signing off post-maintenance tests as complete before components were going to be tested as part of refueling outage testing and he was following industry standard practice. 2) By singling out this individual, licensee management took a more aggressive position than if the issue had been dealt with generically.

Discussion:

1) The individuals interviewed by this Panel did not have a problem with NRC management raising concerns relative to the involved shift supervisor's past performance. NRC management became aware of previous problems with this particular shift supervisor. These problems, previously identified in NRC inspections, had revealed certification/validation errors committed by this shift supervisor. Whether the licensee scrutinized the shift supervisors's actions more closely because of NRC management concerns was not revealed in the transcripts reviewed. However, it is possible that the licensee did review the individual's performance more closely because of the NRC management comments.

   Review of the transcripts did reveal that the licensee elected to remove the involved shift supervisor from shift when NRC announced that an OI investigation would be conducted. The licensee's reason for removal of the shift supervisor was to allow him the necessary time to prepare for the investigation and to limit the distractions placed upon the individual.

2) Whether the licensee took a more aggressive action in regard to the shift supervisor's actions because of comments made by NRC management on the individual was not revealed in the transcripts reviewed. Predecisional enforcement conferences were scheduled for six individuals on a crew, not a single individual.

Conclusion:

It is appropriate for NRC managers to carefully raise concerns relative to a licensed operator's current performance based on previous concerns with the individual, providing the facts relative to previous performance are known and pertinent. It is likely that NRC's comments were made with the intent that the licensee review the shift supervisor's actions more closely because of his past performance. An individual was not singled out; predecisional enforcement conferences were scheduled with six individuals.

Recommendation: None

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February 5, 1996

MEMORANDUM FOR: Albert F. Gibson, Director
Division of Reactor Safety

Paul E. Fredrickson, Chief
Special Inspections Branch
Division of Reactor Safety

FROM: Curtis W. Rapp, Reactor Engineer
Special Inspections Branch
Division of Reactor Safety

SUBJECT: LESSONS LEARNED FROM CRYSTAL RIVER UNAUTHORIZED EVOLUTION

Now that the issues arising from the events of September 4 and 5, 1994 at Crystal River are finally being brought to closure, I feel that several important lessons should be considered when any such future actions are again taken.

Lesson 1: Inspect first, then investigate

It was apparent from the interviews with the operators that substantial technical and managerial issues were involved. While I was sent with OI to resolve any technical matters, it would not have been appropriate to explore technical details during the OI interviews. This resulted in developing an incomplete understanding of the technical development of Curve 8.

Also, the September 4th evolution would have been discovered during an inspection. Engineering knew of this additional evolution because of the REDAS data they obtained to address the problem report written as a result of September 5th. During routine inspection follow-up with engineering, the REDAS data would have been reviewed. Also, operator logs would have been reviewed in greater detail. Both of these records clearly showed the evolutions of September 4th and 5th.

Also, a complete understanding the technical issues would have better assisted OI in making the determination if procedures were willfully violated. This was extremely important for the September 4th event.

Lesson 2: Refrain from making inappropriate comparisons

The comparison of these evolutions to Chernobyl substantially reduced the credibility of NRC inspectors to make technical evaluations. While licensee management may have understood this comparison was made to emphasis the magnitude of this situation; the working level viewed this comparison as typical of unknowledgeable NRC personnel. It is already difficult to gain even a small measure of technical credibility without having to "live down" such comparisons.

ATTACHMENT 2

Lesson 3: Don't surprise the licensee

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Lesson 4: Include all knowledgeable persons in the enforcement process

Even though I had participated in the interviews and reviewed the procedures involved, I was excluded from the enforcement process. I was not included in developing the proposed violations and was only peripherally involved with the enforcement panel via conference call. My involvement earlier would have highlighted the recurring technical and managerial issues and the need for a detailed inspection.

Lesson 5: Don't single out an individual

During the OI interviews with licensee management, the licensee stated they scrutinized the shift supervisors' action more closely due to a NRC senior managers' concern on another matter. This other matter involved supposedly signing off post-maintenance tests as complete before they had been conducted. The shift supervisor knew that the components were going to be tested as part of refueling outage testing and he was following industry standard practice. By singling out this individual, licensee management took a more aggressive position than if the issue had been dealt with generically.

Including these lessons learned will result in a more balanced and equitable approach to similar matters that may arise in the future.

cc: K. Landis
W. McNulty
J. Vorse
J. Dockery
File