

APPENDIX B

AGENCY CORRESPONDENCE



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499
February 16, 2001

Dear

**INTERGOVERNMENTAL REVIEW - TENNESSEE VALLEY AUTHORITY -
PREPARATION OF SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR
RENEWAL OF BROWNS FERRY NUCLEAR PLANT OPERATING LICENSES**

The Tennessee Valley Authority (TVA) will prepare a supplemental Environmental Impact Statement (SEIS) to address the environmental impacts associated with obtaining license extensions for the Browns Ferry Nuclear Plant (BFN) located in Limestone County, Alabama. Enclosed is a copy of the Notice of Intent for the SEIS published in the *Federal Register* on February 15, 2001. Action alternatives TVA is currently considering include license extensions for Units 2 and 3 to continue power operation for an additional 20 years, and the possible return to service of Unit 1 with a 20-year license extension. TVA will also consider a "no action" alternative which would be a decision by the TVA Board of Directors to not pursue license renewal. Under the no action alternative the plant would cease to produce power and TVA would choose one of the decommissioning options. Under this alternative, the power no longer being produced by BFN may or may not be generated or obtained by other means.

On March 6, 2001, TVA will conduct a public meeting on the scope of the SEIS in Limestone County, Alabama. The meeting will be held at the Aerospace Technology Building Auditorium on the campus of Calhoun State Community College on Highway 31 North. Registration for the meeting will be from 6:00 p.m. to 6:30 p.m. At this early stage, we would appreciate your comments regarding issues and alternatives. To receive further information or to provide comments, please contact Bruce Yeager at (865) 632-8051; direct mail to WT 8C, 400 West Summit Hill Drive, Knoxville, Tennessee, 37902; or e-mail to blyeager@tva.gov. Please send comments on alternatives and issues to the above address by March 23, 2001.

Sincerely,

A handwritten signature in black ink that reads "Jon M. Loney". The signature is written in a cursive, flowing style.

Jon M. Loney
Manager, NEPA Administration
Environmental Policy & Planning

Enclosure

BLY:TMH

cc (Enclosure):

Jack A. Bailey, LP 6A-C
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BFN - Intergov-LoneyLetter

The attached letter was sent to the following people:

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January 18, 2002

ER 01/1073

Mr. Jon M. Loney
Manager, NEPA Administration
Environmental Policy and Planning
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902

RE: Draft SEIS for Operating License Renewal of the Browns Ferry Nuclear Plant, Athens,
AL

Dear Mr. Loney:

The Department of the Interior has reviewed the Draft SEIS for the referenced document. We
have no comments at this time. Thank you for the opportunity to review this document.

Sincerely,

Gregory L. Hogue
Acting Regional Environmental Officer

cc:
FWS, Atlanta
OEPC, WASO

Case# 6264545



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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January 25, 2002

Mr. Bruce L. Yeager
Senior NEPA Specialist
Tennessee Valley Authority
400 W. Summit Hill Drive
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Knoxville, TN 37902-1499

SUBJ: EPA NEPA Comments on the TVA DSEIS for "Operating License Renewal of the Browns Ferry Nuclear Plant in Athens, Alabama"; Limestone County, AL; CEQ No. 010519

Dear Mr. Yeager:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Tennessee Valley Authority (TVA) Draft Supplemental Environmental Impact Statement (DSEIS) in accordance with EPA's responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The proposed action is to relicense Browns Ferry Nuclear Plant (BFN) with the Nuclear Regulatory Commission (NRC) for an additional 20 years. Existing 40-year licenses would expire in 2013 (Unit 1), 2014 (Unit 2) and 2016 (Unit 3). This TVA SEIS supplements the original EIS of 1972 approved by TVA and the former Atomic Energy Commission (AEC).

For this relicensing, TVA proposes to continue operations for Units 2 and 3, and potentially recover and restart Unit 1 (inoperative for 15 yrs). In addition, it is proposed to add a dry cast storage facility for spent nuclear fuel, construct additional or replacement cooling towers, and construct additional office buildings. Operation for all units would be uprated (i.e., Extended Power Uprate: EPU) at 120 % of the originally licensed level of power generation. BFN is one of three nuclear facilities (five units) currently operated by TVA (BFN, Sequoyah and Watts Bar).

In general, EPA encourages maximizing the use of existing facilities as opposed to environmentally disrupting new (greenfield) sites, unless there is environmental reason not to do so (e.g., societal issues such as Environmental Justice (EJ) impacts or cumulative impacts associated with expansions). Therefore, EPA supports the proposed relicensing of the existing operational facilities (Units 2 & 3) and the recovery and restart of Unit 1 since it maximizes an existing facility.

Our support of the BFN relicensing assumes that operation would be in compliance with all federal, state and local laws and regulations, which in particular include NRC compliance,

approval and periodic inspection. We note the referenced (pg. 2-28) history of problems and shutdowns of all BFN units at various times and assume that all of these problems have been resolved to the satisfaction of both TVA and NRC (the Final SEIS [FSEIS] should specify). EPA therefore defers to the NRC in regard to the final approval, conditioning, or denial of the proposed license renewal and overall compliance with radiological standards during relicensing and life of the project.

EPA offers the following comments on the DSEIS that should be considered for incorporation in the TVA FSEIS:

► **NEPA Process**

* *TVA Cooperating Agency* - We note that the NRC is not listed as a cooperating agency for the DSEIS. The FSEIS should discuss the relationship of this SEIS to NRC's review of the relicensing and if the NRC would need, for the purposes of NEPA, to adopt the SEIS for its licensing action. We note that the NRC typically prepares EISs for the relicensing of commercial (i.e., non-federal) nuclear plants. If NRC were a cooperating agency, its adoption of the EIS would be streamlined.

* *NEPA Coverage for Unit 1* - EPA agrees with the TVA approach to include NEPA coverage in the DSEIS for the potential restart of Unit 1, even if this alternative (2) is not selected. Should Alternative 2 not be selected but becomes viable within a relatively short time frame (5 yrs), NEPA requirements for construction and operation would already be completed (as opposed to possible additional NEPA supplementation, assuming no substantive project/site modifications had occurred since the TVA Record of Decision (ROD) and if the ongoing NRC relicensing process could still be modified to include Unit 1 recovery and restart.

* *Connected Action* - We also agree with the inclusion of the construction of dry cast spent fuel storage as a NEPA "connected action" to the relicensing. This is related to the fact that the size of the storage facility would differ if Unit 1 was restarted or not (even though additional storage capacity would be needed before the current NRC license would expire for Units 2 and 3) and dry cast storage would replace the current pool storage. Such onsite storage would not preclude use of a proposed permanent DOE storage site.

* *Lengthy Term of NRC Renewed License* - The existing license (40 yrs) and the proposed relicensing (20 yrs) are long termed. Accordingly, the importance of a quality SEIS for license renewal and a thorough NEPA public review becomes magnified. However, it may be noted that other plant operational permits such as the National Pollutant Discharge Elimination Discharge (NPDES) administered by the State of Alabama with EPA oversight, are shorter termed (5 yrs) to allow for modifications in operation if needed. We also assume that all permits and licenses required for BFN can also be reopened for cause before term completion.

* *Original 1972 TVA EIS* - We agree that relevant analyses of the original 1972 TVA EIS need not be repeated in the present SEIS and can be incorporated by reference. However, given the age and probable lack of public availability of the original EIS, we recommend that the FSEIS provide brief summaries of incorporated analyses, findings and rationales wherever appropriate. Similarly, we also recommend that a summary table be included in Section 1.5.2 (pg. 1-17) that summarizes the primary changes between the original EIS and the present SEIS.

* *Need for Site-Specific NEPA Documentation* - Although clearly intended as a Programmatic EIS (PEIS), certain predictions within the TVA *Energy Vision 2020* PEIS have already been greatly exceeded (e.g., projections for Tennessee Valley power needs: pg. 1-13). As such, the importance of providing site-specific NEPA documentation such as the present SEIS (which not only supplements the original EIS but also tiers from the *Energy Vision 2020* PEIS) is exemplified.

► **Alternatives**

* *DSEIS Alternatives* - Two alternatives are offered by TVA in the DSEIS. Alternative 1 (*Relicensing of Units 2 and 3*) would continue the operation of Units 2 and 3, although at an EPU power level, and upgrade/add some facilities. Alternative 2 (*Refurbishment and Restart of Unit 1 with Relicensing of all Units*) would be an extension of Alternative 1 by adding the recovery and restart of Unit 1, also at EPU. Subalternatives for Alternative 2 involve various designs, additions or replacements of cooling towers since additional tower cooling and cooling water flow would be required for EPU and the restart of Unit 1. Three subalternatives are offered by TVA: 2A (addition of 2 new linear mechanical draft cooling towers similar to the existing 6, such that 8 towers would be available); 2B (addition of 2 cooling towers of different design from the existing towers, such that 8 towers would be available); and 2C (replacement of 4 of the existing original towers, retention of 1 replaced tower constructed after the original tower was burned down and construction of 5 new larger linear mechanical draft cooling towers, such that 6 larger towers would be available).

* *Current TVA Preferred Alternative* - TVA currently prefers Alternative 2 (pg. 2-52) at the DSEIS stage. The recovery and restart of Unit 1 is being contemplated since TVA's cost analysis and benefits comparison indicates "...that recovering Unit 1 for extended operation (with license renewal) is financially viable" (pg. 2-51). TVA should provide a firm preferred alternative in the FSEIS and its selected alternative in the TVA ROD once a financial decision on the restart of Unit 1 is made.

* *Current EPA Preferred Alternative* - Because of EPA's policy to maximize existing corridors and facilities unless there is environmental reason not to do so, EPA favors Alternative 2 over 1. In regard to the subalternatives for Alternative 2, we recommend that the TVA selection be based on design efficiency and the amount of additional waste heat load that would need to be dissipated in order to remain in NPDES permit compliance, given the uprating of all units and restart of Unit 1. We note that costs of each subalternative are similar (pg. 2-51). EPA offers no

preference for the presented subalternatives as long as thermal discharges remain in compliance with the thermal limits of the NPDES operational permit, which is expected by TVA for all subalternatives. Generically, however, EPA prefers the most efficient design that best minimizes the level of thermal discharge and tower noise, drift, diesel emissions and public visibility. This includes removal and proper re-disposal of existing spoil piles to the extent that they deflect wind flow needed for efficient functioning of the existing towers.

* *Disclosure of Additional MW Levels by Alternative* - Page 1-10 states that “the current project at BFN will add approximately 250 MWs...” It is unclear, however, if this is for implementation of Alternative 1 or 2 (i.e., with or without Unit 1 restart). The FSEIS should document the projected additional power generation for each BFN unit and action alternative compared to the No-Action. Specifically, the FSEIS should quantify the additional MWs that would be generated for each unit at the proposed EPU power level and the total additional MWs generated at the BFN facility as a whole if Unit 1 was restarted versus remain shutdown, and the total additional MWs that would be generated at BFN if all three units would be operational and uprated. The nominal MW generation level for BNF as a whole should also be provided for each alternative and compared to the existing level.

* *Status of Thermal Discharge Modeling* - Page 2-18 indicates that Computational Fluid Dynamics (CFD) modeling on thermal discharges and reservoir receiving waters is being conducted to determine the level of additional cooling needed for Alternative 1 and 2 due to EPU and the potential restart of Unit 1. A reduced amount of additional cooling is being contemplated by TVA that would still be in compliance with temperature requirements of the existing NPDES permit. Although preliminary modeling results are generally discussed, final modeling will not be available until the FSEIS and “...certainly would be available during the NPDES review process.” Such modeling should have already been completed at the DSEIS stage since the draft stage is the primary time for public review. Modeling results are important to the alternative analysis since various subalternatives exist for Alternative 2 that involve three cooling tower designs that affect effluent temperature.

► **Water Quality**

* *NPDES Permit Compliance* - We are pleased to note that despite the additional waste heat load associated with EPU (Alternatives 1 & 2) and the restart of Unit 1 (Alternative 2), the DSEIS indicates (pg. 2-39) that thermal discharges are expected to stay within compliance of the temperature limits of the current NPDES permit due to the proposed additional cooling towers. Compliance with NPDES permitting is a primary EPA concern and would be required for continued operation for whichever relicensing action is selected by TVA.

* *Additional Waste Heat Load* - Although the relicensed BNF is expected to stay in compliance with its operational NPDES permit, the heat waste load is expected to increase for both Alternative 1 and 2 (pg. 2-37). The DSEIS discusses potential impacts to the Wheeler Reservoir aquatic resources associated with such incremental increases. It was indicated

(pg. 1-19) that fish in the area are mobile enough to avoid thermal discharges (or be attracted to thermal plumes in winter for refuge or concentrated prey), that sessile benthic assemblages would not be affected due to discharge diffuser design and the fact that warm water rises within the water column, and that preliminary modeling predicts that the thermal plume would not extend across the Reservoir and therefore would not provide a thermal blockage. We acknowledge these preliminary modeling results or published studies.

Although not a requirement as long as compliance with NPDES permitting is maintained, the following additional potential impacts of elevating effluent temperatures should be considered in the FSEIS:

+ Droughts - Even though Wheeler Reservoir pool levels are controlled by TVA, will the receiving waters be at a lower pool during drought periods (which appear to be more common now than historically) such that there would be less volume available for thermal mixing, resulting in higher temperatures in the receiving waters?

+ Consumptive Use - Similar to drought effects, will consumptive water use continue to increase in the Tennessee Valley (much as power needs are projected to increase) such that reservoir water levels would be further lowered, resulting in even less volume of receiving water available for thermal mixing?

+ Global Warming - Will overall Reservoir water temperatures measurably increase due to global warming effects (which may be manifested over the lengthy 20-year license renewal term) such that ambient temperatures of receiving waters and the thermal plume become warmer on average than currently?

+ Sublethal Effects - Although lethal thermal effects on fish species may be avoidable due to their mobility, will increased discharge and plume temperatures illicit sublethal thermal effects expressed in behavior, reproduction, predator-prey relationships, etc. Will effects on juvenile fish or fish eggs and larvae differ from adults?

+ NPDES Temperature Limits - In the event that temperature limits for BFN effluent were to be lowered as part of permit renewals every five years, would any or all of the cooling tower subalternatives have the flexibility for additional cooling capacity in order to stay in compliance with such new limits rather than result in non-compliance or reduced (derated) power generation?

+ Thermal Tolerances - The temperature limits of the NPDES permit will be well below the thermal tolerance levels of reservoir aquatic species. However, to gain a perspective, we recommend that the FSEIS provide discussion on how close local aquatic species live near their thermal maximum compared to the ambient temperatures of Wheeler Reservoir. This would particularly be significant for important sport, commercial and ecological species to the extent that such species-specific thermal tolerance bioassay data are available. Also, do ambient temperatures upstream (i.e., before thermal addition) of BFN receiving waters ever naturally already equal or exceed regulatory NPDES permit temperature limits?

+ Nuisance Species - Page ES-12 indicates that Asiatic clams and zebra mussels exist within the Wheeler Reservoir system. Would the proposed additional thermal addition exacerbate these populations and in turn expedite the clogging of BFN intake systems? Would other aquatic nuisance species such as milfoil weed be enhanced by greater thermal addition? Would conditions

be created that make Reservoir eutrophication more likely?

+ 303(d) Reach - Would the additional waste heat load exacerbate the condition of the 303(d) listed, 10-mile reach between Wheeler Dam and the Elk River, particularly given that the 303(d) parameters for this reach already include temperature/thermal modifications from industrial effluent?

+ Fog Generation - Would hotter effluent discharges create additional fog at the surface of receiving waters during fall, winter and possibly cool early summer mornings? Would such fog impact local Reservoir navigation?

If these potential impacts have not already been considered as part of the SEIS process and on-site aquatic research, TVA should consider them during its selection of a cooling tower subalternative and document the findings in the FSEIS. While NPDES compliance remains the main concern and is expected to be satisfied by TVA, we recommend that the selected cooling tower system emphasize efficiency rather than the discharge of an allowable but greater waste heat load into the aquatic environment.

* *Fish Impingement & Entrainment* - The DSEIS (pg. 2-39) states that the 21% increase in BFN intake flows needed for Unit 1 operation under Alternative 2 "...may increase impingement of adult fish and entrainment of fish eggs and larvae." Given the TVA-assessed good health of Wheeler Reservoir fisheries (pg. ES-12), this TVA impact evaluation (i.e., *may* increase) appears to be understated. We believe that a significant increase in intake flow from a healthy natural water source can be expected to result in greater fish impingement and entrainment, unless some fish avoidance mechanism is added. Editorially, we also note that page ES-23 states that "...increased CCW [Condenser Circulating (i.e., cooling)Water] intake volume would increase impingement of adult fish and entrainment of fish eggs and larvae," which we believe is a more realistic assessment (i.e., *would* increase). The FSEIS should reconsider the effects of the increased intake flows and insure consistency within the document.

It is also noted that "[o]perational monitoring of impingement and entrainment during the first year of operation of Unit 1 would be used to confirm the extent of effects on various species" (pg. ES-23). While EPA strongly agrees with a well conceived monitoring program and an adaptive management approach to resolve any observed problems, it should be noted that avoidance of fish impingement and egg and larval entrainment are even more important. Are any fish avoidance mechanisms being employed or planned by TVA at the intake for BNF? What adaptive management methods could be applied if corrective actions are needed? What guidance will be used to determine if the level of impingement and entrainment is significant versus acceptable? We suggest coordination with the U.S. Fish and Wildlife Service (FWS) and its State of Alabama counterparts and disclosure in the FSEIS.

* *Wetlands* - We are pleased to note that the DSEIS indicates (pg. ES-23) that the project area does not contain wetlands. We note that this includes the three designated alternate areas for the disposal of spoil from the berm that would be reduced for new cooling tower construction or to reduce wind resistance for more efficient function of new or replaced cooling towers. These

alternate areas are all located outside the 100-year floodplain

► **Radiological Impacts** - Given the uprating of Units 2 and 3 for Alternative 1 and the restart of Unit 1 and the uprating of all units for Alternative 2, it is clear that more source material will be required onsite. We offer the following:

* *Spent Fuel Storage* - EPA agrees with the addition of more dry cask storage, as has been done at many other nuclear power plants. We assume that Congress and DOE will provide High-Level Waste storage/disposal by 2010 or shortly thereafter.

* *Radiological Impacts* - Radiological impacts are stated to increase by "no more than 1.8 times...recently reported values after restart of Unit 1." The actual doses to the public [mrem/yr EDE] should be included in the FSEIS discussion in Section 4.3.21.2, although the limits established by EPA's 40 CFR 190, *Environmental Standards for Nuclear Power Operations*, will be easily met as before. Page 3-54 indicates that for 1999, liquid and gaseous releases were 1.2% and 0.3% of the action limits, which are 1/8 and 1/5 of the actual EPA limits, respectively.

* *Emergency Preparedness* - In Appendix A, we note that *Severe Accident Mitigation* is discussed for the alternatives. After the events of September 11, 2001, new emphasis and discussion is needed regarding potential terrorist scenarios and how they may affect BFN's preparedness, as well as future radiological emergency exercises with the Federal Emergency Management Agency (FEMA) and other federal and state agencies. In the FSEIS, the public should be assured that the contingencies to prepare for such attacks and other emergencies have been discussed, planned, and exercised for TVA Browns Ferry.

► **Air Quality** - A distinct environmental advantage of nuclear power plants compared to fossil-fired power plants is that they do not produce CO₂, NO_x, SO_x and other emissions to generate power. However, some of these emissions are generated through support facilities and plant deliveries such as diesel generators, auxiliary steam boilers, vehicular/construction traffic, and cooling tower drift losses. Emissions include CO, CO₂, PM, NO_x, SO_x and VOCs. It is unclear as to why CO₂ was not referenced (e.g., pg. 4-29) given that most combustion (e.g., diesel and gasoline engines) would emit more CO₂ than CO if properly tuned.

We note that page 4-8 references emission analyses in Section 2.5 (Vol. 1) of the original 1972 EIS. While we agree with a reasonable incorporation by reference, the results for the level of emissions previously calculated should be adopted from the 1972 EIS and presented in a FSEIS table by emission source and by alternative. Calculated data apparently include emissions for diesel generators and cooling tower drift losses. Other additional emission sources should also be reasonably inventoried, and listed with their emissions qualified in terms of the level of emissions (substantive, minor, intermittent, etc.), purpose (cooling tower, pumping, vehicular, etc.) and time/season of operations (daily, summer only, etc.) for each alternative. No additional calculations are requested unless updates are needed or substantive cumulative emissions for

any air quality parameter are expected.

Also related to air quality, page ES-25 indicates that traffic on access roads to BFN (Shaw Road, Nuclear Plant Road and Browns Ferry Road) would increase from 1,600 to 2,900 vehicles per day during construction and temporarily be at a lower Level of Service (LOS). The FSEIS should reference the predicted LOS (should not be less than LOS C for safety, air quality & flow and the approximate time span for this decreased LOS).

Since construction would be a relatively important source of emissions, we are pleased to note (pg. 2-29) that the time frame for the restart of Unit 1 was disclosed (5.5 years). However, we note that construction impacts would be rather long termed as opposed to *temporary* as indicated in the DSEIS. We assume that the 5.5-year period would also incorporate other construction such as uprating of Units 2 & 3 and construction of additional buildings. The FSEIS should verify this.

► **Noise** - Cooling tower construction and Unit 1 refurbishment would generate noise, as would general operation of the plant and cooling towers. We note the following:

* *Construction* - Assuming that at least some form of on-site construction would last for 5.5 years, we do not agree, as suggested above, that construction noise would be "...for a relatively short time" (pg. 2-42). TVA may wish to distinguish in the FSEIS between general cooling tower and building construction versus Unit 1 refurbishment in terms of their longevity. We appreciate that a range of noise levels for basic construction equipment at 50 feet was provided (pg. 4-54).

We do not totally agree with the assumption (pg. 4-54) that construction noise should be insignificant because "[p]eople understand that construction projects use heavy equipment and that the equipment produces noise, and they understand that the construction has an end point" and that "[f]requently, people like to watch the equipment work and the noise is part of the experience." We suggest that the other reasons listed on page 4-54 be emphasized such as noise generally being limited to daytime and a normal business week. Moreover, the FSEIS should commit to such noise abatement rather than just indicating that "noise effects can be addressed or ameliorated in several ways if necessary." Considering the long-termed nature of construction in this case (5.5 yrs), this becomes important.

* *Operation* - Noise from general plant operation and support would be increased during operation of the fan motors of the cooling towers. Cooling towers, however, would apparently only operate 17-27 days per year. During operation, noise levels at the nearest residences (Paradise Shores S/D) would be elevated +3 to +7 dBA Leq(24) and +5 to +9 dBA DNL, depending on the fan vendor selected. Given ambient levels of 47 dBA Leq(24) and 52 dBA DNL, respectively, these increases may or may not be significant per the Federal Interagency Committee on Noise (FICON). The FSEIS should verify. However, we do note that given the short time of cooling tower use per year, the annualized levels are reduced to +3 dBA DNL for

both the 17 and 27 days of operation. This level of increase would not be considered significant per FICON at the ambient level of 50 dBA DNL. Nevertheless, because operational periods would likely noise-impact Paradise Shores S/D, we suggest that source reduction methods (low-noise fan motors: pg. 4-66) be achieved through careful selection of the fan vendor. We also note that "TVA is not committing to use such fans at this time" but, we believe, should consider such in the FSEIS. EPA further suggests that towers closest to the residences (3 & 4), be the last of the 6-8 towers to be operated and first to be shutdown in order to minimize noise (i.e., Leq(24) is reduced by 6 dBA: pg. 4-66). The FSEIS should further discuss this and consider a commitment to implement this protocol.

► **Ground Water** - We note that ground water will not be used for BFN cooling. The FSEIS should indicate, however, if the on-site waste lagoons would affect ground water (i.e., are the lagoons lined and is the leachate monitored?). Also, what wastes would be contained in the lagoons?

► **Geology** - Page ES-8 states that "[t]he BFN is located in an area far removed from any centers of significant seismic activity in historic time." It is noted, however, that an earthquake registering 3 or more on the Richter Scale recently occurred in December 2000 in the general vicinity (near Scottsboro, AL). What structural or other effects, if any, did this have on BFN (and parenthetically, the unfinished TVA Bellefonte Nuclear Plant near Scottsboro) and what additional seismic activity, if any, can be expected in the vicinity of BFN in the future?

► **Editorial Comments**

* *Figure 1.2-1* - We suggest that Figure 1.2-1 (pg. 1-3) be improved by labeling or including and labeling water-related features such as the Tennessee and Elk Rivers, Wheeler Dam, and the 303(d) reach between the Dam and the Elk River.

* *NRC GEIS* - The *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS: NUREG-1437) was referenced on page 1-18. The FSEIS should provide a publication date for the GEIS and perhaps include it in the references on page 1-22.

* *Original EIS* - The original EIS is sometimes referred to as an *Environmental Statement* (pg. ES-8, ES-19, 1-17) as opposed to an *Environmental Impact Statement* or *EIS*, and should be corrected and made consistent in the FSEIS.

* *Cooling Towers* - We suggest that the cooling towers be labeled when shown on figures in Chapter 2 (e.g., Fig. 2.0-1 and 2.2-1). Similarly, the three units should also be identified.

* *Noise Documentation* - Table 3.19-2 (pg. 3-45) should clarify the time frame of the data presented for "Background Leq" (9 hr or 15 hr?) and the "Total Leq" (24 hrs?). Also, data in the table do not always agree with the text.

► **Summary** - EPA supports the proposed relicensing of the existing operational BFN facilities (Units 2 & 3), the potential recovery and restart of Unit 1, and the uprating of all units. However, EPA defers to the NRC in regard to the final approval, conditioning, or denial of the proposed license renewal and overall compliance with radiological standards during the relicensing and

operation throughout the life of the project.

Due to the proposed unit upratings and potential addition of Unit 1, EPA is concerned about potential fish impingement and entrainment effects given the proposed 21% increase in intake water volume, as well as the probable discharge of thermal effluent at a higher temperature. While NPDES compliance remains the main concern and is expected to be satisfied by TVA, we recommend that the selected cooling tower system emphasize efficiency rather than the discharge of an allowable but greater waste heat load into the aquatic environment.

► **EPA DSEIS Rating** - EPA supports the proposed BFN relicensing and operation if compliant with NRC and other federal, state and local laws and regulations. However, based on the above potential impacts and concerns about past nuclear problems at BFN, EPA rates this DSEIS an "EC-2" (i.e., EPA has environmental concerns and requests additional information).

EPA appreciates the opportunity to review the DSEIS. Should you have questions about these comments, feel free to contact Chris Hoberg of my staff at 404/562-9619.

Sincerely,

A handwritten signature in black ink that reads "Heinz J. Mueller". The signature is written in a cursive style with a large initial "H".

Heinz J. Mueller, Chief
Office of Environmental Assessment
Environmental Accountability Division

cc: Barry Zalcman - Senior Program Manager, NRC: Washington, DC