

OCT 12 1984

Docket No.: 50-412

DISTRIBUTION

~~Docket File 50-412~~

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Dear Mr. Woolever:

Subject: Safety Requests for Additional Information

In reviewing Section 2.4 of the BVPS-2 FSAR, the staff determined that you have not provided sufficient information to support your conclusion that flooding would not affect safety-related structures. On August 31, 1983, we transmitted several questions concerning site flooding. However, because of your decision to appeal our incorporation of new probable maximum precipitation (PMP) criteria, responses to those questions have not yet been received.

Enclosed are additional questions which contain no reference to the new PMP criteria, and should be answered using the data used for the FSAR. We request that you provide responses by October 24, 1984. Should you have any questions regarding this request, please contact M. Ley, Licensing Project Manager (301) 492-7792.

Sincerely,

151
George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

Enclosure:
As stated

cc: See next page

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240.12
(FSAR 2.4.2.
3.1)
(SRP 2.4.3)

In determining the local PMF for Peggs Run, you used a rainfall intensity of 9.3 in/hr. The staff does not agree that this approach is correct since 9.3 in. is the total PMP that you determined for a 1-hr period. The PMP must be broken down to appropriate time increments suitable for the drainage area and times of concentration that exist at the site. Document the adequacy of your design by using a rainfall intensity corresponding to the time of concentration for Peggs Run. Provide your estimate of time of concentration together with an explanation of how it was calculated.

240.13
(FSAR 2.4.2.
3.1)
(SRP 2.4.3)

It is not clear how you determined a PMF for Peggs Run. If you developed a hydrograph, provide a plot of the hydrograph or a tabulation of discharge versus time and describe the procedures used to develop the hydrograph. If you used some other method such as the rational formula, describe what was done and include the values of all parameters used.

240.14
(FSAR 2.4.2.
3.1)
(SRP 2.4.3)

You have not provided any information concerning the effects of the railroad culvert on potential flooding of the site. However, the staff notes that in responding to a USAEC staff position on the BVPS-2 PSAR, you stated that assuming that the railroad culvert is blocked and that the railroad embankment does not wash out, water will rise to an elevation of 729.6 feet on-site. In your analysis, you routed the Peggs Run PMF over the railroad embankment assuming an 800 ft weir length. Is this analysis still valid? If it is, please provide the following information for staff review:

- a. The basis for assuming a weir length of 800 ft.
- b. A profile of the railroad, in the vicinity of the culvert, showing elevations of the top of the rail at each break in slope.
- c. Elevation-storage data for the ponding area behind the railroad embankment.

If conditions or design of the railroad culvert have changed from the PSAR, you should reevaluate the flood potential of the railroad culvert, make appropriate changes to the FSAR, and provide your re-analysis for staff review.

240.15
(FSAR 2.4.2.
3.1)
(SRP 2.4.3)

You state that you determined that, if the Peggs Run culvert failed during a PMF such that it would carry only negligible flow, due to blockage by debris, water levels in the vicinity of safety-related structures would be below an elevation of 730 ft. What elevation did you calculate? You further state that the U. S. Army Corps of Engineers water surface profiles program HEC-2, was used to generate a series of water surface elevations. Please provide those elevations together with the cross-sections used and their locations. Also provide all pertinent values such as Mannings "n" values, flows, starting water levels, slopes and any other assumptions used in computing water surface profiles. If you determined that water would overflow Peggs Run to the area east and south of the Highway 168 bridge-approach, provide a detailed topographic map of this area.

240.16
(FSAR 2.4.2.
3.2)
(SRP 2.4.3)

In analyzing local flooding, all you state is the method used to determine water depths and the maximum water elevations computed at the reactor building, the control building and the radwaste building.

- a. Are these the only safety-related buildings that could be affected by local flooding?
- b. You have not provided the staff sufficient information to enable it to review your local flood analysis. Please provide a more detailed description of your analysis.
- c. You should also provide a detailed topographic map of the site showing roads and railroads together with their top elevations. Other obstructions to flow such as temporary and permanent buildings, trailers, sheds, fences, etc., should also be shown.