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SEP 12 1973

Docket Nos. 50-438
 and 50-439

Tennessee Valley Authority
 ATTN: Mr. James E. Watson
 Manager of Power
 813 Power Building
 Chattanooga, Tennessee 37401

Gentlemen:

In order that we may continue our review of your application for a license to construct the Ballefonte Nuclear Plant Units 1 and 2, additional information is required. The information requested is described in the enclosure and pertains to Chapters 4, 5, 6, 11, 12, 13, 14 and 16 of the Preliminary Safety Analysis Report.

In order to maintain our licensing review schedule, we will need a completely adequate response to all enclosed questions by November 1, 1973. Please inform us within 7 days after receipt of this letter of your confirmation of the schedule date or the date you will be able to meet. If you cannot meet our specified date or if your reply is not fully responsive to our request, it is highly likely that the overall schedule for completing the licensing review for the project will have to be extended. Since reassignment of the staff's efforts will require completion of the new assignment prior to returning to this project, the extension will most likely be greater than the delay in your response.

Please contact us if you have any questions regarding the information requested.

Sincerely,

Albert Schwencer, Chief
 Pressurized Water Reactors
 Branch No. 4
 Directorate of Licensing

Enclosure:
 Request for Additional
 Information

LB

CRESS OFFICE T 7046	Mr. R. H. Marquis General Counsel 629 New Sprinkle Building Knoxville, Tennessee 37902	L: PWR-4 DDavis:en	L: PWR-4 ASchwencer		
1-9 SURNAME 9/6/73 DATE		9/7/73	9/11/73		

REQUEST FOR ADDITIONAL INFORMATION
TENNESSEE VALLEY AUTHORITY
BELLEFONTE NUCLEAR PLANT, UNIT 1 & 2
DOCKET NOS. 50-438 & 50-439

4.0 REACTOR

- 4.4 Severely cold worked stainless steels are susceptible to stress corrosion cracking. To provide assurance that the cold worked austenitic stainless steels will be compatible with the reactor coolant under all conditions, provide the maximum allowable 0.2% offset yield strength at room temperature for the cold worked Type 304 stainless steels listed in Tables 4.2-2 and 4.2-3.

5.0 REACTOR COOLANT SYSTEM AND CONNECTED SYSTEMS

- 5.2 Provide copies of the topical report BAW-10046, "Fracture Toughness Requirements" for our review and evaluation.
- 5.3 Indicate that the fracture toughness requirements, operating limitations, and reactor vessel materials surveillance program will comply with Appendices G and H of 10 CFR 50, as published in the Federal Register, July 17, 1973.
- 5.4 Describe how closely Regulatory Guides 1.31, Revision 1, "Control of Stainless Steel Welding," issued in June, 1973, and 1.44, "Control of the Use of Sensitized Stainless Steel," issued in May, 1973, will be followed.

Provide the technical justification for any deviations from the practices recommended in these Regulatory Guides.

- 5.5 The PSAR does not state that reactor coolant pump flywheels will be spin tested at design overspeed as recommended in paragraph C.3 of Regulatory Guide 1.14, "Reactor Coolant Pump Flywheel Integrity," issued October 27, 1971. Confirm that flywheels will be tested at design overspeed or provide your acceptance criteria that ensure a comparable degree of flywheel integrity.
- 5.6 Provide verification that steam generator tube fouling, as described in BAW-10027, pages A-20-3 or B-26-9, will not lead to deterioration of the steam generator tubing by intergranular stress corrosion or wastage. Provide assurance that the cleaning procedures described in Section 6 of BAW-10027 will not cause attack at the tube-tube sheet crevices, and describe the precautions that will be taken after cleaning to ensure that no residual cleaning solution remains in these crevice areas.
- 5.7 Paragraph 5.5.2.6 should refer to Tables 10.3-1 and 10.4-3 for steam generator water chemistry specifications.

6.0 ENGINEERED SAFETY FEATURES

- 6.24 Provide sufficient information about your proposed ESF inservice inspection program to indicate that the program will provide a degree of assurance of system integrity comparable to the program recommended in Regulatory Guide 1.51, "Inservice Inspection of ASME Code Class 2 and 3 Nuclear Power Plant Components," May, 1973.
- 6.25 The containment leakage testing program proposed in the PSAR and Technical Specifications does not provide sufficient information to assure that the containment will be designed so it can be tested in compliance with 10 CFR 50, Appendix J issued February 14, 1973.

Penetrations welded directly into the containment liner that do not include resilient seals, gaskets, sealant compounds or expansion bellows are not required to receive Type B testing. However, these penetrations should be constructed and tested in accordance with ASME Boiler and Pressure Vessel Code, Section III, Subsection NE, Class MC components. Provide your design and test criteria for these components incorporating the appropriate ASME code sections.

11.0 RADIOACTIVE WASTE MANAGEMENT

- 11.13 Indicate whether there is a monitor tank to receive the distillate from the auxiliary waste evaporator. If there is not, by what method will liquid samples be obtained to determine isotope content, radioactivity levels, and suitability of a distillate batch for release to the environment?
- 11.14 The turbine bypass system is designed for 15% bypass to the main condenser. As a consequence of this low bypass capacity with regard to possible frequent load rejection on turbine trip transients, provide and justify the estimate of the expected frequency of discharges to the atmosphere, the amount of steam released, the amount of radioactivity released in curies per year per isotope, and the resultant whole body and organ dose rate.

12.0 RADIATION PROTECTION

- 12.2 In order to evaluate the radiation protection provided, provide a map that indicates radioactivity levels, doses, and occupancy factors for each area of the plant.
- 12.3 State your design criteria for "field run" piping that handles radioactive fluids, and show your design criteria are compatible with keeping the doses to plant operating personnel "as low as practicable."

13.0 CONDUCT OF OPERATIONS

- 13.1 Figure 13.1-4 shows your proposed organization for two units. Provide a similar figure showing your proposed organization for one unit operation (first unit operation prior to startup or completed staffing for second unit) if you do not intend to be staffed as shown in Figure 13.1-4 at the time of fuel loading of the first unit.
- 13.2 In order that we may make a more complete evaluation of your proposed training program, show the tie-in between the training described in Sections 13.2.1.1 through 13.2.1.6 and Items B, C, L, O & P, of the Proposed Training Schedule, Figure 13.2-1.
- 13.3 Describe what specific training courses will be given to train personnel in the operation of the reactor (B&W NSSS) since it appears that the bulk of staff training in this regard will be conducted at a Westinghouse NSSS.
- 13.4 In regard to the emergency plan, provide the following:
- a) An expansion of your description of the contacts made with local outside supporting agencies such as the County Sheriff, ambulance services and medical facilities. The description should include the state of liaison already established (oral discussion by telecon, meetings, written agreements, etc.). As a minimum, the applicant should meet and discuss with each agency their prospective involvement in the Bellefonte emergency plan.
 - b) A description of the location (distance and direction) of the public schools listed in Table 2.1-21, items 1 through 10.
- 13.5 Regulatory Guide 1.17, June 1973, Protection of Nuclear Power Plants Against Industrial Sabotage, C.3., Protection of Vital Equipment, identifies items relative to design features and equipment arrangement that should be considered during the early design stage. Describe how you plan to review for and incorporate these considerations into the design of the Bellefonte Nuclear Plant.
- 13.6 In Section 13.1.3.1 and in Section 13.2.1.2 no plans to "cold" license Unit Operators are indicated. The Regulatory staff's position is that the Technical Specifications requirements relative to licensed personnel to each shift as in Table 16.6.8-1 must be met at the time of fuel loading. Since it appears "cold" licenses for some Unit Operators will be needed, resolve the discrepancy.

14.0 INITIAL TESTS AND OPERATION

14.1 Describe your anticipated plans for augmentation of your plant staff, if any, during the initial tests and operation of each of the reactors.

16.0 TECHNICAL SPECIFICATIONS

- 16.2 Provide assurance that pressure-temperature limitations for the RCPB during heatup, cooldown, test, and core operation will be in accordance with Appendix G, 10 CFR 50.