WBN2Public Resource

From: Poole, Justin
Sent: Thursday, May 17, 2012 2:30 PM
To: 'garent@tva.gov'; Bryan, Robert H Jr; wdcrouch@tva.gov
Cc: WBN2HearingFile Resource
Subject: Request for Additional Information regarding Fire Protection review group 10
Attachments: Request for Additional Information on Fire Protection Group 10.docx

Gordon,

During a phone call on 5/17/12, clarification was provided on questions from the staff, which had been provided to you in emails dated 5/10, 5/11, 5/15, and 5/17. As a result of the phone call the staff has revised the list of questions and are included as an attachment to this email. Also during this call, you stated that you plan to provide response by 5/24/12. Given this short period of time, a formal letter would not be practical so this email serves as a formal request for information from the NRC. If you have any questions, please contact me. Thanks.

Justin C. Poole
Sr. Project Manager
NRR/DORL/LPWB
U.S. Nuclear Regulatory Commission
(301)415-2048
email: Justin.Poole@nrc.gov

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From: Poole, Justin

Created By: Justin.Poole@nrc.gov

Recipients:
"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>
Tracking Status: None
"'garent@tva.gov'" <garent@tva.gov>
Tracking Status: None
"Bryan, Robert H Jr" <rhbryan@tva.gov>
Tracking Status: None
"wdcrouch@tva.gov" <wdcrouch@tva.gov>
Tracking Status: None

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Reply Requested: No
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WBN Fire Protection Questions

1. The staff understands that (per FPR Part II section 12.1) the electric fire pumps start on actuation of suppression-related detection systems or manually, and the diesel fire pumps on low system pressure or manually. The staff is interested in the expected fire pump response in the following scenarios:
   - Manual actuation of a pre-action or deluge valve;
   - Operation of a manual hose station;
   - Operation of a yard fire hydrant.

2. Part VII, Section 2.9.9.2.b, states that ". . . [S]ump pumps are not considered to be ignition sources (see 2.9.0 above)." Upon NRC staff review of Section 2.9.0, there is no discussion of sump pumps. Provide a technical basis for sump pumps not being considered credible ignition sources.

3. In Part VII, Section 2.9.21.3.a, of the FPR, the first paragraph uses the word, "required," in two different contexts. First, it states that: "The FSSD analysis would require radiant energy shielding…" Second, near the end of the paragraph, it states, "… [T]herefore, the radiant energy shield is not required." This inconsistent usage of "required" is throughout Section 2.9 of Part VII.

   Typically, in licensing documents, "required" refers to licensee requirements, such as rules or license conditions. In this context, the first usage is consistent with this usage. The second usage would not be, since it is based on the analysis performed, and not an NRC rule or license condition. Resolve the inconsistent usage of the word "required" in Part VII, Section 2.9.

4. Part V, Section 2.2.2 of the FPR states:

   > Industry test data indicates that fire induced circuit failures will not occur immediately upon exposing cables to fire effects. Damage from an exposure fire to safe shutdown components or circuits is not expected to occur for at least 10 minutes after confirmation by plant personnel.

   In the judgment of the NRC staff, this interpretation of industry test data is not supported by the test results, since fire exposure and damage cannot be generalized in such a manner. The staff intends to specifically not endorse this statement in the Safety Evaluation.

5. Part III, Section 7.4.3 of the FPR states: "Restoration procedures are provided for the three fuse columns in the unlikely event of the supply protective device tripping as the result of MHIFs." Clarify:
   - Are the actions for the restoration procedures taken in the main control room?
   - Are these restoration procedures considered operator manual actions?
   - What sort of procedures are they? (i.e., normal operation, emergency operation, etc.)

6. Part III, Section 4.1 of the FPR states: "Procedural controls for isolation of all potentially spurious RCS letdown paths, including pressurizer PORVs and reactor head vents, provide assurance that isolation of normal and excess letdown paths will be achieved." Clarify:
   - Are the actions for the procedural controls taken in the main control room?
   - Are these procedural controls considered operator manual actions?
   - What sort of procedures are they? (i.e., normal operation, emergency operation, etc.)

7. The description of Fire Area 2-1 (Part VI, Section 3.4.1, RHR Pump Room 1B-B) is, in part: "This is a separate fire area and the capability to achieve safe shutdown has been demonstrated through analysis." Yet, Part I, Table I-1 shows that Fire Area 2-1 has a III.G.1 Appendix R compliance strategy. This classification is only appropriate for fire areas that do not contain redundant trains of equipment or cables.

   Does Fire Area 2-1 (RHR Pump Room 1B-B) contain redundant trains of equipment or cables? If so, identify the III.G compliance strategy of this fire area, and reference the appropriate evaluation deviation that addresses the analysis. If not, the description in the FPR of this area should be aligned with the other, similar fire areas (RHR Pump Room 1A-A, as an example).

8. The pressurizer transmitter sense lines near the top of the pressurizer (FPR Part VII, Section 2.9.20.3.a, paragraph 5), are described as having a number of defense-in-depth features, such as limited ignition sources and combustibles, separation from other rooms, automatic suppression for the reactor coolant pumps, and no impact on plant trip for damage to FSSD components in 2RI – Unit 2 Reactor Building Inside Crane Wall. All other FSSD equipment in this room include one or more of these additional features:

   1. Air piping is welded steel,
   2. Redundant cables are separated by at least 3 feet horizontally,
   3. Cables are installed in conduit,
   4. Alternative systems are available in the control room to shutdown the plant,
   5. Spurious actuations are avoided by the use of dedicated conduit with no other energized conductors,
   6. Spurious actuations are avoided since they would only occur if there were a proper polarity two or three phase hot short,
   7. Targets are high above the floor, at least 10 feet, and/or
   8. Redundant trains may be located in the analysis volume, but not in the room being evaluated.

   Provide information as to whether any of these additional features apply to the pressure transmitter sense lines near the top of the pressurizer. If not, describe any additional mitigating features that provide assurance that the sense lines would not be damaged by fire.

9. In the response to RAI FPR VII-30, TVA stated that for hose stations with hose lengths greater than 100 feet, additional pressure was required to account for the additional length of hose. However, the response did not include a clear conclusion that the additional pressure is sufficient to achieve the required flow rate and satisfy the minimum pressure requirement of the nozzle.

   Confirm that for the hose stations with hose lengths greater than 100 feet, the required pressures are sufficient to achieve the required flow rates and satisfy the minimum pressure requirement of the nozzles.