Omaha Public Power District

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May 5, 1982
LIC-82-189

Mr. Robert A. Clark, Chief
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Licensing
Operating Reactors Branch No. 3
Washington, D.C. 20555

Reference: Docket No. 50-285

Dear Mr. Clark:

The Commission's letter dated March 31, 1982 requested the Omaha Public Power District provide additional information regarding the content and implementation of NUREG-0737, Items I.A.2.1 and II.B.4, at the Fort Calhoun Station. The District's response is attached.

Sincerely,

W. C. Jones
Division Manager
Production Operations

Attachment

cc: LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N.W.
Washington, D.C. 20036

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Question 1

The Training Program for Licensing Senior Reactor Operator Candidates has lectures which have the potential for covering the subjects of heat transfer, fluid flow and thermodynamics as called out in enclosure 1 of Denton's March 28, 1980 letter. Do these lectures in fact cover this material and is the coverage at the level of detail specified in enclosure 2 of the Denton letter?

Response

The upgraded Senior Reactor Operator training program at the Fort Calhoun Station does include the subjects of heat transfer, fluid flow, and thermodynamics. The District has reviewed the content of the lectures for these subjects and believes the lectures sufficiently address the heat transfer, fluid flow, and thermodynamics topics as detailed in Enclosure 2 to the Commission's March 28, 1980 letter.

Question 2

The Training Program for Licensing Senior Reactor Operator Candidates also has a lecture which appears to have the potential for addressing the subject of using installed plant systems to control or mitigate an accident in which the core is severely damaged. This requirement is called out in enclosure 1 of Denton's letter. Does the training program address the topic at the level of detail spelled out in enclosure 3 of Denton's letter?

Response

The Senior Reactor Operator training program includes preplanned lectures on the topics addressed in Enclosure 3 of the Commission's March 28, 1980 letter. In addition, the program includes review and discussion of the Fort Calhoun Station emergency procedures, of past plant trip transients, and of operator actions that were required to mitigate the transient (e.g., loss of offsite power, steam generator overfeed/heat extraction and load rejection). Operator training is also conducted on upgraded or new systems that are installed as a result of NUREG-0737 requirements.

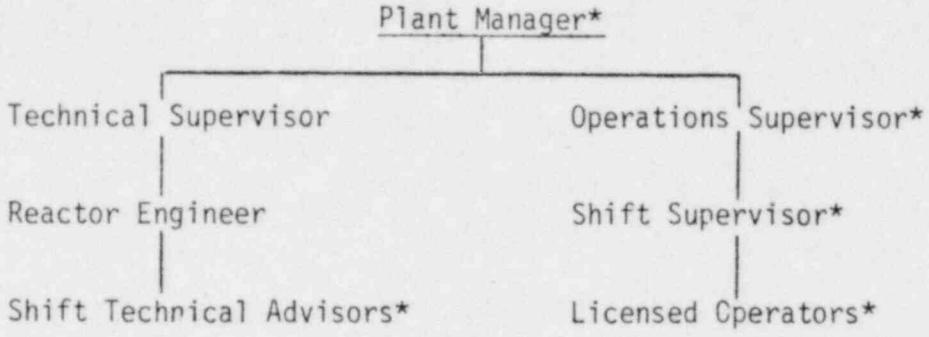
Question 3

Are the lectures and quizzes on the subject of accident mitigation given to shift technical advisors and operating personnel from the plant manager through the operating chain to the licensed operators? If they are, would you please provide the titles of the people who are trained and an organization chart which illustrates their position in the operations chain?

Response

Training on accident mitigation is given to the Shift Technical Advisors and Plant Manager through the operations chain, as identified by the organizational chart below:

Response (Continued)



*These personnel receive training on accident mitigation, as detailed in Denton's March 28, 1980 letter.

The Shift Technical Advisors participate in the licensed operator requalification program and, therefore, receive training on accident mitigation. The Plant Manager and Operations Supervisor receive selected preplanned lectures on accident mitigation.

In addition to the formal training received, the Plant Manager, Shift Technical Advisors, and Operations Supervisor receive additional exposure to accident mitigation concerns through their involvement in reviewing and upgrading of the emergency procedures and operating instructions addressing the mitigation of transients and accidents. The Plant Manager and Operations Supervisor are members of the Plant Acceptance Committee, which functions to review and accept plant modifications including those that involve systems and procedures for mitigating transients and accidents. They have also participated in numerous meetings addressing these areas with Combustion Engineering, the NRC, and INPO. The Shift Technical Advisors are also responsible for reviewing and commenting on INPO Significant Operating Experience Reports (SOER's) and Significant Event Reports (SER's) at the Fort Calhoun Station.

Question 4

Do the training program elements which involve heat transfer, fluid flow, thermodynamics and accident mitigation involve 80 contact hours? (A contact hour of instruction is a one-hour period in which the course instructor is present or available for instructing or assisting students; lectures, seminars, discussions, problem-solving sessions, and examinations are considered contact periods under this definition).

Response

The Fort Calhoun Station training program for heat transfer, fluid flow, thermodynamics, and accident mitigation instruction involves greater than 80 hours of training, as determined from the definition of Question 4.

Question 5

The Training Program for Licensing Senior Reactor Operator Candidates calls for training in dealing with transients. Does this training represent an increased emphasis from previous training programs and does it deal with both normal and abnormal conditions?

Response

Senior Reactor Operator/Reactor Operator training in the areas of reactor and plant transient conditions and the mitigation of abnormal conditions has increased significantly with the implementation of the upgraded operator training program at the Fort Calhoun Station. Appendix B to the District's July 25, 1980 letter details the scope of the lecture and simulator transient training that operator condidates complete. Both normal and abnormal plant conditions are also addressed during operator candidate training, as detailed in Appendix B to the District's July 23, 1980 letter. Records are maintained at the Fort Calhoun Station which document the completion of this training by the applicable operator.

Question 6

Are instructions in the subjects of heat transfer, fluid flow, thermodynamics and accident mitigation given to all personnel in the requalification program? Do the instructions cover the material at the level of detail spelled out in enclosures 2 and 3 of Denton's March 28, 1980 letter? Does the instruction in these areas involve 80 contact hours?

Response

The operator requalification program includes instructions in heat transfer, fluid flow, thermodynamics, and accident mitigation. These instructions cover the material at the level of detail addressed in Enclosures 2 and 3 of the Commission's March 28, 1980 letter. Training on the subject topics includes more than 80 contact hours of instruction by the definition to Question 4.

Question 7

For item II.B.4 provide an outline of the training program for mitigating core damage, including the number of training hours involved. Your outline can include any training program which relates to the training for mitigating core damage. Follow the guidelines given in the enclosure 3 of H.R. Denton's letter dated March 28, 1980 and INPO Guidelines for Training to Recognize and Mitigate the Consequences of Core Damage (Document Number STG-01, Rev. 1, January 15, 1981). NRC requires minimum of 80 contact hours of training for mitigating core damage.

Response

Lectures involve a total of over 80 contact hours and are summarized below. These lectures address the topics in Enclosure 3 to the Commission's March 28, 1980 letter and the INPO guidelines. The lectures are included in the licensed operator requalification program and training program.

NUS tapes on accident mitigation	10 hours
Reactor and plant transients	50 hours
Emergency procedures review	15 hours
Recognition and mitigation of accidents provided by Combustion Engineering	15 hours
Simulator transients and accidents	40 hours

Response (Continued)

Additionally, licensed operator candidates must successfully complete a Fort Calhoun Station systems study guide that involves 48 plant systems. Each system qualification includes system failures and accident mitigation. Training and candidate qualification to the study guide involves approximately one man-year.