TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
830 Power Building

July 31, 1978

Mr. Daniel Muller, Acting Director
Division of Site Safety and
Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Muller:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

In accordance with the provisions for review and comment indicated in the Federal Register on June 9, 1978, the Tennessee Valley Authority (TVA) has reviewed the Nuclear Regulatory Commission's (NRC) Draft Environmental Impact Statement (EIS) for the TVA Watts Bar Nuclear Plant and we have the following general comments.

Water quality and effluent monitoring requirements are within the Environmental Protection Agency's (EPA) jurisdiction under the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq. (Supp. V, 1975), as amended by Clean Water Act of 1977, 91 Stat. 1566 (FWPCA). Section 511(c)(2) of the FWPCA specifically precludes NRC from imposing or reviewing, as a condition in a construction permit (CP), any effluent limitation or other requirement other than those established pursuant to the FWPCA. In re Tennessee Valley Authority (Yellow Creek Nuclear Plant Units 1 and 2), partial initial decision, slip. op. at 31 (Feb. 7, 1978). EPA-NRC Second Memorandum of Understanding (40 FR 60115 (1975)). See A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess., vol. 1, at 183 (1973) (remarks of Sen. Muskie). Accordingly, TVA takes the position that the water quality and monitoring issues are adequately addressed in the draft NPDES permit and that those items need only be reported to EPA in accordance with the NPDES permit.

We do not believe NRC has the jurisdictional authority to include these requirements in the environmental technical specifications. However, TVA will supply the NRC with copies of all data submitted to EPA pursuant to the requirements of the NPDES permit but not as a duplication of a reporting requirement.

Mr. Daniel Muller July 31, 1978

The NRC draft EIS references TVA's Final Environmental Statement (FES) as a construction permit stage FES. However, in accordance with the lead agency agreement, TVA consulted with the Regulatory Staff of the AEC (now NRC) in the preparation of the FES and responded to all AEC concerns in the FES, which was submitted to the CEQ and made available to the public on November 9, 1972. This FES evaluated the environmental impacts resulting from operation as well as construction of the Watts Bar Nuclear Plant units 1 and 2. Accordingly, references to the FES should indicate that it addressed the construction and operation impacts and is not merely a CP stage EIS.

The two enclosures contain additional specific comments on the draft environmental statement. The comments in Enclosure 1 are directed toward various commitments and conclusions formulated by the NRC staff which TVA thinks are inappropriate or unwarranted. Enclosure 2 contains comments on specific descriptions in the NRC draft statement that we recommend be corrected in the staff's final statement.

Very truly yours,

J E Gilleland

J. E. Gilleland
Assistant Manager of Power

Enclosures
cc (Enclosures):
Ms. Suzanne Keblusek, Project Manager
Environmental Projects Branch 2
Division of Site Safety and
Environmental Analysis
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Enclosure I
TVA RESPONSES TO COMMITMENTS AND
CONCLUSIONS IDENTIFIED IN THE NRC STAFF
DRAFT ENVIRONMENTAL STATEMENT

I. NPDES Permit

1. P. ii, item 6B-1

The staff requires TVA to carry out environmental (thermal, chemical, radiological, ecological) monitoring programs outlined in the NPDES permit as an environmental technical specification requirement.

TVA Comment

Operational nonradiological effluent and aquatic monitoring programs will be conducted in accordance with the terms of the NPDES Permit. TVA objects to the implications of this paragraph that the monitoring programs in the NPDES Permit will be duplicated in the environmental technical specifications for the Watts Bar Nuclear Plant.

2. P. iii, item 6B-2

The staff requires TVA to notify the Director, Division of Site Safety and Environmental Analysis, of all cases where all NPDES Permit discharge limits are exceeded as a requirement of the environmental technical specifications.

TVA Comment

TVA objects to the separate reporting requirements for matters regulated by the NPDES Permit. Part II, Section A-2 on page E9 of the draft NPDES Permit contained in Appendix E of this document requires the notification of the regional administrator and the State within a five-day period of any noncompliance with those matters regulated by the Permit.

3. P. 2-13, item 2.5.2, first paragraph

The staff indicates TVA will submit their Preoperational Aquatic Monitoring Report in November of 1978.

TVA Comment

As discussed with Ms. Keblusek of the NRC staff on June 21, 1978, TVA anticipates to submit the Preoperational Aquatic Monitoring Report in accordance with the schedule identified in the NPDES Permit Part III, Section J (i.e., three months prior to the commercial operation of Unit 1).

4. P. 5-3, first paragraph

The staff believes it prudent to conduct limited monitoring for copper in the downstream mussel beds.

TVA Comment

TVA objects to the staff's recommended monitoring requirements for copper. The corrosion-erosion studies required by Part III, Item M of the NPDES Permit should be sufficient to document any copper losses within the system. The only other source of copper within the discharge would be that which occurs in the makeup water.

5. P. 6-1, third line of Section 6.2.4

It is again stated that TVA Preoperational Aquatic Monitoring Reports are scheduled for completion in November 1978.

TVA Comment

See response to Item 3.

6. P. 6-4, Section 6.3

The staff requires TVA to submit their Operational Aquatic Monitoring Program to the staff for their review before station operation and the incorporation of the program into the environmental technical specifications, as applicable.

TVA Comment

With respect to the operational nonradiological aquatic monitoring programs, (effluent and instream), it is TVA's opinion that NRC's inclusion of matters regulated by the FWPCA and contained in the NPDES Permit are outside of NRC's jurisdiction and cannot be reflected in environmental technical specifications as conditions of an operating license. Therefore, TVA objects to the proposed staff requirements and recommendations concerning aquatic monitoring as identified in the Section 6.3. In Section 6.3.5, the NRC staff's acknowledged intent that duplicate reporting requirements are likely to be required is an unwarranted example of dual regulation. Furthermore, the "Staff Evaluation of Plans for the Operational Monitoring of Aquatic Biota" fails to recognize that the regulating document for aquatic matters is the NPDES Permit requirements and not the environmental technical specifications. The NRC staff will have the opportunity to receive, review, and comment on plans and reports concerning matters regulated under the FWPCA as identified in Part III, Section O of the NPDES Permit. NRC's comments on the plans and reports should be forwarded to EPA for consideration by EPA in their evaluation and approval of the plans and reports required by the permit. Beyond this level of involvement, the NRC staff has no authority for the establishment and regulation of matters concerning the aquatic environment.

II. Transmission Facilities

1. P. iii, item 6B-4, and p. 6-8, Section 6.3.6.3

The staff requires TVA to submit an annual report on the program chemical control of vegetation on transmission line rights of way.

TVA Comment

TVA objects to the staff requirement of an annual report on pesticide usage on transmission line rights of way. The use of herbicides is regulated by the Federal Insecticide, Fungicide, and Rodenticide Act which requires the registration of all pesticides and that all subsequent uses must be within the label restrictions. In the case of hard core pesticides the Act also requires that the application must be made by certified applicators. In TVA's opinion the proposed NRC reporting requirement is outside NRC's jurisdiction and is unwarranted.

III. Cooling Towers

1. P. iii, item 6B-3, and P. 6-8, Section 6.3.6.2

The staff requires a bird monitoring program be designed to detect and report serious episodes of bird collisions with cooling towers as contrasted with occasional random collisions.

TVA Comment

TVA will conduct a bird monitoring program to detect and report serious episodes of bird collisions with the cooling towers. The bird monitoring will be conducted during peak periods of avian use for a period of time not to exceed two years. The data collected from this program will determine what the future monitoring requirements of the other TVA nuclear plants should be.

2. P. 6-8, Section 6.3.6.1, last paragraph

The staff requires that a limited term aerial remote sensing program be undertaken as part of the applicant's proposed monitoring program. This program may use color infrared and/or multispectral or multiband photography. This combined program of aerial remote sensing and ground inspection on an annual basis for a limited term would be highly sensitive in the rapid detection of any terrestrial effects due to cooling tower drift or plume interactions.

TVA Comment

Potential terrestrial effects of cooling tower and smoke plume interaction are being investigated through the use of vapor plume and drift models, atmospheric and plume chemistry relationships, and observational experience. The result of this investigation will be a recommendation on the necessity of implementing the

terrestrial effects monitoring program. It is anticipated that this recommendation will be made before the end of 1978.

The remote sensing approach for delineating effects of air pollution on vegetation is still in the experimental stage. In general, those experiments which have reported definitive results have included extensive controlled environment studies in support of the aerial reconnaisance and were concerned with less complex situations. TVA believes the on-the-ground vegetation surveillance program will be more objective and will not be dependent on results from the remote sensing program.

IV. Terrestrial

1. Page i, Item 3b

The staff concludes that the 967 acres of rural, partially wooded land owned by the applicant will be unavailable for other uses during the 40-year life of the plant.

TVA Comment

Item 1, on page 2.10-1, of the TVA FES states the following: "The major impact on land will be the conversion of approximately 967 acres of land to industrial use. That portion of this land which will be occupied by the buildings housing the nuclear steam supply system must be considered irretrievable for the foreseeable future. However, there are no anticipated routine operations of the plant which would prohibit attaining full use of the surrounding land."

Any future land use proposals by TVA would preclude the use of the 1200 meter exclusion area as defined in Section 2.1.2.2 of the Watts Bar Nuclear Plant Final Safety Analysis Report (FSAR).

2. P. 6-4, Section 6.2.5

The staff requires a one-year preoperational aerial remote survey using color infrared and/or multispectral or multiband photography.

TVA Comment

We feel that the requirements dictated in this section, which involve one-year preoperational aerial remote survey using color infrared and/or multispectral or multiband photography, are costly and unnecessary. The NRC staff provides no explanation of the purpose for conducting such a survey, and we believe that NRC should provide TVA with its rationale for such a requirement prior to our initiating the photographic work.

ENCLOSURE II
TVA COMMENTS ON SPECIFIC DESCRIPTIONS
IN THE NRC STAFF
DRAFT ENVIRONMENTAL STATEMENT

1. Table of Contents, Page v, 3.2.5 Underdrain System

Change "Underdrain" to "Power Transmission"

2. P. 2-1, Section 2.1, second paragraph

It is stated that a threefold increase in industrial water utilization downstream from Watts Bar Nuclear Plant is now projected. Based on the assessment in Section 2.3, it is TVA's opinion, that this is an inaccurate statement and reflects an incorrect understanding and usage of basic information. The TVA Watts Bar environmental impact statement included information on the current water supply withdrawals at the time the statement was prepared and not the projected water uses. This information did not include future water supply withdrawals for Sequoyah or Watts Bar Nuclear Plants. The water supply data provided in the "Environmental Information-Supplement I" included the identification of the future water use withdrawals for Watts Bar and Sequoyah Nuclear Plants even though these withdrawals had not been initiated. It further identified reactivation of the Watts Bar Steam Plant and the potential water use by the Volunteer Army Ammunition Plant if it were reactivated. This latter installation was in operation at the time of the preparation of the FES however, it has subsequently been placed in layby status. Based on the data provided in the Environmental Information Supplement I, it is TVA's assessment that the current industrial water use withdrawals from Chickamauga Reservoir are approximately 3 million gallons per day. The NRC estimate of 164 million gallons per day appears to include 50 MGD for Volunteer Ordinance which is currently inactive, 111 MGD future water withdrawal for the Watts Bar Nuclear Plant and 3 MGD for C. F. Industries (formerly Farmer's Chemical).

3. P. 2-5, Section 2.2.2, first sentence on page

We recommend the following sentence be substituted:

> Rhea and Meigs Counties rated first and second in percent change of population increase among counties in the Southeast Tennessee Development District from 1970-1975.

4. P. 2-1, Section 2.2.1

We recommend the following paragraphs be substituted for Section 2.2.1 in the draft EIS:

2.2.1 Population Changes

The principal population centers within 50 miles of the Watts Bar Plant were indicated by the applicant in the FES. Population distributions, based on the 1970 Census of Population, and projected population distributions were included for the area within 0-10 and 0-50 miles of the plant for the years 1970, 1980, and 2000. This information has been updated and expanded to also provide projected population distributions within 0-10 and 0-50 miles of the site for the years 1978, 1990, 2010, and 2020. These data are provided in the Watts Bar Nuclear Plant Final Safety Analysis Report, Tables 2.2 through 2.15, which tabulate the distributions within $22\frac{1}{2}^{\circ}$ sectors and sections of annuli.

Projected population data were based on county projections prepared by the Bureau of Economic Analysis (BEA), in cooperation with the Southern Economic Review Groups - Georgia, North Carolina, and Tennessee. These projections incorporated the Census Bureau's 1972 "Series E" national population projections. The Southern Economic Review Groups are cooperative Federal-State groups formed to assist BEA in preparing county projections for planning and development purposes. Subdivisions of the county estimates and projections were made by TVA, Navigation and Regional Economics Branch. These subdivisions were based on census and other maps, on judgments from field experience, and on such factors as topography, transportation networks, and historical growth patterns.

In 1970 approximately 11,000 people lived within 10 miles of the Watts Bar Plant, with 80 percent of the population located between 5 and 10 miles of the site. The remainder of the area within 10 miles is sparsely populated. The population within 10 miles of the site is projected to grow to a little over 14,000 by the year 2020. Between 0 and 50 miles of the site, the population is presently about 654,000 and is expected to increase by over 38 percent to approximately 905,000 by the year 2020. Almost 50 percent of this total growth is expected to take place in the area between 40 and 50 miles from the site.

5. P. 2-1, last sentence on page

Change "Canton" to "Clinton"

6. P. 2-5, Table 2.7 "1970-1975 Population Changes"

Please see the attached Table 2.7 which has been revised.

7. P. 2-6, first complete paragraph, first sentence

The construction activity peak has been revised to mid-1978 with approximately 3900 workers at the site.

8. P. 2-7. Section 2.3.2, second paragraph

It is noted that two temporary chemical cleaning holding ponds have been constructed in the yard holding pond area. TVA has not made a final decision concerning the disposition of these ponds upon completion of construction. If it is determined that future chemical cleaning operations may be required with the operating plant, TVA may elect to retain these ponds. If it is determined that future cleaning operations will not be required then the ponds will be leveled and graded in accordance with TVA's original plan as stated in the draft EIS.

9. P. 2-11, Section 2.4.3, paragraph 2

The reference to J. L. Marshall, Lightning Protection (reference number 31), at the end of the second sentence does not appear to be correct.

10. P. 2-11, Section 2.4.3, paragraph 2

We suggest the second sentence be rewritten as follows:

> "The calculated resultant tornado frequency and the recurrence interval of a tornado striking any selected point in the 25,600 square kilometer (10,000 square miles) area containing the site is 7.6×10^{-4} tornadoes per year and 1,300 years, respectively."
>
> This statement more accurately describes the results of the calculations by the Thom Method.

Table 2.7

1970-1975 POPULATION CHANGES

	(CARCOG/SETDD* Population)					
	Population			Annual Rate of Increase		
	1970	1973	1975	70-73	73-75	70-75
Meigs County	5,219	5,596	6,117	2.4	4.6	3.2
Decatur**	698	746	807	2.3	4.1	3.0
Rest of County	4,521	4,850	5,310	2.4	4.7	3.3
Rhea County	17,202	19,220	20,236	3.8	2.6	3.3
Dayton***	4,361	4,463	4,278	0.8	-2.1	-0.4
Graysville	951	1,155	1,220	6.7	2.8	5.1
Spring City	1,756	1,858	1,902	1.9	1.2	1.6
Rest of County	10,134	11,744	12,836	5.0	4.5	4.8
CARCOG/SETDD Total	509,369	538,720	548,889	1.9	1.0	1.5
Municipal Total	310,503	318,966	320,891	0.9	0.3	0.7
Rest of County Total	198,866	219,754	227,998	3.4	1.9	2.8
Tennessee	3,926,018	4,086,891	4,174,100	1.4	1.1	1.2

*Chattanooga Area Regional Council of Governments/Southeast Tennessee Development District.

**City is in two counties.

***City annexed area between 1970 and 1975 that was not included in the estimate.

Source: Current Population Reports, Series P-25, #658 and #690. U.S. Bureau of the Census.

11. P. 3-1, Section 3.2.1, last paragraph, first sentence

The concentration factor in the condenser circulating water system will average 1.9, not 1.6 and should be revised.

12. P. 3-18, "Containment Ventilation System"

(a) The containment ventilation system description assumes that the containment will be purged 24 times per year plus a 10 cfm continuous purge. We have assumed 6 containment purges per year plus a 10 cfm continuous purge.

(b) The 16,000 cfm containment cleanup system which was to operate for 16 hours before containment purge has been deleted.

(c) The auxiliary building HEPA filter has been deleted.

13. P. 3-21, Section 3.2.3.3

The statement, "When the resin is to be packaged, it will be sluiced to shipping containers but will not be solidified prior to shipment offsite for disposal." is incorrect and should be replaced by the following sentence:

> Spent resins will be combined with a suitable binding agent to form a solid matrix prior to offsite shipment for disposal.

TVA is preparing a response to WBNP FSAR NRC question 321.17, and will commit to solidification of spent resins prior to offsite shipment for disposal.

14. P. 3-22, second paragraph

The first sentence should be revised to read as follows: "TVA currently plans to use potassium chromate for corrosion inhibition in the component cooling water system."

15. P. 3-26, Table 3.7

The "Approximate Date Required" section of this table should be revised as follows:

TABLE 3.7

WATTS BAR TRANSMISSION SYSTEM DESCRIPTION

Line Name	Voltage (kV)	Approximate Date Required
STEP I		
Bull Run-Sequoyah, Loop into Watts Bar Nuclear Plant	500	In Service
Watts Bar Hydro-Watts Bar Nuclear No. 1	161	In Service
Watts Bar Hydro-Watts Bar Nuclear No. 2	161	In Service
STEP II		
Watts Bar-Volunteer	500	June 1979
Watts Bar-Roane	500	In Service
Watts Bar-Sequoyah No. 2	500	In Service

16. P. 4-2, "Newly Proposed Watts Bar- Volunteer Transmission Line"- last paragraph

(a) First sentence change ". . . Tennessee State Historical Preservation Offices. . ." to ". . . Tennessee State Historic Preservation Officer. . ."

(b) Second sentence should be replaced with the following two sentences:

> Final historical and archaeological coordination has been completed. The Tennessee State Historic Preservation Officer has concurred with TVA's determination that the subject transmission line will not affect any historical or architectural properties included in or eligible for inclusion in the National Register of Historic Places."

This information was provided to the NRC by letter from J. E. Gilleland to Edson G. Case dated May 19, 1978.

17. P. 4-5, Reference 1

Change ". . . Volunteer Tennessee 500 kV. . ." to ". . . Volunteer, Tennessee - 500-kV. . ."

18. P. 5-3, Section 5.3.4, third paragraph, first sentence

In light of recent amendments to the Federal Water Pollution Control Act, made by the Clean Water Act, 91 Stat. 1567 (1977), which now subject Federal agencies to state administrative authority in the area of water pollution abatement, this statement is incorrect. To be correct, the statement should read:

> Even though the State of Tennessee now administers the NPDES in Tennessee, the NPDES permit for this facility will be issued by EPA because the NPDES permit drafting had already progressed substantially by the time the NPDES authority was transferred to Tennessee by EPA.

19. P. 5-3, Section 5.3.4, last paragraph, third sentence

The concentration of phosphorus resulting from initial metal cleaning wastes is limited to a maximum of 1.0 mg/l as elemental phosphorus, not as phosphate and should be clearly noted in the DES.

20. P. 5-5, Section 5.3.6, first paragraph

The plant intake and evaporation rate figures appear to be inconsistent with the figures in the table on page 3-3 and should be revised accordingly.

21. P. 5-5, last line on page

The discussion from the bottom of page 5-5 is not continued onto page 5-6, the discussion on page 5-5 should be completed.

22. P. 5-7, Section 5.4.1.2, eighth paragraph, last line

The word "spent" should be changed to "spend"

23. P. 5-9, Table 5.2

This table has been updated and should be replaced with the attached revised table.

Table 5.2

Estimated Seasonal Entrainment (%) of Fish Families Collected in the Tennessee River at Watts Bar Nuclear Plant, 1976 and 1977

Family	1976			1977		
	Number Transported	Number Entrained	Percent Entrainment	Number Transported	Number Entrained	Percent Entrainment
Sciaenid Eggs	6.62×10^7	2.15×10^5	0.33	4.46×10^7	2.59×10^5	0.60
Clupeidae	2.26×10^9	2.50×10^7	1.13	1.08×10^{10}	6.64×10^7	0.61
Hiodontidae	-	-	-	3.28×10^6	1.03×10^4	0.31
Cyprinidae	1.18×10^7	7.76×10^4	0.67	1.34×10^7	2.28×10^5	1.70
Catostomidae	3.73×10^5	-	-	3.26×10^7	8.07×10^4	0.25
Ictaluridae	1.37×10^7	2.52×10^4	0.18	1.80×10^7	1.78×10^5	0.99
Percichthyidae	2.45×10^6	3.85×10^4	1.55	4.34×10^7	2.89×10^5	0.67
Centrarchidae	6.23×10^7	6.30×10^5	1.01	2.81×10^8	2.53×10^6	0.90
Percidae	1.65×10^5	-	-	3.73×10^6	2.70×10^4	0.72
Sciaenidae	1.61×10^8	9.82×10^5	0.61	3.18×10^8	1.73×10^6	0.54
Total Eggs	6.87×10^7	2.15×10^5	0.32	7.56×10^7	5.20×10^5	0.69
Total Fish	2.51×10^9	2.18×10^7	1.08	1.15×10^{10}	7.11×10^7	0.62

24. P. 5-8, Section 5.4.2

Paragraphs three through six should be rewritten as follows:

Data for ichthyoplankton in the vicinity of the Watts Bar site during the 1976 spawning period (See Appendix C, Table C-16) indicate uniform distribution of the early life stages across a river transect. Therefore, ichthyoplankton entrainment approximates hydraulic entrainment. TVA has estimated that, for 1976, approximately 0.2 million eggs and 21.8 million larvae would have been entrained if the plant had been operational. These estimated losses represent 0.32 percent of the eggs and 1.08 percent of the larvae transported past the Watts Bar site. For 1977, losses were estimated at .69 percent of the eggs and .62 percent of the larvae. Table 5.2 shows the estimated entrainment for each family of fish collected. Only the freshwater drum (Sciaenidae) was represented in the collection of eggs. Clupeidae, including gizzard and threadfin shad, contributed approximately 91.5 percent of the total larvae collected. Freshwater drum and Lepomis supp. larvae contributed 5.5 percent and 1.9 percent, respectively. The clupeids, freshwater drum, and Lepomis are not restricted to the tailrace habitat for spawning success.

The importance of the tailrace as a spawning site for the migratory spawners was not demonstrated by the ichthyoplankton data. These taxa represented less than one tenth of one percent of the total larvae collected. The sauger, Stizostedion canadense, which would be expected to spawn in the tailrace area, is also one of only two identified host fishes for the glochidial stage of the endangered mussel, Lampsilis orbiculata. The ichthyoplankton data indicate limited abundance of sauger, i.e., only one larva was collected in 1976. The other identified host is the freshwater drum which would have been sustained entrainment losses during 1976 of 0.32 percent and 0.61 percent for eggs and larvae, respectively.

Based on the two years of ichthyoplankton data, it is concluded that the losses of ichthyoplankton due to entrainment will be at acceptably low levels and that neither the reservoir fishes nor endangered mussel will be significantly impacted by such losses. Additional monitoring of the ichthyoplankton passing the site indicated that the 1976 year was not atypical with regard to tailrace spawning. Data for 1978 will be collected and presented in the applicant's preoperational monitoring report.

25. P. 5-21, Table 5.10

(a) The section for gaseous effluents includes a comment that the maximum effect of Rn-222 is "presently under consideration by the Commission." The DES presents data on page 5-23 which could be incorporated into Table 5.10.

(b) At the bottom of the page in the table title "(NUREG-0016)" should be "(NUREG-0116)"

26. P. 5-25, Section 5.6

All discussions of "operators" should be revised to "operating personnel."

27. P. 6-1, Section 6.2.1

(a) In this section the 10-meter level is converted to 30 feet, however, the correct conversion is 33 feet.

(b) The dew point is not measured at the one-meter level which is not indicated in the third from the last sentence in this section.

(c) The next to the last sentence in this section should be changed to read "A dew point sensor is operational at the 10-meter (33-foot) level."

28. P. 6-1, Section 6.2.4, first paragraph, last sentence

Baseline monitoring of adult fish populations in the vicinity of the plant will be continued through to March of 1979. The last sentence should be revised accordingly.

29. P. 6-2, "1. Objectives and Scope"

The first sentence should be revised to read, "The objective of this 2-year study (March 1977 - March 1979). . . "

30. P. 604, Section 6.3.1

The second sentence is not clear and should be changed to read, "Vertical temperature gradients between the 10- to 46-meter (33- to 150-foot) and the 10- to 91-meter (33- to 300-foot) levels, and the 10-meter (33-foot) temperature and dew point measurements will be displayed in the reactor control room."

31. P. 6-9, Reference 4, second line

Change ". . . Line Connection, . . ." to ". . . Line Connections,..."

32. P. 8-2, Footnote

The date "1958" should be revised to "1978"

33. P. 9-1, Section 9.1, last two sentences

The Watts Bar Nuclear Plant operation delay has been due to construction delays, not forecast reductions as indicated in the draft EIS and Watts Bar units 1 and 2 are now scheduled to begin operation in December of 1979 and September 1980, respectively.

34. P. 9-2, Section 9.3.1

The 1,300 MW of pumped-storage capacity should not be included with hydro and Browns Ferry Nuclear Plant units 1 and 2 as having lower operating cost than the Watts Bar units. All the capacity used to pump the pumped-storage units will have higher costs than Watts Bar units 1 and 2, and therefore the pumped-storage cost would also be higher.

35. P. 10-1, Section 10.2.2, first paragraph, second sentence

Change ". . . full time operators." to ". . . full time operating personnel."

36. Appendix C, P. C-7, third complete paragraph, line fourteen

The sentence beginning "The percent contribution . . .". The generally higher numbers of blue-green algae in the spring and fall of 1975 referred to in this sentence were not found in the 1976 samples. Therefore, it would be difficult to ascribe any significance to the high numbers obtained in 1975. (The 1976 phytoplankton data was submitted to NRC by letter from J. E. Gilleland to O. D. T. Lynch dated January 3, 1978.

37. Appendix C, P. C-13, "Secondary Production - Benthos"

A recent mussel survey in Chickamauga Reservoir in the vicinity of TRM 520.2 has revealed the presence of Dromus dromas, a species of mussel on the Department of Interior's list of threatened and endangered species. A brief statement summarizing this finding is as follows:

> During a June 7-8, 1978, mollusk survey conducted in Chickamauga Reservoir for other TVA program activities, two specimens of Dromus dromas were collected. This represents the first reported occurrence of this mussel species in Chickamauga Reservoir. This species is listed on the Department of threatened and endangered species. During the survey specimens of D. dromas and L. orbiculata were collected between Tennessee River Mile (TRM) 520.0 and TRM 521. This is the first record of L. orbiculata being collected at a location other than near TRM 527.7. This collection verifies that L. orbiculata is more widely distributed in Chickamauga Reservoir than previous data had indicated. The area where D. dromas was collected is located on the left overbank of the reservoir, 7.6 miles downstream from the Watts Bar Nuclear Plant. Because of the initial rapid mixing to be provided by the Watts Bar discharge diffuser and the subsequent additional mixing which will occur in the 7.6-mile reach of the river, the area of collection will not be subjected to plant induced stresses.

38. Appendix E, Draft NPDES Permit

Attached for your information is a copy of the two letters which were submitted to EPA containing the comments generated from TVA's review of the draft NPDES permit.

39. Appendix E, P. E-15, draft 401 Certification from the State of Tennessee.

When available TVA will provide the NRC a copy of the letter sent to the State of Tennessee containing the comments generated from TVA's review of the draft 401 certification.

April 14, 1978

Mr. John C. White
Administrator, Region IV
Environmental Protection Agency
345 Courtland Street, NE.
Atlanta, Georgia 30308

Re: Watts Bar Nuclear Plant
NPDES Permit No. TN0020168

Dear Mr. White:

We have reviewed the draft NPDES permit and Draft 316(a) Tentative Determination for the referenced facility, and have the following comments and requests.

The permit as drafted will expire on September 30, 1980, thus limiting the effective period to approximately two years. Although regulations do not require that the NPDES permits be issued for five-year terms this has been the practice for permits issued to date and is based on sound policy and legal considerations. Section 101(f) of the Federal Water Pollution Control Act states that it is the national policy to make the best use of available manpower and funds in implementing the Act. Significant costs and manpower resources are involved in obtaining an NPDES permit for a nuclear plant. We can see no benefit for requiring that the permit process, and resulting expenditure of funds and commitment of resources by TVA and EPA, be reported within two years.

Part III., section P suggests that the permit shall be modified or revoked and reissued to comply with applicable effluent limitations promulgated pursuant to the settlement agreement in Natural Resources Defense Council v. Train, 8 ERC 2120 (D.D.C. 1976). It is our view that neither the consent decree nor the FWPCA require or authorize the conditions specified in Part III., section P.

We also have the following comments and requests related to specific permit effluent requirements.

Part I, page 3, Serial 002

The mixing zone dimension indicated in the draft permit is 225 feet for both width and length. As shown in the TVA report WM28-1-85-100, February 1978, the dimensions for both length and width should be 240 feet.

Monitoring for suspended solids, settleable solids, total dissolved solids, ammonia nitrogen, copper, iron manganese, and zinc have been included for this serial discharge and the plant intake, Serial 019. The plant will operate with low cooling cycles of concentration and there will be no additions of the listed constituents to the cooling water. Any additions

of these constituents through inclusion of low-level wastes below detectable amounts in the discharge. Additionally, there is no justification for these requirements included in the guidelines for this category. We request that this monitoring requirement be deleted.

Part I, page 8, Serial 007

The source listed as a "neutral waste sump" is a neutralizer waste tank; however, we did not revise the flow diagram to indicate this change, nor do we request that the permit language be changed. The comment is included to clarify any misunderstanding.

Part III.A., page 20

The Serial 005 referred to in this section should be changed to Serial 004.

In addition to the draft permit and Draft 316(a) Tentative Determination, we have reviewed the March 24, 1978, letter from Mr. George L. Harlow to Mr. Jack McCormick, Tennessee Department of Public Health. The letter states that "any conditions felt warranted by your office can be included in your certification for this project and will be appended to the NPDES permit." Under the Clean Water Act of 1977, TVA is no longer exempt from state certification pursuant to Section 401. This section specifies that the certification must set forth limitations and requirements necessary to ensure compliance with Sections 301, 302, 303, 306, and 307 of the FWPCA. However, it does not provide that a state can include "any condition felt warranted" in a certification and provide that the condition becomes an NPDES permit condition.

Pursuant to discussions with Mr. Charles H. Kaplan of your staff, we have enclosed two copies of a revised Water Use Diagram and supplemental thermal data which was developed in response to specific questions from Mr. Kaplan. Two copies of the Water Use Diagrams of reproduction quality were sent directly to Mr. Kaplan.

If you have any questions concerning these comments and requests, please let me know.

Sincerely yours,

Harry G. Moore, Jr., Ph.D.
Acting Director of Environmental
Planning

June 30, 1978

Mr. John C. White
Administrator, Region IV
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Re: Watts Bar Nuclear Plant
NPDES Permit No. TN0020168

Dear Mr. White:

We have reviewed the Public Notice, and Notice of Proposed Section 316(a) Determination for the above-referenced facility and have the following comments.

The letter from Mr. George L. Harlow to me, in response to TVA's previous comments concerning the expiration and language of Part III.P., stated that these requirements are in conformance with present headquarter's directives. However, we wish to reiterate TVA's previous comments.

The permit as drafted will expire on September 30, 1980, thus limiting the effective period to approximately two years. Although regulations do not require that the NPDES permits be issued for five-year terms, this has been the practice for permits issued to date and is based on sound policy and legal considerations. Section 101(f) of the Federal Water Pollution Control Act states that it is the national policy to make the best use of available manpower and funds in implementing the Act. Significant costs and manpower resources are involved in obtaining an NPDES permit for a nuclear plant. We can see no benefit for requiring that the permit process, and resulting expenditure of funds and commitment of resources by TVA and EPA, be repeated within two years.

Part III., section P suggests that the permit shall be modified or revoked and reissued to comply with applicable effluent limitations promulgated pursuant to the settlement agreement in Natural Resources Defense Council v. Train, 8 ERC 2120 (D.D.C. 1976). It is our view that neither the consent decree nor the FWPCA require or authorize the conditions specified in Part III., section P.

We also have the following comments and requests related to specific permit requirements.

Part I, Serial 002

We wish to reiterate our comment included in my April 14, 1978, letter concerning the monitoring required for this serial discharge and Serial 019.

The plant will operate with low cooling cycles of concentration and there will be no additions of the listed constituents to the cooling water. Any additions of these constituents through inclusion of low-level wastes should be below detectable amounts in the discharge. Additionally, there is no justification for these requirements included in the guidelines for this category. We request that this monitoring requirement be deleted.

This serial discharge together with Serial 001 contain Serial Discharge 003, 004 and 008 at the point of discharge, and both 001 and 002 have applicable pH limits. We therefore request that the pH limit for 003, 004 and 008 be omitted.

Part I, Serial 005

We request that the monitoring requirements of the parameters chlorine residual and fecal coliforms be deleted. With this deletion, the monitoring requirements in the permit would be consistent with the monitoring requirements established by the State of Tennessee in the Section 401 Certification.

Part I, Serial 008

We request that a footnote be added stating that the limitations and monitoring are not applicable when discharge is to be the radwaste treatment system.

Part III, Item J

The preoperational nonradiological aquatic monitoring programs referred to in this section have already been implemented, and portions have been completed. Detailed descriptions of these programs were submitted to Mr. Charles H. Kaplan, of EPA, by letter from Dr. Peter A. Krenkel, dated August 31, 1977. It is our understanding that this item would reflect EPA's approval for these programs in the final permit.

Part III, Item K

The operational nonradiological aquatic monitoring programs have already been submitted to Mr. Kaplan by letter from Dr. Krenkel dated August 31, 1977. We understand this section will reflect EPA's approval of these programs in the final permit.

In addition to these comments, we are sending to the State of Tennessee and to you under separate cover TVA comments on the Tennessee draft certification.

If you have any questions concerning these comments and requests, please let me know.

Sincerely yours,

JCB III

for Harry G. Moore, Jr., Ph.D.
Acting Director of Environmental
Planning