

HarrisCEm Resource

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Subject: Environmental Scoping for Harris New ReactorApplication
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Attached please find the comments I submitted yesterday on behalf of NC WARN at the public meeting on the environmental scoping for the Harris New Reactor Application. I am also sending a copy by mail to the Chief, Rules and Directives Branch.

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SCOPING COMMENTS ON ENVIRONMENTAL IMPACT STATEMENT
ON THE SHEARON HARRIS NUCLEAR POWER PLAN
BY THE NORTH CAROLINA WASTE AWARENESS AND REDUCTION NETWORK
June 10, 2008

Now comes NC WARN with comments on the scope of the environmental impact statement to be prepared by the NRC Staff on the proposed operating license for two new units at the Shearon Harris Nuclear Power Plant (“SHNPP”) in Wake County, North Carolina. NC WARN has as its primary purpose to eliminate as much of the risks as possible from nuclear power plants.

NC WARN has limited its scoping comments below to:

- the need for good data for emergency planning
- Progress Energy’s poor track record on fire issues
- defense against aviation attacks
- security against terrorist threats
- water usage during droughts
- the impacts of climate change
- the lack of long-term disposal of irradiated fuel
- the dangers of storing irradiated fuel in fuel pools
- the need to analyze alternative energy sources

Legal requirements. One of the principal requirements of the National Environmental Policy Act (“NEPA”) is to protect public health and safety. 42 U.S.C. §4321 ff. NEPA procedures require the NRC to prepare an EIS for any major licensing action significantly affecting the quality of the human environment. 10 C.F.R. §§ 51.71 and 51.91. The EIS review should be both fair and independent; the NRC staff may not blindly follow Progress Energy’s analysis. Under NEPA, the NRC is the lead agency and cannot rely on other agencies to make decisions for it.

Before a nuclear plant is licensed to operate, the NRC must have “reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.” 10 C.F.R. Part 50, Appendix E and NUREG-0654. The goal of the EIS is to analyze and evaluate the ability of the plant to operate safely; first that the plant is in compliance with safety rules, and protects against “anticipated” accidents and design basis accidents (“DBAs”), and the “reasonably foreseeable” impacts which have “catastrophic consequences, even if their probability of occurrence is low.” 40 C.F.R. § 1502.22(b)(1).

In licensing hearings, the Commission has required that the EIS address the probability of severe accidents and how to prevent them if at all possible, or mitigate them if they cannot be prevented. See, e.g., Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 387 (2001). This requirement is “based on the Commission’s NEPA regulations that require a review of severe [accident] mitigation alternatives in its environmental impact statements (EISs) and supplements to EISs, as well as a previous court decision that required review of severe mitigation alternatives (referred to as SAMAs) at the operating license stage.” *Limerick Ecology Action v. NRC*, 869 F.2d 719 (3d Cir. 1989).

Scoping Issues. NC WARN urges the NRC to investigate in depth the following specific issues:

A. Emergency Planning. In 1987 when Unit 1 of the SHNPP was licensed, there were only 15,000 people living in the 10-mile emergency planning zone (“EPZ”); currently there are at least four times that many, and the population is predicted to grow significantly from the present through any licensing period. Likewise, the population within the 50-mile EPZ is forecast to grow significantly, compounding all attempts to safely evacuate people around the plant. The EIS needs to look realistically at these significant population increases and projected changes in land use.

Without a solid grasp on who will be living around the plant, the NRC and Progress Energy (formerly Carolina Power & Light) cannot prepare its emergency plans. Of concern are the susceptible populations, i.e., children, women of childbearing age, senior citizens and nursing home residents who may have special difficulties in the event of an evacuation and may be more susceptible to radiation emissions and other hazards that could occur in connection with evacuation and relocation. A baseline

health study is essential in finding out the broadly-defined medical needs of these susceptible populations.

The EIS should also examine the forecasted increase in vehicle use on the highways in the area. Given the traffic increases and population growth, the major thoroughfares used as evacuation routes may be impassible at most times of day without extensive new spending on highway expansions and improvements.

An effective emergency plan incorporates the strengths of local governments and medical support infrastructure, and at the same time, provides the support for adequate planning, resources, training and staff. The Orange County Board of Commissioners, in an October 3, 2006 resolution, concluded that "there is no coordinated emergency management and evacuation planning for the portion of the ingestion pathway beyond the area defined by the ten-mile radius around Shearon Harris." Other local governments have express the same concerns.

B. Fire Protection. The risk from fire at nuclear plants has been quantified repeatedly by the NRC staff and others. A significant fire can lead to the loss of the operator's ability to achieve and maintain hot standby/shutdown conditions further resulting in significant accidental release of radiation and posing a severe threat to public health and safety.

Progress Energy has had a poor track record of compliance with fire protection rules and it is unreasonable to consider licensing new reactors at SHNPP until Progress Energy shows that it has taken care of the present deficiencies. Since at least 1992, the present reactor has been out of compliance with requirements to maintain the post-fire safe shutdown systems that minimize the probability and effects of fires and explosions. It is not expected to come into compliance until the year 2015 or later.

NC WARN has brought this issue to the NRC, Congress and other Federal agencies and in its report, "Delaying with Fire: The Shearon Harris Nuclear Plant and 14 Years of Fire Safety Violations," and other activities. Currently there is an investigation by the Government Accountability Office on the long series of NRC notices, bulletins and enforcement actions that have been in large part ignored by Progress Energy; promises to come into compliance have been repeatedly made and then postponed. The NRC Office of the Inspector General recently confirmed these charges.

People living around the SHNPP remain subject to severe and undue risks from these noncompliant practices. The current risks from Unit 1 are compounded by adding two more reactors.

C. Aviation Attacks. It would be a clear violation of NEPA if the EIS does not address the environmental impacts of a successful attack by the deliberate and

malicious crash of a fuel laden and/or explosive laden aircraft and the severe accident consequences of the aircraft's impact and penetration on the facility. It is unreasonable for the NRC to dismiss the possibility of an aviation attack on the SHNPP in light of the studies by the NRC at least since the 1982 Argonne National Laboratory study, NUREG-2859, that this is a real possibility that could have devastating results. The potential for accidents caused by deliberate malicious actions and the resulting equipment failures is not only reasonably foreseeable, but is likely enough to qualify as a DBA, i.e., an accident that must be designed against under NRC safety regulations. An aircraft crash affecting the ultimate heat sink (cooling tower, water intakes, etc.) would leave core cooling dependent on the feed-and-bleed cooling mode, provided a sufficient water supply and electrical power remain available.

D. Security. In addition to aviation attacks there are a number of viable terrorist threats to the SHNPP that should be fully investigated in the EIS. *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), cert. den. 127 S.Ct. 1124 (2007). Nuclear reactors are expressed terrorist targets that need to be dealt with by highly trained security forces and may require significant design and structural changes.

Progress Energy's track record of compliance on security and safeguards should be examined closely so that current unsafe practices at Unit 1 do not add to the risks at the proposed units.

E. Water Usage. In 2007, reduced rainfall in the Southeast began to have a noticeable effect on electric generating plants, and in particular, nuclear power plants, because of the vast quantities of water reactors consume. North Carolina remains in a drought and yet the SHNPP is proposing to permanently remove up to 120 MGD (millions of gallons per day). This is clearly in excess of the amount available in the Harris Lake or available from the Cape Fear River. The removal of this quantity of water would have a significant impact on fish, benthic invertebrates and other wildlife in the Harris Lake and Cape Fear River. It would also affect public health and limit recreational opportunities.

It is unclear from Progress Energy's Environmental Report exactly how much water the two proposed units will require. The EIS should closely examine the need for the expansion of Harris Lake and the impacts of that expansion, or withdrawals of water from the Cape Fear. If the latter, the water would likely be withdrawn in times of low flow, causing downstream water quality and water availability problems.

F. Climate Change. The EIS should evaluate the effects of climate change and global warming in terms of extended drought conditions and/or severe weather patterns. As described above, continuing droughts may limit the necessary water for cooling. Severe weather patterns may lead to direct damage to the units and loss of offsite

power. The NRC's probabilistic risk assessment recognizes that these need to be considered, with the worst-case-scenario presented in the EIS.

As a component of climate change the "carbon footprint" from the proposed units needs to be presented, from mining and processing, fuel enrichment, construction, operation and waste disposal. This needs to be compared to the carbon from other alternative power sources.

G. Disposal of Irradiated Fuel. The EIS should clearly evaluate whether and in what time frame irradiated fuel generated by the proposed units can be safely disposed. Nationwide, there is a decided lack of options for permanent disposal of irradiated fuel and other high-level radioactive waste. It is unreasonable at this late date to continue to rely on the Final Waste Confidence Decision, 49 F.R. 34,658 (August 31, 1984), citing *State of Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979) or the Waste Confidence Decision Review: Status, 64 F.R. 68,005 (December 6, 1999).

To date, the NRC still has not made an assessment on the safe disposal of waste on which Progress Energy can rely. Additional waste generated by the two proposed reactors will not safely take care of itself; "let's hope that the waste will be taken care" does not meet the requirements of NEPA.

H. Fuel Pools. The EIS should carefully describe and analyze the plans to store the irradiated fuel in fuel pools on the site. There could be considerably more radioactive material released from improper storage and loss of water from the pools and the off-site results could be catastrophic. (See above on aviation and terrorist attacks).

I. Alternative Energy. Lastly, the EIS should examine alternatives to the proposed SHNPP, and their financial costs and environmental impacts. The NRC must perform (1) a detailed analysis and evaluation of the applicant's power projections and (2) an independent assessment of forecasts of growth in electricity consumption and peakload demand in the utility's service area.

A full and impartial review by the NRC staff cannot rely on actions taken by the NC Utilities Commission on the annual integrated resource plan (IRP) submitted by Progress Energy. For example, Progress Energy did not show in the most recent IRP in NCUC Docket E-100, Sub 114, how much of its demand growth and capacity needs were to be met by energy efficiency or renewable energy sources. State law requires that by the year 2021, at least 20% will be met by renewable energy. Session Law 2007-397. NC WARN maintains, and will be presenting expert testimony at hearings this summer that the forecast fails to justify the need for new nuclear reactors.