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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judges:
Peter B. Bloch, Presiding Officer
Dr. Peter S. Lam, Special Assistant

SERVED JUN 26 1997

In the matter of

RALPH L. TETRICK

(Denial of Application
for Reactor Operator License)

Docket No. 55-20726-SP

Re: Senior Reactor
Operator License

ASLBP No. 97-727-01-SP-R

MEMORANDUM AND ORDER
(Determination of Remand Question)

MEMORANDUM

The purpose of this memorandum is to determine the question remanded to me by the Commission, in light of the additional evidence provided to the Commission on appeal and then to me in response to questions asked of the parties.

I. Procedural History

On May 20, 1997, the Commission issued CLI-97-5, 44 NRC ____ (1997) concerning an appeal of my initial decision, LBP-97-21, 45 NRC 51, 53 (1997). In that decision, the Commission charged me with re-determining the correctness of Mr. Tetrick's answer to Question 63 on his examination, in light of a letter of May 1, 1997 from R.J. Hovey, Vice President of the Turkey Point Plant (Hovey letter).¹ The Hovey letter was submitted by the NRC Staff to the Commission as an attachment to a Staff brief filed on May 2, 1997.

On May 27, 1997, I issued an unpublished Memorandum and Order in which I asked the parties a series of questions designed to elicit information helpful in determining this remand. In response, the parties filed: (1) Memoranda from Ralph L. Tetrick, with attachments (including plant procedures, a letter from R.J. Hovey of May 1, 1997, and a Memorandum from

¹ Unless there is a showing of "compelling cause," matters raised for the first time on appeal generally will not be considered, especially when they involve factual matters that could have been raised before the presiding officer. Puerto Rico Power Authority (North Coast Nuclear Power Plant, Unit 1) ALAB-648, 14 NRC 34, 37-38 (1981). In accordance with the Commission's directions in this remanded case, the parties' filings before the Commission are considered to be a part of the decisional record.

Brian J. Stamp, undated) dated June 6, 1997 (Tetrick Answers); and (2) "NRC Staff's Response to the Presiding Officer's Memorandum and Order (Questions Relevant to Remand), June 13, 1997 (Staff Answers) and "Supplemental Affidavit of Brian Hughes and Thomas A. Peebles, June 13, 1997 (Staff Supplemental Affidavit).

II. Question 63

Examination Question 63, which is the subject of this remand, stated as follows:

Plant conditions:

- Preparations are being made for refueling operations.
- The refueling cavity is filled with the transfer tube gate valve open.
- Alarm annunciators H-1/1, SFP LO LEVEL and G=9/5, CNTMT SUMP HI LEVEL are in alarm.

Which ONE of the following is the required IMMEDIATE ACTION in response to these conditions?

- a. Verify alarms by checking containment sump level recorder and spent fuel level indication.
- b. Sound the containment evacuation alarm.
- c. Initiate containment ventilation isolation.
- d. Initiate control room ventilation isolation.

III. The Initial Decision

In my Initial Decision, LBP-97-2, I decided, based on the record then before me, that:

The Staff has persuaded me that when two concurrent annunciators sound, indicating that there is an off-normal event that could cause harmful radiation within the containment, that the Operator should take the required IMMEDIATE ACTION. Given the important safety problem that is being indicated by two different annunciators, there is not time to verify that each of the annunciators is working properly. That they sound together is enough corroboration to act immediately to prevent injury to the health of plant employees.

45 NRC at 55. Thus, I concluded that the correct response to this question was "b" rather than "a," which was Mr. Tetrick's answer.

IV. Additional Information

A. Applicable Plant Procedures

Mr. Tetrick has demonstrated, in his memorandum of June 6, 1997, that 3-ONOP²-033.2 -- Refueling Cavity Seal Failure is not the only plant procedure that requires an immediate action. The phrase "immediate action" also occurs in 3-ARP³-097.CR -- Control Room Annunciator Response and in 3-ONOP-033.1 -- Spent Fuel Pit (SFP) Cooling System Malfunction.

² ONOP stands for "off normal operating procedure."

³ ARP stands for "annunciator response procedure" and also is referred to as "annunciator response guidelines."

B. Important "Note" Contained in Procedure

In the attachments filed with me by Mr. Tetrick, on page 7 of 3 ARP-097.CR, there is a box which sets forth a general principle that the indicated actions are "a guide for operators in responding to single annunciators." Note that they are "a guide." Note also that they apply to single annunciators and not to multiple annunciators, where understanding the pattern or the root cause becomes more important and where "applicable off-normal and emergency procedures" come into play. The relevant section of 3-ARP-097.CR, called NOTES, states:

1. The annunciator panel attachments indicate appropriate operator action for Control Room panel annunciators. The actions listed are intended to be a guide for operators in responding to single annunciators and not intended to be a substitute for good judgment based on thorough understanding of plant conditions and equipment.

2. Many off-normal plant conditions will result in several annunciators lighting almost simultaneously. In such a case, operators are expected to respond to the root cause of the problem and maintain the unit in a safe condition IAW [in accordance with] applicable off-normal and emergency procedures. This action may not necessarily correspond to that of the attachments.

C. Staff Argument

The Staff has discussed extensively the root cause of the signals postulated to be present in Question 63. It bases its

answer to the question on this understanding of root cause. It states (Staff Supplemental Affidavit at 9-11):

We have carefully considered Mr. Tetrick's answer to this question. In our view, it reflects a fundamental misunderstanding of the importance and significance of an ONOP, in contrast to a nuclear facility's many other plant procedures. Further, Mr. Tetrick's answer ignores the significance of the specific plant conditions described in the stem of Question 63, which must be considered in an SRO applicant's selection of the proper answer to this question. Question 63 explicitly posited the following specific plant conditions:

Plant conditions:

- Preparations are being made for refueling operations.
- The refueling cavity is filled with the transfer tube gate valve open.
- Alarm annunciators H-1/1, SFP LO LEVEL and G-9/5, CNTMT SUMP HI LEVEL are in alarm.

Under these plant conditions, where these two mutually supportive and confirmatory annunciators (spent fuel pool low level and containment sump high level) are sounding together, a competent applicant for a senior reactor operator license should have recognized, unequivocally, that the operator is required to sound the containment evacuation alarm, in accordance with 3-ONOP-033.2. We note that although Mr. Tetrick's July 1996 submittal did not discuss this ONOP, in his filings before the Presiding Officer in September and December 1996 he agreed the two annunciators specified in Question 63 are "mutually supportive and sufficient to enter 3-ONOP-033.2 "REFUELING CAVITY SEAL FAILURE."

. . . Question 63 does not constitute an abstract question of only theoretical interest. Rather, the question seeks to test applicants on their fundamental competence to

respond to actual plant conditions, specified therein. Question 63 describes a potential refueling cavity seal failure, during refueling operations. The initial plant conditions provided in the stem of the question state that "the refueling cavity is filled with the transfer tube gate valve open." This condition means that the Spent Fuel Pool is connected (through the transfer tube) to the refueling cavity in the Containment Building. Another initial condition states "Alarm annunciators H-1/1, SFP LO LEVEL and G-9/5, CNTMT SUMP HI LEVEL are in alarm." The concurrent sounding of these two alarms would indicate that the water level has decreased in the Spent Fuel Pool and has increased in the Containment Building sump. Because the Spent Fuel Pool is connected to the Refueling Cavity (inside the Containment Building) through the transfer canal, the actuation of these two alarms at the same time would confirm leakage from the Refueling Cavity to the Containment Building sump. This leakage would most probably be due to the refueling cavity seal leaking or failing. Under the conditions described in Question 63, prompt notification to plant personnel of the nature of the emergency by sounding the containment evacuation alarm is the only appropriate IMMEDIATE ACTION.

. . . Question 63 is based upon a real-life incident that occurred at the Haddam Neck plant, where a refueling cavity seal failure resulted in a substantial drainage of the water in the refueling cavity within a matter of minutes -- an event which could have potentially resulted in lethal radiation doses to plant personnel. This event led to the issuance of IE Bulletin 84-03 on August 24, 1984. At the time of the event, the refueling cavity was filled in preparation for refueling and, fortuitously, the transfer tube gate valve (which connects the spent fuel pool to the refueling cavity) was closed. The Staff evaluated this event as Generic Issue 82, and determined that it has significant safety implications for all water-cooled nuclear power plants in the United States, -- and each such facility, including Turkey Point, was required to address this problem. See NUREG/CR-4525, "Closeout of IE Bulletin 84-03: Refueling Cavity Water Seal" (June 1990) (portions of which are provided as Attachment 1 hereto).

It should be further noted that Question 63 posits a situation in which "the refueling cavity is filled with the transfer tube gate valve open" -- unlike the event at Haddam Neck, where the gate was closed. While significant radiation doses may have been avoided at Haddam Neck due to the transfer tube gate being closed, a different result might have occurred at Turkey Point, under the conditions stated in Question 63, if the plant operators decided, like Mr. Tetrick, to verify alarms before taking the required "IMMEDIATE ACTION" of sounding the containment evacuation alarm.

V. Analysis and Conclusions

I am persuaded by the Staff that I should uphold my initial determination. An operator must act on an understanding of the root cause of an event, trusting the plant's instruments to deduce what is happening. Turkey Point does have procedures for "responding to single annunciators." Note from 3-ARP-097.CR, discussed above at page 5. As also discussed above, at page 7, these procedures specifically state that they are "not intended to be a substitute for good judgment based on thorough understanding of plant conditions and equipment."⁴

I asked several questions in my order of May 27. Among those questions were the following:

⁴3-ONOP-033.1 requires an "immediate action" consisting of: "verify annunciated alarm is valid." However, with the simultaneous indications postulated in Question 63, the two alarms verify the validity of one another. Thus, there is no further need to verify these alarms.

What precisely would he [Mr. Tetrick] do during these 20 seconds [that he says he would use to verify the validity of instrument readings]? What evidence might he find that would persuade him not to take the required IMMEDIATE ACTION after he took steps to verify the alarm?

The answers to these questions were very important because they would show whether there was any legitimate reason to hesitate in taking the immediate action required by the ONOP. For example, is there some instrument reading that could be easily taken and that would give an operator confidence that the instruments were wrong? If so, then the decision to check further could be based on an understanding of what was happening in the reactor and not based solely on a mechanical reading of a tangential provision that relates to single annunciators. However, Mr. Tetrick did not respond directly to my question. In particular, he gave no indication of any instrument reading or set of readings that would persuade him not to take the required immediate action in the 3-ONOP-033.2. Tetrick Answers, bottom of page 1 (responding to Question #2).

I conclude that Mr. Tetrick should have acted from an understanding of the root cause of the event portrayed in Question 63. Had he done so, then only answer "b." would be correct. His failure to understand that failed to mitigate the risks described by Staff and quoted at page 7, above.

I am unpersuaded by Mr. Tetrick's attempt to rely on the Turkey Point training program and "management expectations." See Tetrick Answers, page 1, second paragraph from the bottom. He is responsible for knowing the correct, safe action to take in response to plant conditions. The NRC cannot be expected to certify an operator based on his reliance on an incorrect response allegedly taught to him. NRC licenses only those operators who demonstrate that they will respond correctly and safely to plant conditions.

I am not convinced by the letter from R.J. Hovey of Florida Power and Light to Mr. Stuart A. Richards of the NRC. (Tetrick Reply, unnumbered Attachment.) Mr. Hovey states, in one key sentence, "If the question is interpreted to be asking for an immediate action for the receipt of an annunciator, response (a) is correct." I do not interpret the question as Mr. Hovey suggests. There is not one annunciator, but two. What is called for by the question is an understanding of plant conditions and how to respond to two consistent, simultaneous annunciators. Moreover, the Annunciator Response Procedure (ARP) contains a note that makes it clear that it cannot be mechanically applied under these circumstances. (See 5 ff., above.)

Similarly, I am not persuaded by the memorandum of Brian J. Stamp, Acting Operations Supervisor, because I consider his understanding of Question 63 to be the same as that of Mr. Tetrick and thus incorrect. (Tetrick Reply, unnumbered Attachment).

I conclude, after considering all the information before me, that Mr. Tetrick answered Question 63 incorrectly.

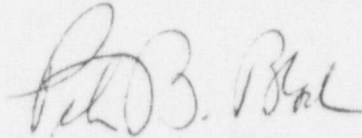
VI. Procedural Implications

In this remand, I have addressed information filed by Mr. Tetrick that was not filed in a timely manner prior to my Initial Decision. I would note that the Staff's appeal also seems to be based on new information. I am confident that in deciding this case the Commission will be aware that motions for reconsideration are frequently filed before presiding officers, both at the end of cases and after interim orders. It is important for the efficiency of licensing procedures that there be a clear principle that requires parties to file information prior to the decisions of judges rather than waiting for an opinion before adding new information to the record.

ORDER

For all the foregoing reasons and upon consideration of the entire record in this matter, it is this 25th day of June, 1997, ORDERED, that:

In response to CLI-97-5, 44 NRC ____ (1997), May 20, 1997, the Presiding Officer reaffirms his determination that the response of Ralph L. Tetrick to Question 63 of his Examination to be a Senior Reactor Operator (SRO) was incorrect.

A handwritten signature in cursive script, appearing to read "Peter B. Bloch", is written over a horizontal line.

Peter B. Bloch, Presiding Officer
Administrative Judge

Rockville, Maryland

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(Denial of Senior Reactor Operator's
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Docket No.(s) 55-20726-SP

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB M&O RE REMAND QUESTION have been served upon the following persons by U.S. mail, first class, except as otherwise noted and in accordance with the requirements of 10 CFR Sec. 2.712.

Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Peter B. Bloch, Presid'g Ofcr
Atomic Safety and Licensing Board
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Peter S. Lam
Special Assistant
Atomic Safety and Licensing Board
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mitzi A. Young, Esq.
Sherwin E. Turk, Esq.
Office of the General Counsel
Mail Stop - O-15 B18
U.S. Nuclear Regulatory Commission
Washington, DC 20555

*Ralph L. Tetrick
18990 SW 270 Street
Homestead, FL 33031

Dated at Rockville, Md. this
26 day of June 1997

Adria T. Byrdson
Office of the Secretary of the Commission

* Express Mail