PMHarrisCOL PEmails

From: Mark_Bowers@fws.gov
Sent: Friday, January 09, 2009 9:13 AM
To: Donald Palmrose
Subject: Re: Contact information
Attachments: NRCSH-09.pdf

Thanks Don. Apologies for the delay.
Regards,
Mark

Hearing Identifier: ShearonHarris_COL_Public
Email Number: 311

Mail Envelope Properties (OF39D1B876.9309648A-ON85257539.004B06EF-85257539.004E2316)

Subject: Re: Contact information
Sent Date: 1/9/2009 9:13:28 AM
Received Date: 1/9/2009 9:13:49 AM
From: Mark_Bowers@fws.gov

Created By: Mark_Bowers@fws.gov

Recipients:
"Donald Palmrose" <Donald.Palmrose@nrc.gov>
Tracking Status: None

Post Office: fws.gov

Files	**Size**	**Date & Time**
MESSAGE	60	1/9/2009 9:13:49 AM
NRCSH-09.pdf	577318	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
December 24, 2008

Mr. Don Palmrose
U.S. Nuclear Regulatory Commission
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors
Washington, DC 20555-001

Re: Scoping Review for Addition of Reactors at the Sharon Harris Nuclear Plant

Dear Mr. Palmrose:

Re: Comments on Environmental Report and Scoping for NEPA, Sharon Harris Nuclear Plant, Chatham and Wake Counties, North Carolina.

Dear Mr. Snead:

The U.S. Fish and Wildlife Service (Service) has reviewed the "Environmental Report" (ER), and we appreciate the opportunity to respond to the ER to scope environmental issues with the plant expansion early in the process. Pursuant to the Atomic Energy Act of 1954 (AEA), as amended, and the Nuclear Regulatory Commission (NRC) regulations in Title 10 of the CFR, Progress Energy (PE) has filed a Final Safety Analysis Report (FSAR), which includes this Environmental Review (ER). Carolina Power and Light (CP&L) is the licensee for the Harris Nuclear Plant (HNP). The project is known as the Proposed Shaeron Harris Nuclear Power Plant Units 2 and 3 (HAR). CP&L has since acquired Florida Power and formed the holding company, Progress Energy, with two separate business units: PEC in the Carolinas and Progress Energy Florida, Inc. The applicant and owner of the HAR will be PEC. The Service offers the following comments in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (48 Stat. 401; 16 U.S.C. 661-667d); the Bald and Golden Eagle Protection Act, as amended, (16 U.S.C. 1531 et. seq.); and the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et. seq.).

The HAR site is located in the extreme southwestern corner of Wake County, North Carolina, with portions located in southeastern Chatham County. The City of Raleigh, North Carolina, is approximately 21.7 miles northeast of the HAR, and the City of Sanford, North Carolina, is approximately 26.5 km southwest of the HAR. The Cape Fear River flows south of the HAR in a northwest-to-southeast direction. Approximately 4000-acre were inundated over the 1980 to 1983 period with the creation of Harris Reservoir. A second, smaller impoundment, the Auxiliary Reservoir (also known as [aka] "West Auxiliary" Reservoir), was created when the Tom Jack Creek arm of the Harris Reservoir was dammed. The 325-acre reservoir lies immediately west of the generating facilities, and was created to serve as a source of water for the emergency service

water system for the HNP. It is anticipated that normal pool elevation of Harris Reservoir will increase from 67.1 m (220 ft.) NGVD29 above mean sea level (msl) to 73.2 m (240 ft.) NGVD29 to provide enough cooling water for the proposed additional units. There is no anticipated change to the elevation of the Auxiliary Reservoir, which is maintained at 76.8 m (252 ft.) NGVD29.

The site is located just north and west of the HNP, on a peninsula that extends into Harris Reservoir from the northwest. As depicted in the Carolina Power and Light (CP&L) "Shearon Harris Nuclear Power Plant Safety Analysis Report, 1983, Amendment 48," the Tom Jack Creek arm of the reservoir lies to the west; the Thomas Creek arm of the reservoir lies to the east. The reactor buildings and generating facilities lie within a nuclear exclusion area, access to which is controlled. The proposed project affects water level elevations in the Main Reservoir. This results in an elevation increase from 220 ft. mean sea level to 240 ft. The 20-ft. increased water level in the Main Reservoir affects the surrounding area, with possible impacts to the Harris Lake County Park, NCWRC Game Lands, public boat ramps, and local roads. A detailed evaluation of lake level impacts is provided in the Environmental Report. Transportation routes to and from the plant include U.S. Highway 1, which passes north of the site, and several State-maintained roads that traverse the area. The CSX Railroad passes north of the plant, and the Norfolk Southern Railroad crosses south of the Main Dam. Railway access to the plant is provided by a Progress Energy rail spur that connects to the CSX Railroad. The Cape Fear River is 11.3 km (7 mi.) to the south of the site.

One 900 megawatt electrical (MWe) Westinghouse Electric Company, LLC (Westinghouse) pressurized water reactor is currently in operation. This facility is referred to as the existing Shearon Harris Nuclear Power Plant Unit 1 (HNP). PEC has selected Westinghouse's AP1000 Reactor (AP1000) as the certified plant design for the HAR site. The proposed Westinghouse AP1000 units are referred to as the proposed Shearon Harris Nuclear Power Plant Unit 2 (HAR 2) and the proposed Shearon Harris Nuclear Power Plant Unit 3 (HAR 3). Currently, the HNP obtains its water supply from the Main Reservoir (also known as Harris Reservoir). The Main Reservoir was originally designed to provide cooling water and to remove the design heat load from the Cooling Tower blowdown water for four reactor units. During construction activities for the units, a decision was made to reduce the number of units to one; therefore, only the HNP was completed. The Main Reservoir was completed before the decision; therefore, the current reservoir was designed for multiple units. However, the reservoir level was raised only to the level to support the one unit and the makeup water system from the river was never built. PEC intends to use the Main Reservoir for HAR 2 and HAR 3 along with HNP. Harris Lake consists of two reservoirs: the Main Reservoir and the Auxiliary Reservoir. Carolina Power and Light Company (CP&L) constructed the Main Reservoir in 1980 by building an earthen dam across Buckhorn Creek about 365.8 meters (m) (1200 feet [ft.]) downstream of the confluence of White Oak and Buckhorn Creeks. CP&L constructed the Auxiliary Reservoir in 1980 by installing an earthen dam across Tom Jack Creek. The Auxiliary Reservoir is an emergency water source for the HNP. In contrast, the Auxiliary Reservoir will not be an emergency water source for HAR. The Main Reservoir is also a water source for the HNP emergency service water system.

The Cape Fear River basin is the largest river basin located entirely in North Carolina. The basin has an oblong shape with a maximum width of about 96.5 km (60 mi.), maximum length of about 321.9 km (200 mi.), and about 9734.9 km (6049 mi.) of streams and rivers. The basin has a total area of 223,673 km2 (9140 mi.2) of which approximately 8099 km2 (3127 mi.2) are located above the confluence of the Deep and Haw Rivers. The Cape Fear River is formed by the confluence of the Deep and Haw Rivers. The Cape Fear River flows southeast for about 318.7 km (198 mi.) and empties into the Atlantic Ocean at Cape Fear, North Carolina, located 45.1 km (28 mi.) below Wilmington, North Carolina. the lower Cape Fear River is an estuary with the tidal reach extending to Lock and Dam 1, about 62.8 km (39 mi.) above Wilmington, North Carolina. The river is navigable to Fayetteville, North Carolina:

Flows in the Cape Fear River are partially regulated by releases from the dam at Jordan Lake and managed by meeting target flows at Lillington as defined by the 1992 Water Control Manual for B. Everett Jordan Lake. An evaluation of the overall impact of additional withdrawals will need to be performed prior to submitting the permit application. Appropriate analytical methods to evaluate impacts on the Cape Fear River flow are discussed in the ER. The Cape Fear River has two major tributaries above the Buckhorn Dam (which is located immediately upstream of the confluence of Buckhorn Creek and Cape Fear River): the Haw and Deep Rivers, both of which originate in Forsyth County, North Carolina. The Deep River has a total length of approximately 116 mi. and a drainage area of 3732 km2 (1441 mi.2) according the ER. The Haw River is about 90 mi. in length and drains about 4416 km2 (1705 mi.2). Both rivers originate at elevations of about 304.8 m (1000 ft.) msl and have numerous falls and rapids, with the Haw River having the steepest gradient. The water surface elevation of the junction of the two rivers is about 48.2 m (158 ft.) NGVD29 as described in the ER.

The principal source of water for the HAR and the HNP is the Harris Reservoir, which is part of Harris Lake. The Harris Reservoir, situated on Buckhorn Creek, is impounded by an earthen dam located just below the confluence of White Oak Creek and Buckhorn Creek. The Auxiliary Reservoir, located on Tom Jack Creek, is formed by an earthen dam situated to the west of the plant site. There are two reservoir branches adjacent to the HAR site: Tom Jack Creek to the west and Thomas Creek to the east. Drainage area for Harris Lake at the Main Dam site is 182.1 km2 (70.3 mi.2).

Carolina grass-of-parnassus (*Parnassia caroliniana*), a State-listed endangered species, occurs in wet savannahs on the Harris-Fayetteville transmission corridor. The eastern tiger salamander (*Ambystoma tigrinum*), which is State-listed as threatened, is known to occur about 91.4 m (300 ft.) from the Harris-Wake transmission corridor. The eastern tiger salamander inhabits burrows in sandy pinewoods near semi-permanent ponds in which it breeds

The four-toed salamander (*Hemidactylium scutatum*), which is State-listed as a special concern species, has been recorded as breeding in vernal pools on private property outside PEC property south of the Harris Reservoir. This salamander inhabits bogs with mossy seepages or shallow pools. It has not been recorded at the HAR site or near HNP associated transmission corridors.

Red-cockaded woodpeckers are known to occur in mature longleaf pine forests crossed by the Harris-Fayetteville transmission corridor. Any activities involving removal of mature longleaf pine would require surveys for this species to ensure that no red-cockaded woodpeckers or cavity trees are impacted

No other federally or State-listed threatened or endangered terrestrial species are known to occur at HAR or along its transmission corridors. PEC has put procedures in place to protect endangered or threatened species, if they are encountered at the HAR site or along transmission corridors, and provides training for employees on these procedures.

A field survey was conducted during the week of August 14, 2006, to characterize the habitats that occur between elevations 220 feet and 240 feet surrounding Harris Reservoir at the Shearon Harris Nuclear Plant in North Carolina. This effort included several teams of biologists that used a qualitative assessment following Routine Level I wetland delineation procedures. This methodology encompasses determination of wetland extents using aerial photography and topography (including using NWI information). To calculate wetland areas, the NWI information was used and verified during the field investigation.

Areas along the perimeter of the Harris Reservoir and surrounding buffer zones, often wetlands, are generally retained in a natural state. Wetlands exist around the reservoir in areas where beaver activity has created impounded water, as well as in generally level areas occurring just above the 67-m (220-ft.) elevation. At the 67-m (220-ft.) elevation contour, there are numerous shallow wetland areas fringing the reservoir within the normal pool of the reservoir. Wetland areas between the 67- and 73.2-m (220- and 240-ft.) contour that will be affected by Harris Reservoir's raised elevation. Approximately 115 ac. of wetlands occurring outside the current reservoir fringe would be inundated by increasing the pool level to 73.2 m (240 ft.). Wetlands occurring in the zone between 67 m (220 ft.) and 73.2 m (240 ft.) elevation around Harris Reservoir include:

1. Wooded vernal pools — In the eastern United States, vernal pools commonly occur as un-vegetated depressions in woodlands. These depressions typically are inundated from late winter through spring and provide reproductive habitat for amphibian species.

2. Forested flatland — Forested flatlands are wooded wetlands that occur in the relatively broad stream valleys immediately upstream of Harris Reservoir.

3. Beaver impoundments — Beaver impoundments are of two types: active and abandoned.

4. Isolated roadbed wetlands — One isolated wetland was identified within an abandoned roadbed near the dam and spillway of Harris Reservoir.

This wetland was contained entirely within the abandoned roadbed and road, and has no connection to the pool of Harris Reservoir.

In areas where gentle slopes or generally level benches occur at or just below the 67-m (220-ft.) contour, lacustrine littoral emergent wetlands occur periodically around the reservoir. Such wetlands are not natural in North Carolina, occurring only in man-made impoundments. Around Harris Reservoir, wooded vernal pools were not common, but occasionally occurred as small depression areas small in size that were lacking vegetation other than the river birch and black willow (*Salix nigra*) growing around the edge. Typical upland forest resumes immediately outside the ring of river birch and black willow. The vernal pools occurring around Harris Reservoir are classified as palustrine forested wetlands according to the USFWS system. Forested floodplains receive frequent overbank flooding and typically are dominated by river birch, black willow, swamp red maple (*Acer rubrum* var. *trilobum*), and green ash in the canopy layer. Buttonbush (*Cephalanthus occidentalis*) and hazel alder (*Alnus serrulata*) commonly occurred as shrubs, along with saplings of the overstory dominants. Soft rush (*Juncus effusus*), fringed sedge (*Carex crinita*), greater bladder sedge (*Carex intumescens*), longhair sedge (*Carex comosa*), three-ranked sedge (*Dulichium arundinaceum*), and the exotic Asian dayflower (*Murdannia keisak*) provide a dense groundcover in these wetlands. Woolgrass (*Scirpus cyperinus*) occurs frequently in more open areas. All forested flatlands are classified as palustrine forested wetlands according to the USFWS system. These fringing areas are considered palustrine emergent or palustrine scrub-shrub wetlands depending on the dominant vegetation. Abandoned beaver impoundments are considered palustrine wetlands and all observed in the area surrounding Harris Reservoir are scrub-shrub wetlands. These wetland areas typically are vegetated with broadleaf cat-tail (*Typha latifolia*), pepperweed (*Polygonum hydropiperoides*), lizard's tail (*Saururus cernuus*), woolgrass, and spike rushes (*Eleocharis obtusa*). Frequently Brazilian waterweed (*Ergeria densa*) occurs as a submerged component of these wetlands. River birch, buttonbush, and black willow commonly occur at the 67-m (220-ft.) contour.

The Cape Fear River supports a diverse assemblage of fish species. Near Buckhorn dam, there is no commercial fishing but recreational fishing can occur from the banks or by small boat (usually canoe). The NCWRC performed a creel survey that indicated that most recreational fishing along the Cape Fear River downstream of Buckhorn Dam is directed at catfish. Also, striped bass hybrids, likely from Jordan Lake where they are stocked, have been taken in this section of the Cape Fear River. Upstream of Buckhorn Dam at the Cape Fear Power Plant impingement mortality studies were conducted and 29 fish species representing 10 families were collected. Five species accounted for over 98 percent of the total number of fish collected and 94 percent of the fish biomass collected: threadfin shad, gizzard shad, bluegill, channel catfish, and white perch. This study gives a relative picture of the species that occur in the Cape Fear River upstream of Buckhorn Dam. Downstream of Buckhorn Dam the NCDWQ does not maintain any sampling stations for fish on the Cape Fear River; however, there are two sampling stations located in the tributaries that flow into this stretch of the river. Hector Creek and Avent Creek were both scored for fish community using the NCIBI in 1998 and 2003 with Hector Creek scoring 46 (Good) and 56 (Excellent), and Avent Creek scoring 48 (Good) and 44 (Good-Fair). The Avent Creek site has a waterfall barrier between the sampling station and the Cape Fear

River, and therefore, might not contain a representative fish community for the Cape Fear River. The Hector Creek site has no barrier to fish movement, which should allow fish to move between the creek and the Cape Fear River. At this time, two federally listed species (one fish and one mussel) known from the two counties occur in the vicinity of the proposed water intake structure Six fish and six mussel species are also listed by the USFWS as being of special concern in the area. The Sandhills chub (*Semotilus lumbee*), a State special concern species, is known to occur in a stream crossing the Harris-Fayetteville corridor. Habitat for this species consists of slow-flowing headwaters, creeks, and small rivers with sand and gravel bottoms and sparse vegetation

Given the importance of the area for wildlife, the Service will be especially interested in mitigation for proposed impacts to wetlands and other sensitive habitats such as hardwood forests.
Of particular concern to the Service is the bald eagle nest located adjacent to Harris Reservoir and would be impacted by the proposed alternative of raising the elevation of the reservoir by approximately 25-feet. The bald eagle remains protected under the Bald and Golden Eagle Protection Act (Act) and guidelines are provided for activities near nest trees. We recommend following these guidelines and that creative measures be employed as much as possible, such as removing the crown of large pines to encourage use of the another tree. The eagles may create a new nest, but that is uncertain. We look forward to working with you on this complex project.

We appreciate the opportunity to provide scoping comments on the subject proposal. Should you have any questions regarding these comments, please contact Mr. Mark D. Bowers at (919) 856-4520, extension 19, or at the above address.

Sincerely,

Mark Bowers

for Pete Benjamin,
Field Supervisor

cc: EPA, Atlanta, GA
WRC, Raleigh, NC