[redacted], [redacted]

ENCLOSURE 5

Substantive Comments

Note: There were two substantive comments made by applicants following the written examination, with explanations concerning why the comments were accepted.

September 2010 Written examination comments.

The following substantive comments are being submitted for consideration during the grading of the Licensing exam that was administered at the Sequoyah Nuclear Station on September 29, 2010.

The first comment is submitted by candidate [redacted]

Question #41, Which ONE of the following ice condenser temperatures is within the optimal range in accordance with 0-SO-61-1, "Ice Condenser Cooling," and one of the potential adverse affects of being outside this range?

A. 19°F; excessive concrete expansion

B. 19°F; operation outside technical specification limit

C. 27°F; excessive concrete expansion

D. 27°F; operation outside technical specification limit

Comment; The question has two parts, (1) the optimal temperature range and (2) one of the potential adverse affects of being outside this range.

Since the optimal temperature range is 18°F to 20°F, then either A or B has the correct temperature, however, since the candidate wasn't sure how far outside the optimal temperature limit they could be, then they assumed that once temperature was greater than 27°F, you would be outside the technical specification limit and that would have an adverse affect on operation, since the plant would be in an LCO and may have to shutdown. Also from 1-SO-OPS-000-002.0, "Daily Shift Log," 3.0 Precautions and Limitations, C. "The Ice condenser may be operated at a temperature outside the optimum range, provided technical specifications limits are maintained, in accordance with Engineering recommendations to support system maintenance or planned outages." Thus the plant could operate outside the optimal limit as long as the technical specification limit was not exceeded. Based on this criterion, this would make "B" also a correct answer.

Site Recommendation:

It was intended that the adverse affects of operating outside the optimal range was physical in nature, testing the candidates knowledge of the potential adverse affects of not maintaining the ice condenser temperature within established optimal limit, (as indentified in the distractor analysis the Final safety Analysis Report (FSAR) 6.5.7.2 identifies 19°F to be the optimal temperature range to minimize the condition of concrete expansion, floor heaving and frost buildup.) However, since the adverse affect asked for in the question was not limited to a physical condition or a physical affect, then it would be reasonable that an adverse administrative affect (operating outside the technical specification limit, thus rending the ice condenser bed inoperable) could also be assumed. This would make both "A" and "B" correct. Since either an adverse affect could be interpreted as physical or administrative, Sequoyah station concludes that both "A" and "B" are considered as correct answers.

Additionally the following comment was submitted by (applicant [redacted]

#95. Given the following:

Unit-1 outage schedule logic changes for a planned 28-day refueling outage are being reviewed by an SRO to determine if they are safety significant in accordance with SPP-7.2, "Outage Management," Appendix E, "Outage Schedule Logic Change Control."

In accordance with Appendix E, which ONE of the following proposed logic changes would meet the criteria for a Safety Significant change?

A. Reschedule the Unit-1 loop #2 MSIV seat inspection from the core empty mid-loop period to the time period during core reload while SG secondary manways are removed for inspection.

B. Increase the cavity level from 711 feet to 712 feet elevation to minimize dose while unlatching control rods.

C. Add a 48 hour activity to perform preventative maintenance on the turbine driven auxiliary feedwater pump before entry into Mode 4.

D. Change the window for a contract diver to enter the CCW pump intake bay from the end of the outage (before starting CCW pumps) to the beginning of the outage (after securing CCW pumps.)

Comment: Since the Condenser Circulating Water system (CCW) intake bay is common to both units, diving operations could affect both units. As per SPP-7.2, Appendix E, (provided as a reference) the SRO is to evaluate if the activity would meet any of the listed criteria. Item 15 asks if the activity will affect the non-outage unit and if so then that item would be considered a safety significant change and would require additional evaluation. Since diving could affect the non-outage unit then "D" is a correct answer.

Response: After evaluating the question and choices against the criteria of SPP-7.2, Appendix E, and industry OE associated with diving operations, it is plausible that an SRO could reasonably conclude that a diving operation, in the vicinity of the CCW pumps, could (and would) have an impact on the operation of the non-outage unit. Thus per the direction of SPP-7.2, Appendix E, which was provided to the SRO candidates evaluating the events, we agree with the comment and consider "A" and "D" as correct answers.

3.0 PRECAUTIONS AND LIMITATIONS (Continued)

B. Trapping cold glycol solution between two isolated valves must be avoided. When isolating a component, close one valve only, until fluid warms up to ambient, or open a vent between the two closed valves.

C. Raw cooling water header pressure should normally be maintained greater than 40 psig to glycol chiller packages. If available, the standby RCW booster pump should be started in accordance with 0-SO-24-1 as necessary to maintain system pressure.

If NO RCW booster pump can be started, 0-SO-24-1 provides guidance on raising RCW header pressure to allow short-term operation of a few glycol chiller packages while restoring a RCW booster pump.

D. During cooldown, the differential temperature between the glycol supply temperature and the averaged measured floor surface temperature (Appendix G), should not exceed 20°F.

E. In order to minimize sublimation, frost buildup, and ice condenser door binding problems, the Ice Condenser temp should be maintained within the optimum range of 18°F to 20°F. **[C.1]**

F. If glycol flow is left on the shutdown chiller unit, the bypass valve around the temperature control valve in the cooling water flow path must be left open at all times to prevent freezing.

G. The following apply to the AHUs:

1. Heat tracing on the AHU defrost drains must be maintained continuously while plenum temperature is below freezing. If power is lost to both heating circuits for any length of time, the drain pipes must be inspected for signs of damage due to freezing.

2. If isolation of an AHU is necessary, use the odd numbered isolation valves if possible. Even numbered return valves are used for flow balance, and they should be returned to their previous position if closure is necessary.

3. When removing an AHU from service for maintenance, open circuit breaker CB #1, so it will not unnecessarily add its defrost heat to the ice condenser during the normal defrost cycle.

4. Do not operate any AHU that is not completely assembled. When air bypasses the coils due to the front or side panels being removed, it is adding warmer air to the wall panels. All sheetmetal panels must be installed on the front and sides of the AHUs. Open CB #1, unless all sheetmetal panels are installed.

3/4.6.5 ICE CONDENSER

ICE BED

LIMITING CONDITION FOR OPERATION

3.6.5.1. The ice bed shall be OPERABLE with:

a. The stored ice having a boron concentration of ≥ 1800 ppm and ≤ 2500 ppm boron as sodium tetraborate and a pH of 9.0 to 9.5,

b. Flow channels through the ice condenser,

c. A maximum ice bed temperature of less than or equal 27°F,

d. A total ice weight of at least 2,225,880 pounds at a 95% level of confidence, and

e. 1944 ice baskets.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the ice bed inoperable, restore the ice bed to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 The ice condenser shall be determined OPERABLE:

a. At least once per 12 hours by verifying that the maximum ice bed temperature is less than or equal to 27°F.

b. At least once per 18 months by verifying, by visual inspection, accumulation of ice on structural members comprising flow channels through the ice bed is ≤ 15 percent blockage of the total flow area for each safety analysis section.

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Outage Schedule Logic Change Control

Subsequent to the Independent Outage Safety Review (IOSR) or issuance of Rev. C if an IOSR was not performed, all significant outage schedule changes which involve the modification of logic relation between outage activities will be controlled by the following process.

A. The proposed schedule change is documented on the Outage Schedule Logic Change Form (OSLCF) SPP-7.2-2, Attachment 1 of this procedure.

An OSLCF is initiated by the responsible individual each time a logic change to the outage schedule is required. The initiator must complete items A through D of the OSLCF.

B. A licensed SRO reviews the requested logic change documented on the OSLCF and evaluates whether the change to the outage schedule should be approved and proceed. This review by a SRO is to ensure safety - significant changes receive a review consistent with the initial independent outage safety review of the outage schedule. The SRO should consider the criteria below when determining if the change should be approved: If the answer to any of these questions is yes, the reviewer should ensure appropriate actions are taken to minimize the safety risk resulting from incorporating the logic change prior to approval. If the logic change requires a major system window change, or could present a challenge to the defense in depth strategy with safety significance, the Unit Outage Manager will be consulted to convene an Independent Outage Safety Review team to provide additional expert opinions on whether the change should be approved. The plant manager, or designee, will approve a schedule change, deemed safety significant via the following questions.

SRO review questions for consideration:

1. Perturb the stability of RHR parameters (flow, pressure, temperature, etc.) and other operational parameters (operating pump amperes, etc.)?

2. Alter plant configurations that would result in RCS temperature below the minimum value used to analyze reactor shutdown margin?

3. Reduce the reactor cavity or reactor vessel inventory?

4. Reduce the spent fuel pit inventory or challenge SF Cooling redundancy?

5. Reduce the availability of systems or support systems required to provide reactor vessel makeup water consistent with the decay heat generation load?

6. Minimize the availability of low pressure injection?

7. Reduce the availability of alternate sources of reactor vessel makeup water consistent with the decay heat generation rate?

8. Increase the probability of jeopardizing installed temporary equipment that could reduce safety system availability?

9. Isolate of the operable boration flow path?

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Outage Schedule Logic Change Control

10. Cause leakage of water into the RCS or spent fuel pit which would dilute the boron concentration to a value below the minimum required?

11. Affect bus outages or switchyard outages?

12. Reduce the availability of onsite or offsite electrical power supplies or support systems?

13. Increase the probability of fuel or other core component mishandling or damage?

14. Reduce the ability to isolate containment when required?

15. Affect the non-outage unit?

After reviewing the above questions, the SRO signs the OSLCF for approval if warranted. If the SRO rejects the change, the OSLCF is returned to the originator with an explanation of why it was rejected for enhancement or cancellation as appropriate.

C. Following SRO approval of an OSLCF, the Outage Manager reviews the OSLCF for completeness and determines if additional reviews are required. This determination is based on the following criteria:

1. Logic changes for work activities within a system window which change the sequence of scheduled work and do not pose a potential challenge to the defense in depth strategy can be approved by the Outage Manager.

2. Logic changes which move a work activity scheduled in Modes 5 or 6 (PWR only) to the empty reactor vessel period can be approved by the Outage Manager.

3. Logic changes for work activities on the equipment and systems affecting system operations require review and concurrence by the Operations Management representative in the OCC, in addition to the original SRO's approval. As an example: IF the logic change moves the activity out of its scheduled work window OR has the potential to challenge the station's defense in depth strategy, Operations management concurrence in OCC is required, as well as Outage Manager and Plant Manager, or outage shift designees.

4. Logic changes for work activities on equipment and systems not identified above can be approved by the Outage Manager.

D. Following approval of the OSLCF, the Outage Manager directs changing the outage schedule in accordance with the OSLCF. Approved OSLCFs are retained by the Outage Manager. OSLCFs that are not approved are returned to the originator for cancellation or further processing.

E. Copies of approved OSLCFs should be distributed to the Outage Manager and to other outage participants that will be affected by the change as deemed necessary.