

# Blue Ridge Environmental Defense League

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June 21, 2010

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**Re: Single Nuclear Unit at the Bellefonte Nuclear Plant Site  
Final Supplemental Environmental Impact Statement, Project No. 2009-22  
Jackson County, Alabama**

On behalf of the Blue Ridge Environmental Defense League and its members in the TVA service area, I write to comment on the proposal to build and operate a single nuclear power plant at the Bellefonte Site.

## **Recommendation**

The League recommends that TVA construct or complete no nuclear units at Bellefonte. Instead, we believe TVA should: 1) Adopt an energy plan which promotes clean, renewable energy sources including wind and solar, 2) Adopt a comprehensive program of energy conservation and efficiency, and 3) Phase out its nuclear plant programs in a deliberate and orderly manner by a date certain. We further recommend TVA adopt a “carbon negative” energy policy which invests in truly clean and renewable forms of power such as solar and wind.

## **Bellefonte Would Be Unsafe**

The Atomic Energy Commission published TVA’s application for Construction Permits (CP) for Bellefonte 1 and 2 in the Federal Register on August 3, 1973 (38 Fed.Reg. 20932). TVA issued its Final EIS for construction and operation in May 1974. The AEC issued its FEIS in June 1974 and issued CPs for the two reactors on December 24, 1974.<sup>1</sup>

In 1988 TVA halted construction of the plant, placing it in deferred status. In 2005 TVA announced to the NRC that it had ceased construction and maintenance activities and began so-called investment recovery; i.e., removing valuable components. In 2006 NRC granted TVA’s request and terminated the permits.

In 2008 TVA reversed course and requested re-instatement of the CPs. The NRC performed an environmental assessment and published a FONSI (finding of no significant impact) on March 3, 2009 (74 Fed. Reg. 9308). Construction of Units 1 and 2 is to be completed by 2011 and 2014. TVA estimates finishing the partially constructed Bellefonte Units 1 (88% complete) and 2 (58% complete) will cost \$2.9 billion and \$4.1 billion, respectively (total \$7 billion).

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<sup>1</sup> Construction Permit Nos. CPPR-122 and CPPR-123 issued under 10 CFR 50.35

The B&W Model 205 reactor design is the one utilized by Tennessee Valley Authority at its proposed nuclear power plant site in Hollywood, Alabama for Bellefonte Units 1 and 2. Each B&W 205 (so designated to reflect the number of fuel assemblies-205) is designed to operate at 3600 MW-thermal with an ultimate capacity of 3763 MWth and 1256 MWe. No B&W Model 205 has ever been completed in the United States. One B&W 205 was completed in Germany<sup>2</sup> but shut down after three years because of “certain plant siting deficiencies.”<sup>3</sup> The B&W 205 design was also used at the never-completed WNP-1 by Energy Northwest at the Hanford Reservation in Washington.<sup>4</sup>

Bellefonte is already an aging plant. Three other nuclear power plants operated by TVA—Watts Bar, Browns Ferry and Sequoyah—have leaked radioactive hydrogen (tritium) into the Tennessee River. TVA should not add a fourth. A former plant worker, speaking about tritium leaks at Watts Bar, said, “A lot of the pipes are rusted out,” he said. “The plant (construction) was started years before its power generation began. It was worn out before it started.”<sup>5</sup> Bellefonte Unit 1 would be of similar age and is perhaps in even greater disrepair.

### **Bellefonte Would Be an Economic Albatross**

The TVA Act requires the power system to be self-supporting and operated on a nonprofit basis, and directs TVA to sell power at rates as low as are feasible.<sup>6</sup> However, TVA has seemingly embarked upon a mission to bankrupt itself. For example, the fuel fabrication claim by French nuclear company Areva:

On November 9, 2005, TVA received two invoices totaling \$76 million from Areva (“Areva”) and an affiliated company, the successor of Babcock and Wilcox Company (“B&W”). In 1970, TVA and B&W entered into a contract for fuel fabrication services for its Bellefonte Nuclear Plant. Areva’s invoices are based upon its belief that the 1970 contract required TVA to buy more fuel fabrication services from B&W than TVA actually purchased. A meeting was held between TVA and Areva on May 31, 2006, to discuss the issue. TVA subsequently received a letter from Areva which reasserted its claim, but reduced the value of the claim to \$26 million. Areva has not provided any further information concerning the claim nor has it explained the reason for the reduction in the claim amount.<sup>7</sup>

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<sup>2</sup> Mulheim-Karlich Nuclear Power Plant A Reactor

<sup>3</sup> According to the *Safety Evaluation by the Office of Nuclear Reactor Regulation*, Nuclear Regulatory Commission, Re: Construction Permits CPPR-122 and CPPR-123, Dockets No. 50-438 and 50-439, March 9, 2009

<sup>4</sup> According to Wikipedia, a study concluded that WNP-1 was technically feasible but not cost-effective.

<sup>5</sup> “Plugging tritium leaks,” *Chattanooga Times Free Press* quoting Bud Strader, a former TVA Watts Bar employee, Aug. 26, 2006

<sup>6</sup> Federal Register: August 10, 2009, Volume 74, Number 152, Page 40000-40003

<sup>7</sup> Tennessee Valley Authority SEC Form 10-K 2006, <http://www.secinfo.com/dsVsf.vB99.htm#77is>

Today, according to financial documents, TVA's long-term statutory debt stands at \$21.8 billion; short term debt adds another \$4 billion. The debt cap is \$30 billion. And more debt is being taken on to cover nuclear expansion costs:

In the next five years, TVA is projecting to double what it spends on capital spending programs for new power generation, environmental controls and demand response. The agency is in the midst of a \$2.5 billion program to finish a second reactor at the Watts Bar plant near Spring City, Tenn., and TVA President Tom Kilgore said the staff will make a recommendation to the TVA board in August about what type of reactor should be built at the Bellefonte Nuclear Plant in Northeast Alabama.<sup>8</sup>

Last month TVA added another half-billion dollars to its debt to satisfy its nuclear obsession.<sup>9</sup>

This is both unwise and unnecessary with genuinely clean and renewable sources are becoming more economical. For example, solar electric power costs are falling rapidly; The US Department of Energy predicts "the cost of electricity produced by PV [will fall] from current levels of \$0.18-\$0.23 per kWh to \$0.05 - \$0.10 per kWh by 2015 – a price that is competitive in markets nationwide."<sup>10</sup> Installations as large as 500 MWe are slated for construction during the next five years. And solar power units can be installed in small steps, reducing risk and allowing for unexpected transients in energy demand and uncertain economic factors. Also, wind-powered electric generating turbines are the world's fastest growing energy sector. In Texas plans are to add upwards of 25,000 megawatts, the equivalent of 25 nuclear reactors.<sup>11</sup>

The goal of reducing greenhouse gas emissions by replacing fossil-fuel power plants with nuclear energy is critically undermined by the unsolved problem of irradiated fuel disposal and the high cost of plant decommissioning, disadvantages not shared by any other form of power. According to the US Department of Energy:

Any decision to utilize the advantages of nuclear power in meeting greenhouse emissions will arise from a combination of political and economic considerations. The economic component of this decision presently is not encouraging to nuclear power advocates because new nuclear power plants presently cost more to build than do fossil fuel plants. This includes fossil fuel plants such as those fired by natural gas, a fuel that carries lower environmental costs than does the other significant alternative fuel, coal.<sup>12</sup>

<sup>8</sup> "TVA urged to raise \$30 billion debt limit," *Chattanooga Times Free Press*, June 10, 2010

<sup>9</sup> "New Issue-TVA adds \$500 mln in 30-yr bonds," Reuters, May 25, 2010, <http://www.reuters.com/article/idUSN2426630820100524>

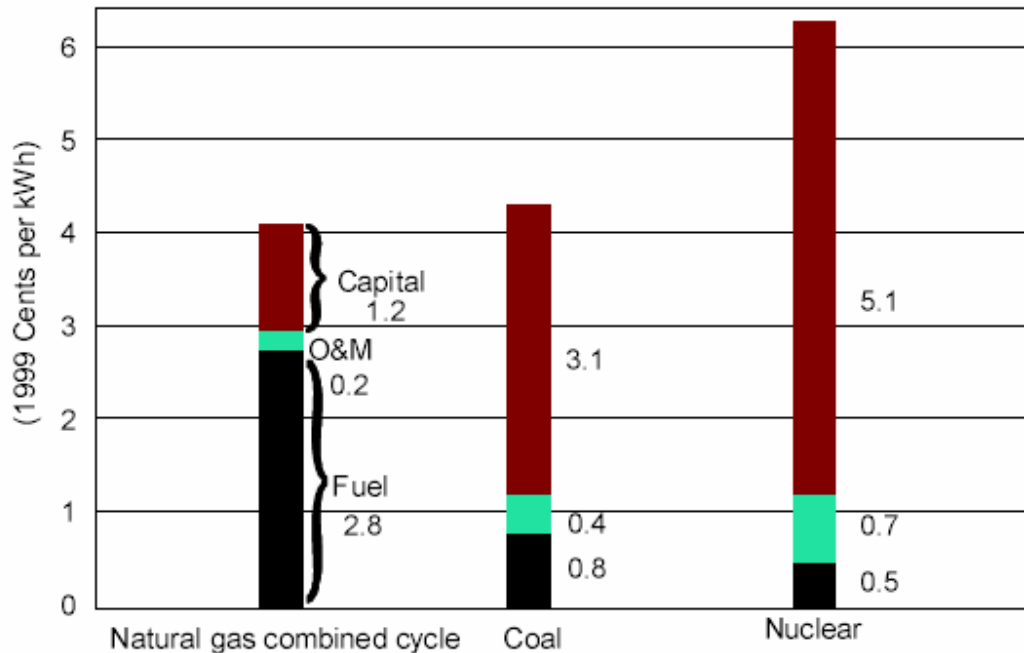
<sup>10</sup> "DOE Selects 13 Solar Energy Projects for up to \$168 Million in Funding" (March 8, 2007). On the web at <http://www.energy.gov/news/4855.htm>

<sup>11</sup> *Competitive Renewable Energy Zones (CREZ) Transmission Optimization Study: Attachment A*, ERCOT (April 2, 2008).

<sup>12</sup> *Impact of U.S. Nuclear Generation on Greenhouse Gas Emissions*, Ronald E. Hagen, John R. Moens, and Zdenek D. Nikodem, Energy Information Administration, U.S. Department of Energy, International Atomic Energy Agency, Vienna, Austria, November 6-9, 2001, Conclusion, page 25,

The following graph illustrates the high relative cost of nuclear.

**Capital, Operating and Fuel Costs of Natural Gas, Coal and Nuclear<sup>13</sup>**



Further, a study of the social costs of renewable energy technologies<sup>14</sup> found a net social *benefit* of 0.3 - 0.6 cents per kilowatt hour for wind energy and 0.9 - 3.3 cents per kilowatt hour for photovoltaic. These benefits result from employment gains and resultant wage and tax benefits from the installation of wind and solar technologies.

**Bellefonte Environmental Impacts are Short-changed by NRC and TVA**

Since 2009 the Blue Ridge Environmental Defense League has brought a series of credible challenges before the Nuclear Regulatory Commission. We have met with some success but fundamental mistakes have been made by the NRC and by TVA in carrying out the mandates of the National Environmental Policy Act. These failures are not remedied by the Final Supplemental Environmental Impact Statement. As testament to this failure, we have attached a limited appearance statement from Joseph F. Williams, from which I have excerpted the following six segments without comment as they speak for themselves:<sup>15</sup>

<http://tonto.eia.doe.gov/ftproot/nuclear/ghg.pdf>

<sup>13</sup> *Ibid*, Figure 11. Nuclear Power's Cost Advantages & Disadvantages

<sup>14</sup> *Social Costs of Energy Consumption*, Olav Hohmeyer, Commission of European Communities, Document No. EUR 11519, Heidelberg, 1988, ISBN 3-540-19350-2

<sup>15</sup> Limited Appearance Statement by Joseph F. Williams Regarding Issues for Consideration by the Atomic Safety and Licensing Board, March 5, 2010, In the Matter of Tennessee Valley Authority Bellefonte Nuclear Plant, Units 1 and 2 Docket Nos. 50-438 and 50-439

- The [NRC] staff also failed to complete an adequate evaluation of the potential environmental impacts of the remaining scope of construction, and so has failed to fulfill its obligations under the National Environmental Policy Act.
- First, the staff was aware that the review of the Bellefonte Unit 3 and 4 combined license application had revealed significant problems with TVA's analysis of the site hydrology. Even over a year after the construction permits were reinstated, the adequacy of the Bellefonte site to withstand a design basis flood event is indeterminate. Since BLN Units 1 and 2 are located very close to the proposed sites for BLN Units 3 and 4, the flooding potential for these units is probably similar. The existing flooding analysis reviewed as part of the construction permit review of the Preliminary Safety Analysis Report in the early 1970s is likely not conservative.
- It is also difficult to understand how TVA can make an informed decision regarding whether it is economically viable to complete the facility unless it has a clear understanding of what regulatory requirements will be applied. The NRC staff does not serve TVA's or the public's interest by deferring this determination.
- NRC regulations (see 10 CFR 51.20(b)(1)) require that an environmental impact statement (EIS) be prepared when a construction permit is issued. Apparently, the NRC staff and TVA claim that it was not necessary to complete an EIS in accordance with this regulation, because the term they use for the action is "reinstatement," as opposed to "issuance" or "re-issuance." Such an argument is, in my opinion, sophistry: TVA did not have construction permits for Bellefonte Units 1 and 2 until they were issued by the NRC on March 9, 2009; no one can reasonably claim otherwise, regardless of the name they choose to use.
- Hydrology issues are also pertinent to the environmental review. If it is determined that the site is more vulnerable to flooding than was thought at the time the construction permits were issued, it is likely plant design changes will be necessary to address the higher potential water levels.
- Truly robust differing views and regulatory processes should provide a clear response to all issues raised. Indeed, this appears to be TVA's expectation, as shown by a statement by Mr. Vigluicci of TVA at the March 1, 2010, pre-hearing conference:

But what is most significant in this regard is the points raised by Mr. Williams and by the chairman in their differing views on this matter, were fully and completely addressed by the staff and by the commission [emphasis added] in resolving the matters that were before them for decision. (prehearing conference transcript, page 126)

However, Mr. Vigluicci's claim is demonstrably false, given the lack of response to many of the issues raised by my non-concurrence.

**Conclusion**

Tennessee Valley Authority must not proceed unless and until it has fully conformed to the requirements of the applicable law in this matter. Further, it is in the interest of public health and safety to alter its selection of its Preferred Alternative from Alternative B to Alternative A, no action at Bellefonte.

Further, TVA should adopt an energy plan which promotes clean, renewable energy sources including wind and solar, adopt a comprehensive program of energy conservation and efficiency, phase out its nuclear and coal plants and rule out burning of garbage, animal manure, and other waste materials.

Respectfully submitted,

A handwritten signature in black ink that reads "Louis A. Zeller". The signature is written in a cursive style and is followed by a horizontal line.

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Cc: Ruth M. Horton

Attachment



This statement also clarifies discussions at the March 1, 2010, pre-hearing conference where the various parties attempted to describe my point of view and experiences pertinent to this action.

### **III. Good Cause Standard**

Typically, when the NRC staff assesses a proposed licensing action, it refers to existing regulations and associated guidance to determine if the application conforms with established regulatory positions. Both the existing regulations and guidance such as NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition" are developed in public processes where interested stakeholders are given extensive opportunities to comment on NRC's proposed positions. Prospective applicants and other stakeholders, including members of the public, know in advance what regulatory standard will be applied to a license application, and what regulatory processes will be used to inspect activities to ensure compliance. These public processes yield a robust regulatory scheme which has been successful in licensing and monitoring the fleet of nuclear power plants currently operating in the United States.

In contrast, in the case of the BLN construction permits, the staff has conducted its review in an ad hoc fashion. That is, it did not inform either the Tennessee Valley Authority (TVA) or the public at large of the regulations or standards it intended to apply in assessing TVA's request to reinstate the construction permits. No stakeholder outside NRC was given any advance opportunity to comment on the regulatory process to be applied to TVA's request to reinstate the construction permits, including an appropriate definition of "good cause." Ordinarily, a licensing Board can have confidence that a regulatory position is well-founded in regulations and guidance which have been thoroughly vetted in public processes, and so can focus its attention on whether those well-established standards have been fulfilled. However, the NRC's regulatory approach in this matter is inconsistent with those good regulatory practices, unnecessarily complicating the task of the Board when it assesses whether the good cause standard is fulfilled.

The challenge of establishing an appropriate good cause standard to reinstate construction permits was illustrated during the Board's March 1, 2010, pre-hearing conference. Several times in the course of that conference, questions were raised regarding the good cause standard. My perspectives on an appropriate good cause standard are given below for the Board's consideration.

In its March 9, 2009, safety evaluation (ADAMS accession number ML090620052), the NRC staff stated that "Although no specific regulations govern the reinstatement of a terminated or withdrawn CP [construction permit], the NRC staff considers the reinstatement of a CP to be analogous to extending the CP under 10 CFR 50.55(b) of 10 CFR Part 50, 'Domestic Licensing of Production and Utilization Facilities.'" This regulation states that the expiration date of a construction permit can be extended for a reasonable period of time if good cause is shown. The March 9, 2009, safety evaluation does not address extension of a construction permit, but an altogether different regulatory action, so the basis of the staff's claim of an analogous situation is unclear. It is reasonable to expect that a different "good cause" standard applies to the unique and unprecedented action of reinstatement of a construction permit, as opposed to a relatively routine extension of an existing permit, especially since reinstatement authorizes new regulated activities, while extension authorizes only continuation of existing activities.

Based on answers given by both the NRC staff and representatives of TVA at the March 1, 2010, pre-hearing conference, and review of the document record, it is apparent that TVA and the NRC staff consider that good cause for this case is adequately defined by precedent established by construction permit extensions. In particular, the NRC staff and TVA point to the Commission's action to extend the construction permit in early 1986 for Comanche Peak Unit 1 when it had inadvertently expired several months earlier. It is my view that the current case of Bellefonte Units 1 and 2 differs from the Comanche Peak precedent in several important respects. A detailed discussion of these differences is given in my non-concurrence in COMSECY-08-0041.

In the case of Comanche Peak Unit 1, the permit holder unintentionally allowed the construction permit to lapse. The permit holder continued construction with existing programs, continually implementing NRC requirements throughout the period the construction permits lapsed. The NRC continued its oversight of the permit holder's activities, as well. NRC's action to retroactively grant an extension of the Comanche Peak Unit 1 construction permit merely corrected an administrative error. No new safety or environmental issues were introduced by this action.

In contrast, in the case of BLN Units 1 and 2, TVA requested that the NRC terminate the construction permits, and ended its conformance with regulatory requirements. TVA's request was a conscious action, with full knowledge that, if granted, TVA would be giving up all privileges and authorization to construct those reactors. Accordingly, there was no reason that TVA or any other party to think the action was somehow reversible. There is a significant distinction between TVA's fully conscious and deliberate decision and the administrative error by the Comanche Peak Unit 1 permit holder, so it is reasonable that a different regulatory standard applies to a different regulatory action.

When the NRC reinstated the Comanche Peak Unit 1 construction permit, an implicit component of that decision was continuous implementation of regulatory programs such as quality assurance, and associated compliance with regulatory requirements. No similar foundation exists for BLN Units 1 and 2, because all such regulatory activities ceased no later than September 2006. In fact, TVA allowed the facility to degrade, and conducted other activities, such as its "investment recovery" efforts, resulting in undocumented and undetermined effects on safety related structures, systems, and components.

The NRC staff's March 9, 2009, safety evaluation supporting the Order reinstating the construction permits is silent regarding TVA's ability to fulfill regulatory requirements under the reinstated construction permits, stating little more than the conclusions of the evaluation issued in support of the original issuance of permits in 1974 remain valid. The staff's evaluation states:

TVA has not proposed to change the design of the facility, as described in the preliminary safety analysis report (PSAR) and FSAR [Final Safety Analysis

Report]. Also, no information has been identified that would invalidate the conclusions presented in the staff's original SER [safety evaluation report]. Because the design information on which the staff based its previous findings will not change, the NRC determination as to whether the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public would remain valid if the NRC reinstates the CPs. (NRC staff safety evaluation, page 5)

Contrary to the NRC staff's assertion that no information has been identified to invalidate previous conclusion, there are at least two issues which the staff was well aware of at the time this evaluation was completed. The staff's safety evaluation failed to address this new information, and so failed to address issues which can affect the scope of construction activities.

First, the staff was aware that the review of the Bellefonte Unit 3 and 4 combined license application had revealed significant problems with TVA's analysis of the site hydrology. Even over a year after the construction permits were reinstated, the adequacy of the Bellefonte site to withstand a design basis flood event is indeterminate. Since BLN Units 1 and 2 are located very close to the proposed sites for BLN Units 3 and 4, the flooding potential for these units is probably similar. The existing flooding analysis reviewed as part of the construction permit review of the Preliminary Safety Analysis Report in the early 1970s is likely not conservative.

The staff was clearly aware of this issue, because it was discussed in my non-concurrence on COMSECY-08-0041. However, the NRC staff did not provide any response whatsoever to that issue, either in that Commission paper or its safety evaluation.

Given that the BLN Unit 3 and 4 hydrology review calls into question the fundamental acceptability of the Bellefonte site, the NRC staff is certainly in possession of information which calls into question its previous conclusions on this topic. Therefore, the NRC staff's statement in its March 9, 2009, safety evaluation that "no new information has been identified that would invalidate the conclusions presented in the staff's original SER" [safety evaluation report] is demonstrably false, so this portion of the safety evaluation is invalid.

NRC should not have reissued construction permits for BLN Units 1 and 2 without a clear understanding of whether new design features not described in the PSAR would be required to mitigate the effects of flooding.

The second issue which introduces new information that the staff was aware of is the effect of new regulations on the facility; once more, the staff was clearly aware of this issue because it was discussed in my non-concurrence on COMSECY-08-0041. Many of these new (at least relative to BLN Units 1 and 2) regulations, such as the station blackout rule (10 CFR 50.63), can probably be addressed as part of the operating license review, because they do not fundamentally change the facility design or scope of remaining construction. However, other issues, such as the aircraft impact rule (10 CFR 50.150), could have a very significant effect on the facility, and greatly increase the scope of construction. Such significant changes can conceivably have a substantial effect on the staff's previous conclusions regarding the suitability of the site, and so should have been well-understood before the construction permits were reissued.

It is also difficult to understand how TVA can make an informed decision regarding whether it is economically viable to complete the facility unless it has a clear understanding of what regulatory requirements will be applied. The NRC staff does not serve TVA's or the public's interest by deferring this determination.

While my examination of the issues reveals these two topics which should be addressed, it is likely a comprehensive review using the extensive skills of the NRC technical staff would reveal other topics where new information suggests the existing SER supporting the construction permits should be revised. Unfortunately, the NRC staff proceeded in an expedited and ad hoc manner, and did not make any attempt to conduct the thorough review which its safety mission demands.

The conclusions of the NRC staff's safety evaluation largely summarizes TVA's own economic justification for changing its mind, but provides no evaluation of issues that are pertinent to adequately constructing the facility so it can possibly be operated safely at some future date. The staff summarizes its conclusions as follows: "On the basis of the economic, material procurement, and electrical generation considerations provided by TVA, the staff finds

that TVA has shown good cause for reinstatement of the CPs.” (Staff March 9, 2009, safety evaluation, page 7). This conclusion is noteworthy because it does not mention safety.

While the NRC staff and TVA would like to rely upon the Comanche Peak Unit 1 precedent, it is apparent that important aspects of this precedent are unfilled, because neither TVA or the NRC adequately addressed safety issues which are at the foundation of any regulatory decision. Such safety issues were not a concern for Comanche Peak, but clearly are for BLN Units 1 and 2. Given that reinstatement of the BLN Unit 1 and 2 construction permits is an unprecedented NRC regulatory action, one would have hoped that the NRC staff would have shown more regard for its mission to protect public health and safety, rather than basing its conclusion exclusively upon TVA’s economic decision. A proper assessment of good cause would determine whether a foundation of regulatory compliance exists before economic or other factors are considered.

#### **IV. NRC Environmental Assessment Deficiencies**

The NRC staff properly concluded that environmental issues needed to be addressed as part of its assessment of the construction permit reinstatement. Section 4.0 of the March 9, 2009, safety evaluation addresses environmental considerations associated with reinstatement of the construction permits, referring to an environmental assessment published in the Federal Register on March 3, 2009 (74 FR 9308). However, this environmental assessment is deficient in several material aspects, and so does not adequately support the staff’s conclusion of good cause.

NRC regulations (see 10 CFR 51.20(b)(1)) require that an environmental impact statement (EIS) be prepared when a construction permit is issued. Apparently, the NRC staff and TVA claim that it was not necessary to complete an EIS in accordance with this regulation, because the term they use for the action is “reinstatement,” as opposed to “issuance” or “re-issuance.” Such an argument is, in my opinion, sophistry: TVA did not have construction permits for Bellefonte Units 1 and 2 until they were issued by the NRC on March 9, 2009; no one can reasonably claim otherwise, regardless of the name they choose to use. While the

regulatory action under review is commonly referred to as "reinstatement," it is equally valid to refer to the action as "issuing" or "reissuing" the permits. Since a September 14, 2006, NRC letter (ADAMS accession number ML061810505) stated that, in response to TVA's request, "...the staff considers Construction Permit Nos. CPPR-122 and CPPR-123 to be terminated," removing the units from the scope of NRC regulation, an action which later places construction activities at BLN Units 1 and 2 within the regulatory control of NRC can clearly be referred to as issuance of a construction permit. Using a different term to describe the action as a means of evading regulatory requirements is obviously inconsistent with good regulatory practice. Merely finding another name for the action so that it is not explicitly delineated in a regulation does not change the nature of the activity, or the regulator's obligation to ensure its requirements are rigorously applied.

Based on the foregoing, it is my conclusion that when the construction permits were reissued on March 9, 2009, the NRC staff did not fulfill its regulatory obligations to complete an EIS, as required by 10 CFR 51.20(b)(1). In addition, by not completing an EIS, the NRC staff failed to conduct a comprehensive review that would identify environmental issues pertinent to its regulatory decision. Specific deficiencies are discussed below.

Hydrology issues are also pertinent to the environmental review. If it is determined that the site is more vulnerable to flooding than was thought at the time the construction permits were issued, it is likely plant design changes will be necessary to address the higher potential water levels. For example, it may be determined that a flood wall, dike, or other structure is needed to protect safety related equipment. If such structures were not contemplated at the time the construction permits were originally issued, their erection could represent an increased scope of construction whose environmental impacts have not been evaluated by either TVA or NRC.

Similarly, new regulatory requirements can increase the scope of construction. Some topics, like the aircraft impact rule, could result in significant new structures or extensive modification to existing structures. The environmental review which will support possible

issuance of an operating license addresses impacts of operation, not construction, so any environmental impacts of constructing any new structures or other increases in scope of construction must be addressed in the construction permit review. There is no other opportunity for this review to take place.

The NRC staff's environmental assessment (74 FR 9308, March 3, 2009) supporting reinstatement of the construction permits is also deficient in that it does not accurately characterize the current status of the facility. The NRC's environmental assessment of the construction permit reinstatement apparently relies at least in part upon a belief that relatively little construction remains to be completed, stating that BLN Units 1 and 2 are 90% and 58% complete, respectively. These percentages indicate that cumulative construction at the site is about 75% complete; the assessment states that "most of the construction work at BLN has been completed," concluding that most of the impacts of construction have already taken place. Contrary to the information given in the staff's EA, TVA has stated that "Subsequent asset recovery activities, along with more recent inspections of remaining equipment, resulted in BLN 1&2 now being considered approximately 55 percent and 35 percent complete, respectively." (74 FR 40000, August 10, 2009), indicating that BLN Units 1 and 2 are in fact cumulatively less than half complete. Therefore, at least a portion of the basis of the staff's environmental assessment supporting reinstatement of the construction permits is false.

An additional error in the NRC's environmental assessment is that it refers to an obsolete version of the Environmental Report submitted in support of the BLN Units 3 and 4 combined license review. The environmental assessment referred to the Environmental Report submitted with the original combined license application in 2007; however, a revision was submitted in 2008. This error could have been easily remedied, if staff from the Office of Nuclear Reactor Regulation (NRR) had effectively coordinated their work with their colleagues in the Office of New Reactors (NRO) as required by internal NRC procedures. Examination of the staff's February 24, 2009, letter forwarding the environmental assessment to TVA reveals that NRO personnel were not on concurrence for this assessment, nor were NRO personnel

designated to receive distribution of the document. Furthermore, I personally informed NRC management that the assessment referred to the wrong version of the Environmental Report before the Order reinstating the permits was issued. However, no action was taken to correct the error. Effective coordination between NRR and NRO could have prevented this error, and may have revealed other inconsistencies between the respective office staff positions on site environmental issues which could be resolved before publication of the assessment.

In summary, the staff's environmental assessment supporting reinstatement of the construction permits is significantly flawed in that it does not meet regulatory requirements to complete an EIS. In addition, the limited scope assessment which was completed contains errors and does not adequately address the scope of construction activities. Once again, it is likely that a more comprehensive review would reveal additional issues. The appropriate remedy is to complete an environmental impact statement.

#### **IV. Mischaracterization of Non-concurrence Process at Pre-hearing Conference**

A number of times during the March 1, 2010 pre-hearing conference, NRC staff and TVA representatives sought to characterize my point of view and experiences during my efforts to identify and resolve issues associated with TVA's request to reinstate the BLN Unit 1 and 2 construction permits. Aspects of these discussions do not accurately characterize my views, and misrepresent my experiences. It is with great reluctance that I provide the discussion of events given below. I never intended to present this information in a public forum, but I find it necessary to do so in order to clarify the record so the Board has more accurate information for its deliberations.

During the March 1, 2010, pre-hearing conference, representatives of the NRC staff and TVA discussed NRC processes for addressing issues raised by agency personnel. Both NRC and TVA characterized these processes as robust, and stating or implying that the processes ensure differences of opinion on regulatory issues are thoroughly vetted and incorporated into NRC decision making. Examples of these discussions can be found in the transcript in exchanges between Judge Bollwerk and Ms. Sutton (representing TVA) and Mr. Roth

(representing NRC staff) during the discussion of Contention 4 (transcript pages 75, and 80-81), and in remarks by Mr. Viglucci (representing TVA) regarding Contention 6 (transcript pages 125-126).

Beyond my own experience, I cannot address the effectiveness of NRC's processes for addressing differing views. However, I can state with great confidence that those processes have not been effectively implemented in the course of my involvement with BLN Unit 1 and 2 construction permit issues. Throughout my experience, I have met significant resistance to even acknowledging issues exist, much less participating in any constructive discussion of their merit, and receiving constructive feedback. Any success that I have had in having issues addressed has been through my own diligence and extreme persistence, not through the success of NRC's processes. The fact that I am taking the unusual step of making this statement to the Board should be understood as an indication of the continuing difficulty I experience in having issues thoroughly and meaningfully addressed, and as an indication of the lack of efficacy of NRC differing views processes as they apply to my own situation. The following discussion outlines the basis for this view; additional details regarding implementation of the NRC differing views processes in this case can be provided if the Board believes they are pertinent to its activities.

My non-concurrence in COMSECY-08-0041 was the outcome of several months effort on my part, attempting to have regulatory issues associated with TVA's request to reinstate the construction permits addressed by NRC. In fact, the reason this paper was written at all is due to my personal efforts to bring issues to the attention of the Commission directly, outside of ordinary processes, because those ordinary processes had been completely ineffective in obtaining any response to the issues I raised. Specifically, after I had attempted over several months to have issues addressed, including informal discussions, electronic mail messages, and writing two memoranda (internal NRC documents described in my non-concurrence on COMSECY-08-0041) which documented the need for Commission decisions on significant

policy issues, plus already having non-concurred<sup>1</sup> in the staff's draft Order and safety evaluation, in late October 2008, I was informed that the agency planned to reinstate the construction permits within a matter of days without addressing any of the issues raised, and that no paper was planned which would bring issues associated with the action to the attention of the Commission. My issues were already part of formal agency processes which should have required their disposition, but the agency planned to issue the Order without regard of those issues. Therefore, I stepped far outside normal lines of communication and personally briefed then-Commissioner Jaczko on my concerns. The October 8, 2008, tasking memorandum issued by then-Chairman Klein (ADAMS accession number ML083110163) was a direct consequence of my initiative in briefing Commissioner Jaczko. No paper would have been provided had I not taken this unusual action.

Shortly after the NRC staff received the tasking memorandum, I was informed that I would be given the opportunity to contribute to the paper to express my views. However, shortly thereafter, I was excluded from contributing to the paper when I was told that the staff intended only to present its views, and that if I wished to inform the Commission of my views, I would have to non-concur in the paper. This approach is obviously coercive, essentially daring me to put my views on the record in opposition to a document which would be signed by the highest level agency official below the Commission itself.

In addition to the difficulties I faced in bringing the issues to the Commission's attention, the NRC's staff has never provided a comprehensive response to my concerns. A clear demonstration of the lack of rigor in the agency's response to my non-concurrence is shown by the lack of information given on the form required to document resolution of the issues. This form can be found at the end of Enclosure 2 of COMSECY-08-0041.

Review of this response finds that it does not completely address the issues raised in my non-concurrence, and does not accurately represent my point of view. For example, my

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<sup>1</sup> My non-concurrence in this draft Order and safety evaluation was written in September 2008, and is distinct from my non-concurrence in COMSECY-08-0041.

discussion identifies several differences between the circumstances of BLN Units 1 and 2 and Comanche Peak Unit 1; these issues are not addressed in any manner in either the form or the staff's paper. The response also characterizes my position as "Construction permit should not be reinstated." This statement does not properly characterize my position, as shown by the the first paragraph of my non-concurrence, which states "In raising these issues, an opinion is not expressed about whether or not construction permits can ultimately be granted or operating licenses eventually issued for these facilities. Rather, the issues are raised to ensure that the process NRC uses to take its actions is consistent with NRC regulations, policy, and strategic goals." It is obvious that my position is not equivalent to saying the permits should not be reinstated.

The form responding to my non-concurrence includes a note claiming that "All the issues in Enclosure 2 of the SECY paper [i.e., my non-concurrence]...were assessed and factored into the discussions and recommendations in this SECY paper." This claim is deceptive, in that it seeks to release the NRC staff from any obligation to provide a thorough and well-documented accounting of its decisions. If the NRC staff did not address a topic in writing, it appears this note is a catch-all phrase, which says, essentially, "we thought about it, and decided it did not matter, but we don't have to tell anyone why." Such a response to the issues raised is clearly inadequate, because it is not possible to discern how the staff believes it resolved many of the topics.

The NRC non-concurrence process does not provide any opportunity for rebuttal of management responses to issues raised by its staff. By not allowing for rebuttal, the agency misses the opportunity to ensure it accurately understands the issues raised and that it has responded completely. The lack of rebuttal is a significant deficiency of the process, and inconsistent with NRC and TVA's claims regarding its rigor.

There are several other examples where the staff responded inadequately or not at all to the issues I raised. For instance, the staff's paper and non-concurrence response is completely silent on the hydrology issue, despite the discussion of this topic in my non-concurrence.

Because of this silence, it is not possible to determine what the NRC staff's point of view is on this and other topics. If, for example, it is the NRC position that hydrology is an operating license issue, and that its knowledge of information which invalidates prior conclusions of the construction permit safety evaluation is of no consequence, then the NRC staff should say so, so that all parties know where the agency stands. The NRC should not leave the Board or other stakeholders to wonder what its position is.

Truly robust differing views and regulatory processes should provide a clear response to all issues raised. Indeed, this appears to be TVA's expectation, as shown by a statement by Mr. Vigluicci of TVA at the March 1, 2010, pre-hearing conference:

But what is most significant in this regard is the points raised by Mr. Williams and by the chairman in their differing views on this matter, **were fully and completely addressed by the staff and by the commission** [emphasis added] in resolving the matters that were before them for decision. (pre-hearing conference transcript, page 126)

However, Mr. Vigluicci's claim is demonstrably false, given the lack of response to many of the issues raised by my non-concurrence.

In addition to the shortcomings of the staff's response to my non-concurrence, I have also endured deliberate attempts to restrict my participation in the decision making process. This behavior is shown most clearly by excluding me from a Commissioners' Technical Assistants' briefing in December 2008 where the content of COMSECY-08-0041 was discussed. I had been told that I would be given an opportunity to present my views at such a briefing, but found after the fact that the briefing had taken place without my participation. Given that the NRC staff's response to my non-concurrence misrepresents my perspectives or ignores them entirely, there is no reason to have any confidence that my views were presented appropriately at that briefing.

This discussion of my experiences with raising issues associated with the BLN Unit 1 and 2 construction permits makes it clear that, contrary to the claim of the NRC staff and TVA, the NRC's internal processes have not provided for a thorough and open discussion of issues. In fact, the only reason issues came to the Commission's attention at all was due to my extreme

persistence and willingness to step outside those allegedly robust processes. In my opinion, the NRC's performance in this matter is unacceptable, and completely inconsistent with the agency's stated commitment to an open and collaborative working environment. If it were determined that an NRC licensee had behaved in such a manner to suppress issues raised by the licensee's staff, I hope there is little doubt that NRC would take enforcement action against that licensee.

The vitality of NRC differing views processes is tangential to the central issue of whether the NRC acted properly in reinstating the BLN Unit 1 and 2 construction permits, so I will not belabor the point by providing an even more extensive discussion on this subject, providing all the details I have available. However, if the Board determines it has a need for more information regarding my experiences, or more information about the failings of the differing views process in order to make an informed decision on this matter, I would be happy to support the Board in any way I can.

#### **V. Clarification of Non-concurrence Positions**

At times during the March 1, 2010, pre-hearing conference, views expressed in my non-concurrence on COMSECY-08-0041 were mischaracterized or misinterpreted by the petitioners. This discussion is provided in an attempt to clarify the record. If the Board is not already familiar with the details of my non-concurrence, I request that my non-concurrence be reviewed and that that discussion, along with this statement, be taken as appropriately characterizing my views, rather than relying on interpretations by other parties. Specific instances where I believe my views were mischaracterized or misrepresented are discussed below.

During the discussion of Contention 4, Mr. Dougherty, representing the petitioners, suggested that it is my position that the site geology analysis is deficient (pre-hearing conference transcript, pages 68 and 70). In fact, while my non-concurrence addresses site suitability, it only does so in terms of the hydrology issue, and the interaction between BLN Units 1 and 2 and the prospective BLN Unit 3 and 4 AP 1000 reactors. I have no personal knowledge

of geologic or seismic information that invalidates the NRC staff's previous conclusions regarding the suitability of the Bellefonte site, and so have not raised issues in this regard.

In the discussion of Contention 6, Mr. Dougherty, representing the petitioners, stated:

...Mr. Williams suggests in his statement, the only way to verify this plant can be constructed safely is to start from the beginning and make the applicant prove to the NRC staff every SSC out there meets all appropriate quality requirements. (pre-hearing conference transcript, page 120)

The discussion in my non-concurrence addressed TVA's failure to provide information demonstrating it complied with NRC quality assurance regulations, as expected for construction permits in deferred status. It is my view that appropriate programs, such as quality assurance, must be established before a construction permit is issued, and that the unique circumstances of this case create additional complexity which should be addressed by those programs. For example, the nature of work performed as part of TVA's "investment recovery" activities should be understood, along with effects of other activities while BLN Units 1 and 2 were outside the scope of NRC regulatory control, so that the staff can determine whether quality assurance and other programs sufficiently address those unique and unusual circumstances once construction permits are in place. While I believe it can be argued that NRC's review of TVA's quality assurance program was not as rigorous as it should have been, I did not claim that there was a need to verify the regulatory compliance of all structures, systems, and components before construction permits were issued.

In the discussion of Contention 7, Mr. Dougherty, representing the petitioners, claimed that it is my view that requirements for site flooding evaluations have changed since the time of the staff's safety evaluation supporting issuance of the construction permits in 1974. This claim is incorrect, in that I do not claim that flooding requirements have changed; rather, I state that the staff has good reason to believe its previous safety conclusions are invalid due to the availability of new information arising out of the combined license review for BLN Units 3 and 4. However, as noted in my discussion of good cause standards and the adequacy of the NRC staff's environmental review, I believe there are other new requirements which should have had

a material effect on the NRC staff's safety and environmental assessment of TVA's request to reinstate the construction permits.

Mr. Dougherty also states during the discussion of Contention 7 that it is my view that the staff's 1974 safety evaluation "wrongly addressed" site safety issues (pre-hearing conference transcript, page 160). This statement is incorrect. While I believe that there is new information that gives the NRC staff good reason to believe some of its previous safety conclusions are no longer valid, I have no reason to believe that the 1974 safety evaluation did not properly consider the information available to the staff at that time.

## **VI. Conclusion**

I hope the information I have provided in this statement is of use to the Board in its deliberations. If the Board believes it needs additional information from me to help it understand my views and assist its decision making, I would be pleased to support the Board in any way I can.

### ***original signed by***

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