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FACIL:50-438 Bellefonte Nuclear Plant, Unit 1, Tennessee Valley Au 05000438
50-439 Bellefonte Nuclear Plant, Unit 2, Tennessee Valley Au 05000439
AUTH.NAME AUTHOR AFFILIATION
MILLS,L.M. Tennessee Valley Authority
RECIP.NAME RECIPIENT AFFILIATION
ADENSAM,E. Licensing Branch 4

SUBJECT: Forwards response to 820713 ltr re Question 100.1 re summary of differences in environ effect discussed in environ rept & environ hearings.

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TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

February 10, 1983

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of	)	Docket No. 50-438
Tennessee Valley Authority	)	50-439

In reply to your July 13, 1982 letter to H. G. Parris transmitting questions on the Bellefonte Nuclear Plant, we have the enclosed response to Question 100.1.

If you have any questions concerning this matter, please get in touch with W. T. Watters at FTS 858-2691.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Enclosure (20)
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Mr. James P. O'Reilly Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

B001

ENCLOSURE

100.1 Question:

In addition to other requested information, provide a summary and brief discussion, in table form, by section, of differences between currently projected environmental effects (including those that would degrade and those that would enhance environmental conditions) and the effects discussed in the environmental report and environmental hearings associated with the construction permit review. On a similar basis, indicate changes in plant or plant component design, location or operation that have been made or planned since the construction permit review.

Response:

The summary is contained in Table 100.1-1. Additional information on minor structural changes was included in TVA's response to NRC question 310.7.

TABLE 100.1-1

SUMMARY OF DIFFERENCES IN ENVIRONMENTAL EFFECT

No.	FES Section	Title	O.L.E.R Section	Title	Change	Effect
1	1.1	Physical Characteristics of the Facility	N/A	N/A	Addition of several small buildings and effluent process ponds.	See response to NRC question 310.7.
2	2.1,	Transportation of Nuclear Fuel and Radioactive Wastes	3.5	Radwaste Systems and Source Terms	Method of tritium management (disposal) changed from shipments to plant release into effluent stream.	Described in TVA publication 'Tritium Management Considerations for Pressurized Water Reactors (PWRs)' snbmitted to NRC October 19, 1978.
	2.4.3, and	Radioactive Waste Disposal System				
	3.0	Adverse Environmental Effects Which Cannot Be Avoided				
3	2.2.2	Impacts of Transmission Line Rights of Way Clearing and Control Practices	5.5	Effects of Operation and Maintenance of the Transmission System	Methods of maintenance better defined (changed from NRC construction permit limitations).	Described in TVA publication 'Report of Transmission Line Right of Way Clearing and Maintenance Methods January 1977' submitted to NRC February 7, 1977 to satisfy CP condition 3.D.(3).
4	2.2.6	Tentative Transmission Line Route Selections	3.9	Transmission Facilities	Minor route changes.	See OLER and TVA response to NRC question 290.1.
5	2.4.7(3)	Summary of Radiological Impact	5.2	Radiological Impact From Routine Operation	Updated.	For details see OLER Seetion 5.2.
6	2.5.1	Chemical Discharges	3.6 and	Chemical and Biocide Wastes	The FES contained an earlier estimate. Current estimates are now based upon aetual TVA operating experience at other nuclear plants and updated water quality data in the vicinity of	None expected.

TABLE 100.1-1

SUMMARY OF DIFFERENCES IN ENVIRONMENTAL EFFECT

No.	FES Section	Title	O.L.E.R Section	Title	Change	Effect
					Bellefonte Nuclear Plant. All discharges to be in compliance with NPDES permit conditions.	
			5.3	Effects of Chemical and Biocide Dis-Charges		
7	2.5.3	Transformers and Electrical Machinery	3.7	Sanitary and Other Waste Systems	TVA currently has no plans to use Askarel in its transformers at Bellefonte. A discussion of TVA's plans concerning spills of nonradio-logical liquid wastes is contained in the 'spill prevention control and counter-measure' plan. This document is maintained onsite.	-
8	2.6	Heat Dissipation	3.4	Heat Dissipation System	Design complete with addition of approved diffuser design.	Described in TVA publication 'Sub-merged Multiport Diffuser Design for Bellefonte Nuclear Plant' submitted to NRC November 25, 1977 to satisfy CP condition 3.D(4).
9	2.6.4	Impact of Heat Dissipation Facilities	5.1	Effects of Operation of Heat Dissipation System	TVA plans to discharge heated water in accord-ance with the provisions of the NPDES permit. TVA submitted a 316(a) demonstration to the State of Alabama to show the effects of the discharge of heated water in excess of current Alabama State	Described in TVA publication 'Pre-dicted Effects for Mixed Temperatures Exceeding 30°C (86°F) in Gunters-ville, Alabama in the Vicinity of the Diffuser Discharge Bellefonte Nuclear Plant' February

TABLE 100.1-1

SUMMARY OF DIFFERENCES IN ENVIRONMENTAL EFFECT

No.	FES Section	Title	O.L.E.R Section	Title	Change	Effect
					standards during certain periods of low river flow and elevated intake water temperature. Alabama has acknowledged approval of TVA's 316(a) demonstration submittal in the NPDES permit subject to the establishment of an alternative maximum thermal limitation by the State.	1982, submitted to Alabama Water Improvement Commission June 9, 1982 with copies to NRC.
10	2.8.2	Permanent Employment Impact	5.6	Socioeconomic Effects	Employment levels and in-mover rates have risen to higher levels than estimated originally.	Same conclusions. See discussion contained in TVA response to NRC questions 310.1, 310.2, 310.3, 310.4, 310.5, and 310.6.
11	2.9	Other Impacts	3.10 and	Access Facilities	Railroad access changed from route B to route A.	Insignificant difference. Discussion contained in FES Section 2.9.
			10.9	Access Facilities		
12	8.1	Benefits	8.1	Benefits	In lieu of taxes payment increased.	See discussion contained in TVA's response to NRC question 310.13.
					Permanent work force salaries totals increased.	See 10 above.
13	Appendix L	Nonradiological Environmental Monitoring Program for the Bellefonte Nuclear Plant	6.1 and	Applicants Preoperational Environmental Programs	Monitoring program changed (durations, frequencies, etc) to bring in line with	Described in TVA publication 'Report on Larval Fish Entrainment for the

TABLE 100.1-1

SUMMARY OF DIFFERENCES IN ENVIRONMENTAL EFFECT

No.	FES Section	Title	O.L.E.R Section	Title	Change	Effect
					earlier program results and current NPDES permit conditions and to allow for accurate assessment of changes in chemical parameters and aquatic communities during plant operation.	years 1975-1976' submitted to the NRC June 28, 1977 to satisfy CP conditions 3.D.(1) and (2). And described in TVA publication 'Bellefonte Nuclear Plant: Preoperational Aquatic Monitoring Report.' Submitted to Alabama water improvement commission, November 6, 1980 with copies to NRC.
			6.2	Applicants Proposed Operational Monitoring Program		
14	1.2.8(6)	Population Distribution	2.1.3	Population Distribution	More detail provided to meet the requirements of Reg. Guide 4.2.	N/A
15	2.5.1(2)	Cooling Tower Makeup and Essential Raw Cooling Water Systems	3.4	Heat Dissipation System	Change in clam control method in ERCW from Acrolein injection to straining and heat treating.	Discussion contained in OLER Section 3.4.
16	2.5.4	Sanitary Wastes	3.7 and	Sanitary and Other Waste Systems	Permanent sand filter system upgraded to handle increased permanent plant personnel (up from 12,000 to 36,000 GPD).	Insignificant - minor land use adjustment.
			5.4	Effects of Sanitary Waste Discharges	The FES contained an earlier estimate. Current estimates are now based upon actual TVA operating experience at other nuclear plants	None expected.

TABLE 100.1-1

SUMMARY OF DIFFERENCES IN ENVIRONMENTAL EFFECT

No.	FES Section	Title	O.L.E.R Section	Title	Change	Effect
					and updated water quality in the vicinity of Bellefonte Nuclear Plant. All discharges to be in compliance with NPDES permit conditions.	
17	2.6.6(9)	Alternative Intake Designs	10.2	Intake Systems	Final selection of intake has been made and this information is now included in the OLER.	Described in the first publication listed in 13 above.
18	1.2.8(6)	Population Distribution	2.1.3	Population Distribution	Upgraded to include 1980 census.	N/A - Data contained in TVA snbmittal to NRC dated July 22, 1982.
19	-	-	4.1.2.1	Effect on Navigation	Addition of permanent marker above diffuser pipes.	Marker mitigates inadequate navigation clearance above one section of diffuser piping.
20	-	-	5.1	Effects of Operation of Heat Dissipation Systems	Maintenance dredging in intake area now discussed.	Information contained in TVA's response to NRC question 291.8.