

2008 APR - 1 PM 1:20

RECEIVED

LIZ CULLINGTON
390 ROCKY HILLS ROAD
PITTSBORO NC 27312

Chief, Rulemaking, Directives and Editing Branch
Division of Administrative Services
Office of Administration
Mailstop T-6D59
U.S. Nuclear Regulatory Commission
Washington DC 20555-0001

12/19/07
72FR 71973
(12)

March 5, 2008

**Comments on Generic EIS for License Renewal of Nuclear Plants, Supplement 33:
regarding Shearon Harris Nuclear Power Plant, Unit 1, Draft Report for Comment**

March 4, 2008

GENERAL COMMENTS

Many significant findings of the Harris EIS supplement are not reflected in the executive summary, such as the fact that utility sponsored conservation programs could adequately and cost-effectively replace the output of the Harris plant, and be fully implemented by a decade prior to the expiration of the current license.

In the conclusion to the detailed section on alternatives to license renewal, the EIS states:

"The NRC staff concludes, then, that conservation has the lowest level of environmental impact among all alternatives considered. Thus, conservation is the environmentally preferred alternative to the proposed federal action of renewing the HNP license." (Section 8.3 p. 8-76)

Instead the executive summary talks only about *"the likely adverse impacts of likely power generating alternatives"* and goes further by not clarifying that some sources would have less negative impact than continued operation of the Harris Plant, and could actually have a positive impact, saying instead, *"The impacts may be greater in some areas, depending on the alternatives selected."* (p. xvii)

This summary is a misleading interpretation of the EIS, which finds several alternatives to continued operation to have a lesser impact, and for some to have positive impacts in a wide range of categories, especially the conservation alternative.

The NRC is also abdicating its responsibility to protect the health and safety of the public by continuing to use incorrect time frames throughout the EIS, including the feasibility or pricing of alternatives to be considered. It is 2026-2046 that should be projected, not 2006 assumptions. Comments during the scoping period pointing out this draft error were filed away as "not providing new information"!!!

In addition this EIS has failed to quantify additional radiation doses from another 20 years of operation, so these cannot be offset as specific negative impacts that would be incurred by license renewal or avoided by all other alternatives (except coal alternatives).

GENERAL COMMENT ON METHODOLOGY AND TABLES

The entire EIS relies on a ranking of impacts as being SMALL, MODERATE, or LARGE (sic). Yet

SUNSI Review Complete
Template = ADM-013

1

FRIDS = ADM-013
Add = S. Hernandez
(shg)

these are not merely "small" "moderate" or "large" negative impacts but include findings of "small" "moderate" or "large" positive impacts, but they are not properly differentiated as such, especially when summarising or in the tables.

Thus tables can be extrapolated from the EIS that would make it appear that the impacts of license renewal are equivalent to shutting down the plant and meeting system needs in other ways. This is not true according to the detailed text, yet it handily supports the executive summary's false assertion that anything else would be either just as bad or worse.

The entire text of the EIS needs to be revised to ensure that all postulated impacts are identified as negative or positive.

The tables also need to be redone to create clearly identified separate POSITIVE IMPACT, NEGATIVE IMPACT (or ADVERSE IMPACT) columns, which would be preferable to keeping the tables as they are and amending so that all entries read (for example) 'SMALL POS' 'SMALL NEG'. It would clearly be unacceptable to solve this problem by abbreviating to POS and ADV because this creates the greatest possibility for misinterpretation. Up and down arrows are equally unacceptable because they can mean either of two opposites (down = bad effects or down = less of (current) bad effect).

WATER SUPPLY/IMPACTS OF LICENSE RENEWAL

The EIS scoping process included comments regarding the severe impacts of drought periods on Harris Lake and cooling water supply to the plant, owing to the relatively small watershed for the Lake. This included documentation of current impacts, and the need to actively pump water from the lower reservoir up to the higher reservoir during dry months. NRC was reminded to project environmental impacts into the 2026-2046 period and to include the range of potential impacts with increased global warming and weather variation, temperature and rainfall.

The NRC's response to this significant issue is to state that localised impacts of global warming are speculative and don't have to be dealt with. The EIS needs to be amended to include a range of possible impacts that include more severe droughts and more significant rainfall events. There are enough variations in current and historical data for this to be within the reasonable scope of the EIS.

What is the construction method for the Harris Lake dams (upper and lower)? What would be the impact of a stalled hurricane event like Hurricane Floyd and/or the effect on the dams of 24-36" of rain in 24 hours?

WATER SUPPLY/WATER QUALITY IMPACTS OF NO ACTION OR ALTERNATIVES (OTHER THAN COAL PLANT AT HARRIS SITE)

The EIS finds that shutting down the Harris plant in 2026 would have a beneficial effect on water resources. Without water being withdrawn from Harris Lake and some of that water evaporated by the cooling tower, the NRC says that flow might be better maintained in Buckhorn Creek downstream of the dam, which is currently dry during several months of year. (Section 8.2.5, p.8-66)

Yet this is not reflected in the overall analysis. Firstly (as discussed above), favorable impacts are not identified as distinct from negative ones. Secondly, in spite of comments made during the scoping process, the NRC has failed to include the magnification of this beneficial effect during the 2026-2046 period when a changing climate or natural variations should be considered to include more severe droughts. In some years this could be at least a "moderate" or even large impact for downstream water users.

In addition, there is no mention at all in Section 8.0 of the "large" potential negative or positive impact to downstream water users if the Harris plant license is renewed or not renewed in terms of tritiated water used as a drinking water source downstream of the Harris plant.

Tritium cannot be filtered out of water by any known means. Increased withdrawal demand and decreased supply in the downstream watershed during droughts like the summer of 2007 mean that tritium levels would be elevated.

The U.S. Dept. of Defense is consolidating and relocating a number of military facilities to Fort Bragg with an anticipated large increase in population.

OTHER ENVIRONMENTAL IMPACTS OF NO ACTION OR ALTERNATIVES.

Section 8.1 (p.8-2) "NRC staff expects that the impacts of decommissioning after 60 years of operation would not differ significantly from those that would occur after 40 years of operation." This statement ignores the more highly irradiated components of the plant.

In the following discussion of the impacts of shutdown in 2026 versus continued operation, the effects of continued operation are minimized as small, yet 20 years of continued operation after 40 years could be predicted to result in a 50% increased cumulative operational impact.

This once again shows up the logical fallacy as identifying impacts as "small" etc. rather than quantifying them, particularly for risks and impacts that the NRC has already calculated precisely in terms of extra deaths and cancer cases etc., or mathematical likelihood.

Twenty more years of a supposedly small negative impact (compared to what?) is not equivalent to a one-time in one year small impact.

In mathematical terms a "small" impact or risk multiplied by a 50% longer period of operation could well be "moderate" or even "large." However "small" multiplied by anything is "small" because it is not a mathematical term.

In addition this EIS has failed to quantify additional radiation doses from another 20 years of operation, so these cannot be offset as specific negative impacts that would be avoided by all other alternatives (except coal alternatives).

TIME-FRAMING ALTERNATIVES

In the scoping period the NRC was specifically advised that considerations of alternative power sources needed to be projected into the 2026 time period, not the present day, in terms of availability, feasibility and cost. The NRC has completely ignored this needed correction in Section 8.2 Alternative Energy Sources. New generation sources starting construction ten years from now to replace Harris Unit 1 in 2026 would have higher construction costs or probably not be allowed (e.g. coal, to which many pages are dedicated, whereas wind gets at most a few lines).

Thus the consideration of alternatives is limited to two types of coal generation, natural gas generation, new nuclear plants, utility sponsored conservation or purchased power, or a combination of alternatives. No photovoltaics are included. No solar hot water heating is included.

These last two alternatives are significant omissions for the Harris plant because the Progress Energy system experiences its highest peaks in summer (4-6 pm period) on the hottest days,

with peaking demand particularly from residential, commercial, office-institutional customers.

There is NO attempt to frame the consideration of alternatives in future terms, specifically what megawattage available, feasible technology in the future, future lower costs etc.

Since there is also no consideration of higher uranium prices in future, in spite of scoping comments on increasing demand and diminishing supply, the consideration of alternatives is fatally rooted in the past instead of being projected into the future.

Secondly, NRC has failed to determine how much power generated by the Harris plant is sold outside the service area. The plant is connected to the east coast portion of the national grid by a high voltage line to Richmond. The company has stated that power from the plant is sold outside the region. It is only the power from the plant that will be needed locally in the 2026-2046 period that should be considered in any consideration of alternatives.

Thirdly, it is this section that we find an even worse perversion and misuse of the "small/medium/large" framing of impacts. In the charting of impacts from conservation (Table 8-6, p. 8-67) the beneficial impacts of energy conservation over power generation is shown as having "SMALL" impacts for all categories, yet these are POSITIVE impacts, not negative ones (per the text). Yet this makes them equivalent to the negative impacts of the other alternatives, such as continued operation of the Harris plant, new nuclear plants or a coal plant.

This is worse than misleading, particularly when these contrary values are charted as if equivalent, in a very long document that many decision-makers don't have time to read, and when the advantages of the conservation alternative are not reflected in the executive summary.

UTILITY SPONSORED CONSERVATION

"The North Carolina Utilities Commission released a report in December 2006 indicating that North Carolina has a statewide potential to reduce projected energy consumption by 32.7% of total projected utility sales per year by 2017...." (Section 8.2.5, p.8-65)

This just so happens to be prior to the expiration of the Harris plant license by 9 years as the EIS notes (p.8-66)

"Though much of this savings potential likely exists during peak demand times, the magnitude of potential savings significantly exceeds HNP's [the Harris Plant's] capacity, and several major efficiency measures identified in the GDS associates report would affect baseload generation needs.... [with] costs consistent with other alternatives." (p.8-65)

In addition, the "environmental justice" impacts of the conservation alternative are listed as SMALL (positive) whereas they could be argued to be MODERATE to LARGE in terms of economic impact. The EIS text notes in this section that low-income and minority groups as an average spend a larger portion of income on utility bills, and these financial constraints can affect a wide range of health issues, housed versus homeless, food availability and quality, access to medical care and prescriptions, and -- with rising oil/gasoline prices -- ability to get to jobs.

The high cost of utilities in cheaper rental housing in the Harris Plant/Progress Energy service area also means that the effect of conservation measures on all housing (not just a few new Energy Star homes) would decrease many deaths from fire experienced in the area every year caused by improvised heating measures.

Economic impacts overall would be more than small. In addition to the benefits to low-income customers, the benefits to industrial and other customers in reducing bills and stabilizing energy prices would have huge economic impact. As some studies have indicated, this type of economic impact (such as enable a business or industry to remain competitive and not go under) spread throughout the local economy with a magnifier effect.

In addition nowhere does the EIS consider the economic impact of not renewing the Harris plant license in rate base terms. Rates for all customers would need to be adjusted downwards in order to remove the guaranteed rate of return on the allowed costs of the Harris plant, which is a very significant dollar fraction of Progress Energy Carolina's (CP&L's) entire generation system.

PURCHASED POWER ALTERNATIVE

The purchased power discussion in Section 8.2.6, page 8-70, assumes that purchased power is from "dirty" sources like other coal or natural gas plants. However this discussion is supposed to consider what might be available in the 2026-2046 period, not 2006. Even today there is wind power coming on line, with Texas showing the fastest increase in available megawattage at present.

In the 2026-2046 period any reasonable person would assume not only greater wind resources but a considerably enhanced national grid to wheel power around so that power becomes as fungible as currency, which to energy traders it already is. Progress Energy has its own energy trading department.

COMBINED SOURCE ALTERNATIVE

"It is conceivable that a combination of alternatives might be cost-effective." Section 8.2.8, p.8-7 5

However, the combined alternatives option that is discussed in Section 8 is not included in Table 9-1 in the *Summary and Conclusions* section, even though the text (page 9-6) says that it is.

EIS SUMMARY AND CONCLUSIONS

Table 9-1 (page 9-7 to 9.8) is misleading/false (as noted above) because the SMALL impacts of conservation are positives not negatives but are made to appear the same as the supposedly only SMALL negative impacts of continued operation of the plant.

In addition, the EIS fails to quantify increased radiation doses from 50% more operational years and so this greater impact is not reflected in the summary (chart or text).

The EIS states in Section 9.1 (Page 9-4) that no new environmental issues were identified, however, comments during the scoping period identified an extremely significant environmental issue, the inadequacy of the plants cooling water supply/upper reservoir/ which sometimes has to be maintained by pumping from the lower reservoir. This was not reflected in the environmental assessment provided by the licensee (Progress Energy) nor in this EIS. If this is already happening now this cannot be dismissed as some future global warming problem that can't be quantified yet.

STAFF RECOMMENDATION

Overall the NRC has elected not to implement the findings of its own EIS -- that conservation

would be less harmful to the environment and public health than operation of the Harris plant beyond 2026, and that it is both economically and practically feasible.

Instead the NRC has punted this decision to imaginary others, *"preserving the option of license renewal for energy planning decision makers."* (p.9-9) However, as the NRC well knows, North Carolina's only *"energy planning decision makers"* for the Harris Plant are (a) Progress Energy executives and (b) the North Carolina Utilities Commission (NCUC).

Under North Carolina's current laws Progress Energy is not required to substitute any alternative to extended operation of the Harris plant merely because it is less environmental harmful. That is solely the purview of the NRC. Secondly, under North Carolina's laws the executives of the company are beholden to shareholders to maximize profit for the corporation, which, in turn, stands to make more profit per kwh sold from continued operation of the plant through return on investment.

Thirdly, I don't believe the NCUC currently has the power to shut down the Harris plant in 2026 as being too old, or unsafe, or more expensive than alternatives, if the NRC renews the license.

SEVERE ACCIDENT MITIGATION ALTERNATIVES (SAMAs)

The NRC has passed on requiring improvements to the plant that would reduce the impact of potential accidents, and reduce public and worker radiation exposure, simply because they don't prevent the plant from aging:

"Based on its review of the SAMA analysis, the staff concurs with CP&L's identification of areas in which risk can be further reduced in a cost-beneficial manner through the implementation of all or a subset of potentially cost beneficial SAMAs. Given the potential for cost beneficial risk reduction, the staff considers that further evaluation of these SAMAs by CP&L is warranted."

"However, none of the potentially cost beneficial SAMAs relate to adequately managing the effects of aging during the period of extended operation. Therefore they need not be implemented as part of the license renewal pursuant to 10 CFR Part 54." (5.2.6, p. 5-9)