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SUBJECT: Discusses response to Exam Rept concerns re three deficiencies of NRC administered initial licensing exams to eight Supply Sys reactor operator.

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June 12, 1991
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Docket No. 50-397

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: **NUCLEAR PLANT NO. 2 OPERATING LICENSE NO. NPF-21 RESPONSE TO EXAMINATION REPORT CONCERNS**

References:
1) Letter, R. P. Zimmerman (NRC) to A. Lee Oxsen (Supply System), Examination Report, dated May 16, 1991.

2) Letter, G. D. Bouchey (Supply System) to Document Control Desk (NRC), Response to Notice of Violation, Inspection Report 90-09, dated May 29, 1990.

3) Letter, R. P. Zimmerman (NRC) to G. C. Sorensen (Supply System), Inspection Report 90-09, Notice of Violation 90-09-01, dated July 23, 1990.

Reference 1 identified three deficiencies of particular concern to the NRC as a result of NRC administered initial licensing exams to eight Supply System reactor operator candidates and requested that the Supply System respond to these concerns. The three concerns were:

(1) During the simulator test, the surrogate senior reactor operator (SRO) misdirected three different applicant teams in a scenario involving the RPV flooding emergency procedure, PPM 5.1.4.

(2) None of the applicants involved in the above scenario questioned the erroneous direction that they received. These individuals also exhibited a weak understanding of RPV level instrumentation response.

(3) The examiners found that there are still no event mitigation procedures that address a slow depressurization of the RPV due to a BOP malfunction.

IE22

RESPONSE TO EXAMINATION REPORT CONCERNS

The Supply System's response to these concerns follows:

Actions to resolve the first concern are presently being implemented as a result of the "Licensed Operator Requalification Training Program Corrective Action Plan" which was developed to deal with the specifics of our March 1991 requalification exam failures. Elements of the corrective action plan which specifically address this concern are:

R4-2 Develop and implement dynamic simulator training that will heighten the level of intensity for crew training sessions.

C4-2 Conduct additional emergency operating procedure (EOP) training (including bases).

Y4-4 Conduct additional classroom and simulator training for control room operators (CROs) on the EOPs (including bases).

R27-2 Ensure that simulator instructors enforce proper communications, event diagnosis, command and control and procedural compliance in training and evaluation scenarios.

C5-4 Train the crews on management expectations for EOP usage.

The eight recently licensed reactor operators will be provided with this training as part of their requalification training programs prior to September 1991.

Specifically concerning the surrogate senior reactor operator involved with giving the misdirection, he was not allowed to assume licensed operator duties again until April 12, 1991, following remedial instruction.

The second deficiency deals with an exhibited lack of understanding of RPV level instrumentation response in degraded operating conditions. The concern stems from two separate data points:

(1) None of the candidates questioned erroneous direction that they received. To remedy this, the next replacement operator class will contain a communications course that emphasizes the need for complete two-way communication. This communications course will utilize the simulator and other instructional aides including video tapes for playback and class critique. Also, crew communications will be reinforced during simulator scenarios with some intentional misdirection given to test for questions from the students.

(2) Most of the candidates exhibited integrated systems knowledge weaknesses in the area of RPV level instrumentation. This will be corrected by developing a components course

> to be taught during fundamentals. This course will cover differential pressure cells as a major part of a total sensor/detector component course. Also, the simulator scenarios will be strengthened to include various types of failures of level instrumentation to show the candidates the range of responses to expect.

The eight recently licensed reactor operators, as well as all other licensed operators, will receive a similar course on differential pressure cells during classroom instruction offered in the next requalification training cycle.

Concerning the third deficiency, the Supply System responded to a similar concern noted in NRC Inspection Report 90-09 by Reference 2. Appendix A of Reference 2 noted that plant design features, combined with the symptomatic-based emergency operating procedures, provided the necessary guidance for slow RPV depressurizations due to BOP malfunctions. In addition, event-specific procedural guidance was provided in a new procedure, PPM 4.2.1.14, "Inadvertent RPV Depressurization," which was implemented on February 15, 1990. In Reference 3, the NRC acknowledged PPM 4.2.1.14 and noted that "further reply regarding this issue from the licensee is not necessary." The Supply System considers PPM 4.2.1.14 to resolve this concern.

In addition to the three deficiencies that were noted to be of particular concern, Reference 1 contained observations about operating procedures and training weaknesses as follows:

Observation a., Page 3 stated:

> "Apparently, there were no coordinating support procedures to identify the optimal systems alignment for core heat removal at very low power levels, or decay heat removal during shutdown. For example: The RHR system would be aligned with one or two divisions in shutdown cooling (with a given heat exchanger loading), depending on the existing core decay heat load (time at power) and the desired time to achieve a given temperature/pressure. These types of alignment decisions appear to be left up to the Shift Manager, on any given crew. It was not clear to the examiners how the licensee ensures consistent optimum system alignment."

Plant operating procedures currently provide specific guidance about the optimum configuration of shutdown cooling. The following excerpts from the operating procedures are provided for information.

RESPONSE TO EXAMINATION REPORT CONCERNS

1) PPM 3.2.1, Normal Shutdown to Cold Shutdown, Page 22, Step 3, states: "When RPV pressure has decreased below 48 psig (or RPV coolant temperature is below 295°), align and warm RHR Loop B for shutdown cooling. Use Loop A only if Loop B is not operable (PPM 2.4.2)."

   PPM 3.2.1 specifically directs the operator to align and warm RHR Loop B as the optimal loop. The reasons for aligning Loop B versus Loop A is that Loop B allows use of head spray (PPM 2.4.2, Section 6.12). In addition, training emphasizes the desirability of Loop B versus Loop A due to the presence of valves operated from the control room that can discharge to Radwaste (Loop A has manual valves for discharge to Radwaste).

2) PPM 2.4.2, Residual Heat Removal System, Page 6, Limitation #5.17 states: "Do not place more than one RHR loop in shutdown cooling at a time unless the full cooling capacity of one RHR loop will not maintain the desired cool down rate."

   PPM 2.4.2, Residual Heat Removal System, Page 31, Section 6.12, Shutdown Cooling Loop A, states: "NOTE: When possible, use RHR Loop B shutdown cooling to enable operation of head spray."

   PPM 2.4.2, Residual Heat Removal System, Page 39, Section 6.13, Step 26 states: "When decay heat load drops below the minimum cooling configuration of Step 23 above, CLOSE RHR-V-3B (heat exchanger B outlet valve) and open RHR-V-48B to maintain desired flow."

   The above noted excerpts from PPM 2.4.2 demonstrate that it is normal system operating practice to use one or two divisions in shutdown cooling with head spray or bypass flow, as required, to achieve the desired cool down rate depending upon the existing core decay heat load.

3) The Supply System acknowledges that our procedures allow the operating crew, in particular the Shift Manager, the latitude to adapt to unanticipated or unusual circumstances in the operation of shutdown cooling. We believe that modifying our procedures to negate this ability to adapt would adversely impact safe and efficient operation.

As described above, the procedural guidance given to the operators is quite specific about the optimum configuration of shutdown cooling.

RESPONSE TO EXAMINATION REPORT CONCERNS

Two additional observations were noted in Reference 1, Enclosure 1, Page 3, concerning operating procedures:

(1) Observation b noted that there was confusion on the part of all of the operator candidates regarding PPM 2.5.7 and the apparent conflict between a CAUTION statement and a direction statement that immediately followed. PPM 2.5.7 has been revised to eliminate the potential for confusion.

(2) Observation c noted a difference between field meter labeling and PPM 2.3.1.5.3. PPM 2.3.1.5.3 has been changed to agree with the field labeling.

Four additional generic training weaknesses were noted in Reference 1, Enclosure 1, Pages 3 and 4. These weaknesses stemmed from a lack of knowledge about administrative radiation protection procedures, technical specifications, and FAZ trip recovery. These weaknesses have been noted and will be emphasized in classroom and simulator requalification training and in future initial license training.

If there are any questions or should you require additional information please feel free to contact me.

Very truly yours,

G. C. Sorensen, Manager
Regulatory Programs (280)

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