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August 19, 2009

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

**SHEARON HARRIS NUCLEAR POWER PLANT UNITS 2 AND 3
DOCKET NUMBERS 52-022 AND 52-023
SUPPLEMENTAL INFORMATION – 2009 BUCKHORN CREEK / CAPE FEAR RIVER
FISH SURVEY**

Ladies and Gentlemen:

In recent discussion with the NRC Staff, it was noted that the staff would like to see the results of a fish survey that Progress Energy conducted of fish species in Buckhorn Creek below Harris Lake and along the shoreline of the Cape Fear River near the mouth of Buckhorn Creek. The purpose of this letter is to submit the attached survey results as requested.

If you have any questions, or need additional information, please contact Bob Kitchen at (919) 546-6992 or me at (919) 546-6107.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 19, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read 'Garry D. Miller'.

Garry D. Miller
General Manager
Nuclear Plant Development

Attachment

cc: Mr. Brian Hughes, U.S. NRC Project Manager
Dr. Donald Palmrose, U.S. NRC Environmental Project Manager
U.S. NRC Resident Inspector, SHNPP Unit 1
U.S. NRC Region II, Regional Administrator

ASSESSMENT OF THE FISH COMMUNITY IN BUCKHORN CREEK AND THE CAPE FEAR RIVER

During the week of July 6, 2009, Progress Energy Carolinas, Inc personnel conducted a survey of fish species in Buckhorn Creek below Harris Lake and along the shoreline of the Cape Fear River near the mouth of Buckhorn Creek. The survey was conducted to determine species composition and relative abundance data for the fish communities at the aforementioned locations. Neither Buckhorn Creek nor this portion of the Cape Fear River have been sampled since studies conducted from 1973-1981. Results of this study will address environmental questions associated with the combined license application for the Harris Advanced Reactor Units 2 and 3 and provide necessary information to assess results of instream flow studies and formulate reasonable instream flow recommendations.

Biologists with the North Carolina Wildlife Resources Commission, the U. S. Fish and Wildlife Service, HDR/DTA, and the North Carolina Museum of Natural Sciences also participated over the three-day sampling event. Backpack electrofishing was conducted at 600 ft. long stations and followed the N.C. Division of Water Quality's Standard Operating Procedures for the Stream Fish Community Assessment program. This method provides an index of biotic integrity (IBI) that quantitatively ranks the health of the fish community. Water quality (i.e., temperature, dissolved oxygen, pH, conductivity, and turbidity) and flow data was recorded. The study locations were stratified into three sampling areas correlated with the upper, middle, and lower reaches of Buckhorn Creek between the Harris Lake dam and the confluence of the Cape Fear River. Three stations were also located in the braided shoreline along the Cape Fear River just upstream of the mouth of Buckhorn Creek. Sampling stations were selected based upon a visual assessment of habitat and results of the habitat mapping conducted to support instream flow studies.

Twenty eight fish species were collected from Buckhorn Creek and nineteen species were collected from the Cape Fear River (Table 1). No rare, threatened, or endangered species were collected. Samples from both the creek and the river were dominated by minnows (Cyprinidae) and sunfishes (Centrarchidae). The dominant minnow species collected were swallowtail shiner, satinfish shiner, whitefin shiner, white shiner, and sandbar shiner. The dominant sunfish species collected were redbreast sunfish and bluegill. The lack of native bullhead and madtom catfishes in the river compared to the creek was likely related to the abundance of predaceous flathead catfish residing in the river. American eel was collected from both locations. Multiple size classes of fish species were evident at both locations indicating successful reproduction. Final results including the IBI scores for Buckhorn Creek should be available near the end of this year.

**Table 1: Fish species collected from Buckhorn Creek and the Cape Fear River
with backpack electrofishing sampling, July 6-8, 2009**

Scientific name ⁺	Common name	Buckhorn Creek	Cape Fear River
Amiidae	bowfins		
<i>Amia calva</i>	bowfin	0	1
Anguillidae	eels		
<i>Anguilla rostrata</i>	American eel	54	39
Esocidae	pikes		
<i>Esox niger</i>	chain pickerel	1	0
Cyprinidae	minnows		
<i>Nocomis leptcephalus</i>	bluehead chub	15	9
<i>Cyprinella nivea</i>	whitefin shiner	6	65
<i>C. analostana</i>	satinfin shiner	0	96
<i>Notemigonus crysoleucas</i>	golden shiner	1	0
<i>N. petersoni</i>	coastal shiner	23	0
<i>N. amoenus</i>	comely shiner	0	4
<i>N. procne</i>	swallowtail shiner	197	0
<i>N. albeolus</i>	white shiner	65	1
<i>N. scepticus</i>	sandbar shiner	3	44
<i>Semotilus atromaculatus</i>	creek chub	28	0
Catostomidae	suckers		
<i>Erimyzon oblongus</i>	creek chubsucker	6	0
Ictaluridae	bullhead catfishes		
<i>Ictalurus punctatus</i>	channel catfish	0	6
<i>A. platycephalus</i>	flat bullhead	7	0
<i>A. brunneus</i>	snail bullhead	40	0
<i>A. natalis</i>	yellow bullhead	2	0
<i>Noturus insignis</i>	marginated madtom	18	0
<i>N. gyrinus</i>	tadpole madtom	12	0
<i>Pylodictus olivaris</i>	flathead catfish	0	21
Aphredoderidae	pirate perches		
<i>Aphredoderus sayanus</i>	pirate perch	61	0
Fundulidae	killifishes		
<i>Fundulus rathbuni</i>	speckled killifish	7	1
Poeciliidae	livebearers		
<i>Gambusia holbrooki</i>	Eastern mosquitofish	146	0
Centrarchidae	sunfishes		
<i>Lepomis auritus</i>	redbreast sunfish	284	178
<i>L. cyanellus</i>	green sunfish	7	7
<i>L. gibbosus</i>	pumpkinseed	5	1
<i>L. gulosus</i>	warmouth	13	0
<i>L. macrochirus</i>	bluegill	133	78
<i>L. microlophus</i>	redeer sunfish	22	0
<i>Micropterus salmoides</i>	largemouth bass	15	2
<i>M. punctulatus</i>	spotted bass	0	57
Percidae			
<i>Etheostoma olmstedii</i>	tessalated darter	118	4
<i>Percina crassa</i>	piedmont darter	18	3
Total number		1,307	617
Total species		28	19