

RDB received
2/15/05

February 7, 2005

12/10/04

Chief, Rules Review and Directives Branch
U. S. Nuclear Regulatory Commission
Mail Stop T6 - D59
Washington, DC 20555-0001

69FR 71854
399

Comments on NUREG-1811 (draft) Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site

As a supporter of the rebirth of nuclear power in the U.S.'s power supply mix, I applaud Dominion's pursuit of an ESP and the Staff's timely and thorough review resulting in the issuance of NUREG-1811 (draft). I agree with the Staff's conclusions that the North Anna site appears to be environmentally acceptable for the construction of new reactors, and that Dominion's request to perform limited site preparation and investigation measures will not result in significant environmental insult.

However, I am surprised that one of the conclusions of the Staff is that "there are no environmentally preferable or obviously superior sites". My review of the data presented in NUREG-1811 reaches a different conclusion. It appears to me that the Staff is overlooking a number of factors which are indeed different among the various sites and, if considered, are discriminators which would identify the Savannah River Site as an obviously environmentally preferable site.

In Section 8.4 (page 8-9) The EIS includes the following statement:

"In evaluating the alternative sites, NRC staff found that certain impact areas would not vary among sites, and as a result, would not affect the evaluation of whether an alternative site is environmentally preferable to the proposed site. These impact areas include air quality as it relates to emissions from the sites during construction and operation, nonradiological health impacts, and radiological health impacts to members of the public and during operation and to biota. In addition, the impacts to public service facilities (schools, water, and wastewater treatment, etc.) would not materially impact whether an alternative site is selected or not. As a result, air quality, health impacts, and radiation exposures are not evaluated as part of the site-specific alternatives analysis, but rather are discussed generically in the following sections."

These factors (air quality, health impacts and radiation exposures) are **not** inherently the same at each site under consideration. While emissions may be assumed equal at all sites, the impact of air pollution and radioactive emissions is dependent on the exposure of the population to these

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emissions. This exposure is governed primarily by two factors: population density in the area surrounding the plantsite, and distance to the plant boundary. The four sites are obviously different in nearby population density and distance of the proposed reactor to the site boundary. I would suspect that the Savannah River Site has both the longest distance to the boundary and the lowest nearby population of the sites under consideration; therefore would have the lowest impact. The EIS should be modified to evaluate the impact of these emissions at each site and consider both the nearby population and distance, as well as local meteorological effects.

Impacts to nearby public service facilities also need to be considered and are likely to be a differentiator among the facilities under consideration. The EIS notes that construction and operation of a new reactor at the proposed site will result in

- *Traffic congestion (page 4-19 & 4-23)*
- *Reduced housing availability/increasing rents (4-29)*
- *Public water and sewer "concerns" (4-30)*
- *Needed expansion of police and fire capability (4-32)*
- *Increased demand for social services (4-32)*
- *Significant impact on already overcrowded schools (4-33)*
- *Concern with water and sewer infrastructure in Louisa and Orange counties (5-45)*
- *Additional burden on already overcrowded Louisa county schools (5-47)*

The impact of the proposed action needs to be evaluated for its impact at each of the proposed sites to determine the differences that exist. I might point out that the employee population at the Savannah River Site has decreased by almost 15,000 people since the early 1990's and the existing public infrastructure may be much more capable of absorbing Dominion's construction and operational workforce with minimal impact.

I am surprised that the numerous examples of other environmental impacts of the proposed action at the North Anna site were not more closely compared with potentially lesser impacts at alternative sites. For instance:

- *Conversion of land to housing developments (page 4-2)*
- *Alteration of two ephemeral streams and possibly one or more wetlands (4-5)*
- *Dredging resulting in suspension of sediment (4-5)*
- *Depression of the water table (4-6)*
- *Degraded water quality (4-12)*
- *Fishery habitat changed (4-12)*
- *Resuspension of heavy metals from Contrary Creek (4-12)*
- *Increased turbidity and reduced light penetration in Lake Anna (4-13)*
- *Overcrowding of Lake Anna and lessened recreational experience (4-28)*
- *Doubling the time Lake Anna levels will be low, impacting recreational use (5-8)*
- *Economic consequences to the three counties surrounding the lake. The more immediate impacts would be to the marinas and commercial businesses that earn revenue . . . (5-44)*

Each of these should be considered and compared to a similar assessment for the alternative sites before the Staff draws a conclusion that there are no environmentally preferable or obviously superior sites.

The EIS states that *population dose with 80km (50 mi) of those alternative sites that are closer to major population centers (e.g. Savannah River) could be higher than for the proposed North Anna EDP site*; (page 8-12). I would like to see the data supporting this statement, as I do not believe the population within 50 miles of SRS exceeds that of the North Anna site. The 50 mile population of the North Anna region is reported as 1,538,156 in 2000 and expected to grow to 2,160,921 in 2020 (page 4-20). NUREG 1767, EIS on the Construction and Operation of a Proposed Mixed Oxide Fuel Fabrication Facility the Savannah River Site issued in January 2005 lists the population of the SRS Region of Influence as 475,095 in 2000 and 489,000 in 2002 (projected). The Region of Influence may not be exactly the same as 50 miles but it is similar. Please review this information in the draft. Note that if corrections of nearby population density are needed, then impacts of both routine and accident releases will need to be recalculated. In general, it would be helpful to provide all data for the North Anna and alternative sites in common tables so that the public can see the basis information the Staff is using to reach its conclusions.

In contrast to the many environmental and societal impacts (albeit small or moderate, and potentially mitigable) NUREG-1811 describes for constructing a reactor at North Anna, the only identified environmental impact of locating the proposed reactor at SRS is the potential for land clearing if a new transmission line right of way is required. Since SRS is already tied to the regional grid with four primary feeders in differing directions, it is highly unlikely a new right of way will be needed. Except in the area immediately adjacent to the new reactor to reach an existing line, extensive clearing should not be necessary. Even if some clearing is needed, SRS is expected to be a government reservation in perpetuity, and on-site clearing would have no public impact.

Thank you for consideration of my comments. I am looking forward to them being addressed in the final issue of NUREG-1811.



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