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SCHREIBER,D.L. Schreiber Consultants, Inc.
RECIP.NAME RECIPIENT AFFILIATION
GONZALES,R. Division of Engineering

SUBJECT: Forwards request for addl info re FSAR draft needed prior to 820614 site visit.

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DR. DAVID L. SCHREIBER, P.E.
President and Principal

50-438

May 27, 1982

Mr. Ray Gonzales
Hydraulic Engineer/HGEB
Division Of Engineering/NRR
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ray:

As we discussed by telephone, I have reviewed the Bellefonte Final Safety Analysis Report. I have 13 draft questions that should be posed to the applicant (see enclosure) prior to our site visit on June 14, 1982. Hopefully, we will have the opportunity to discuss the questions with the applicant while we are attending the site visit.

If you have any questions regarding my requests for additional information, please call me. I appreciate the opportunity to provide consulting services to NRC on this project.

Sincerely,

David L. Schreiber

Dr. David L. Schreiber, P.E.
President & Principal

Enclosure: As stated

cc w/o encl: M. Fliegel

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FSAR DRAFT QUESTIONS - HYDROLOGIC ENGINEERING

BELLEFONTE NUCLEAR PLANT

By

Dr. David L. Schreiber, P.E.
Schreiber Consultants, Inc.

1. Section 2.4.1.2. Update the flow durations on p. 2.4-5 to include the most recent daily discharge data.

2. Section 2.4.2.2. Coincident wind waves have been reduced in magnitude since the PSAR as a result of using the "median seasonal maximum wind." Previde your basis for using this criteria, sinoe it does not meet the intent of Regulatory Guide 1.59 or ANSI N170-1976.

3. Section 2.4.2.3. Provide analyses that demonstrate the capability of site drainage facilities, including roof drains, to prevent flooding of safety-related facilities resulting from the local probable maximum precipitation (PMP). Previde sufficient details of the site drainage system to allow an independent review of rainfall and runoff effects on safety-related facilities. Previde a figure that illustrates the site drainage plan and shows post-construction topographic contours of the site.

4. Section 2.4.3.6. Reference 17 is outdated. It has been supereeded by the following reference: U.S. Army Corps of Engineere, Engineer Technical Letter No. 110-2-221, November 29, 1976. Reevaluate your wave runup analyses ueing the current referenc. In your response, please note any significant changes in wave runup values and whether or not there will be any effect on safety-related structures.

5. Section 2.4.7. During an extended cold weather period such as occurred in January - February 1940, what is to prevent surface ice from entering or blocking the intake pumping station?

6. Section 2.4.8.1. Describe the ability of the intake channel to withstand a probable maximum flood on the Tennessee River. Under such a condition, what is to prevent the intake channel from becoming blocked by debris? What is the design flow velocity for the intake channel?

7. Section 2.4.11.5. During the Construction Permit Stage of licensing, you estimated that safety-related water requirements were about 134 cfs. Is this estimate still valid? If not, provide documentation as to why it is not.

8. Section 2.4.13.3. Previde the basis for assuming a bedrock porosity of 0.01 and an overburden porosity of 0.04. Furthermore, if these values are total porosity, then provide values for effective porosity (specific yield). It is the latter parameter that should be used in calculating ground-water velocity and travel time. Furthermore, your analysis is incomplete in that you have not identified a potentiai radioactive spill source volume (e.g., radwaste tank), nor have you provided dilution factors or rsductions in concentrations at the potential points of water use (which, by the way, in all probability will be downstream surface water users after the potential spill has moved threugh the ground water to the river). Previde the details of such an analysis, including the bases for assumed distribution and other coefficients, such as bulk density, dispersion, and dispersivity. For guldance, refer to "ANSI/ANS-2.17-1980, Evaluation of Radionuclide Transport in Ground Water for Nuclear Power Sites."

9. Section 2.4.13.4. Identify the network of observation wells that will be maintained threughout plant life. In addition, describe the methods for processing, analyzing, and reporting the data, as well as quality assurance procedures.

10. Section 2.4.14. The statement in this section (that no tech specs or emergency operation requirements are needed) is in conflict with that in Section 2.4.10 (when the lake level reaches elevation 610, a normal shutdown will commence). Please rectify.

11. Section 3.4. Provide in this section a discussion of the design basis ground-water level, as well as the design basis flood level.

12. Section 9.2.5.3. Since the intake channel is a safety-related plant feature, provide details of the "periodic monitoring and dredging program" that will be used to assure continual free access to the river.

13. General comment. Since this is a two-unit plant, presumably one unit will be in operation before the other. Previde a discussion of all hydrologic engineering safety-related aspects of constructing one unit while the other is in operation. For example, what safety-related problems may arise at the operating unit because of an open excavation at the other unit?