

**From:** "PNL NRC Vogtle" <nrc.vogtle@pnl.gov>  
**To:** <VOGTLE\_EIS@nrc.gov>  
**Date:** 7/30/2007 1:07:12 PM  
**Subject:** FW: Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

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From: Krieg, Rebekah  
Sent: Wednesday, July 11, 2007 10:28 AM  
To: Jennifer Price  
Cc: Julie Holling; Sackschewsky, Michael R; Stegen, Amanda  
Subject: RE: Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

Jennifer,  
Thank you for the quick response. Yes, I see that *Toxolasma pullus* was found in the comprehensive surveys of the Savannah River near the site by the Academy of Natural Sciences, Philadelphia in 1989, '93 and then from '97-'01. I also see that it was collected in the 60's and 70's.  
Thank you for bringing this to my attention.

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1. The construction of an intake canal (impacting approximately 400 ft of shoreline - no dredging in the river, a cofferdam will be used to minimize turbidity entering the river.)

2. The modification of the existing barge slip - the barge slip is currently on fill that was put into place during the initial

construction of the site. There would be about 300 cubic yards of soil dredged or excavated from the Savannah River at the east end of the barge slip where it enters the river. The depth of dredging will be to approximately 67 ft MSL. A tethered floating silt curtain would be placed prior to excavation. Excavation would begin at the west end of the barge slip and move toward the river to minimize turbidity.

3. The installation of a discharge structure (affecting approximately 20 ft of shoreline). The discharge pipe is approximately 3.5 ft in diameter and extends 50 ft into the river. A temporary sheet pile cofferdam and dewatering system will be installed prior to construction. Rip rap will be used to stabilize the sediment area around the discharge point.

4. The potential for future dredging from the main channel (recent bathymetry studies show that dredging will not need to be performed for the barge slip. However, the dredging may be required at a future date depending on the natural movement of sediment within the river.)

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1. Impingement/Entrainment issues - Water withdrawal will be accomplished using a cooling water intake structure that meets the EPA Phase I regulations (66 FR 65256) of 0.5 ft/s maximum design through-screen velocity

2. Thermal discharges - A thermal plume is anticipated - the maximum distance the 5 degrees F above ambient isotherm is estimated to occur is 97 ft downstream of the outfall pipe. The maximum lateral extent of the isotherm from the outfall pipe terminus toward the river centerline is 60ft. However, the maximum width of the curved isotherm is only 15 ft. Figure 2 shows the thermal plume.

Please feel free to call me with any questions you may have.

Becky

Rebekah Krieg  
Sr. Research Scientist  
Pacific Northwest National Laboratory  
Phone: 509-376-5611  
Fax: 509 372-3515  
rebekah.krieg@pnl.gov

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From: Jennifer Price [mailto:PriceJ@dnr.sc.gov]  
Sent: Wednesday, July 11, 2007 8:05 AM  
To: Julie Holling  
Cc: Krieg, Rebekah  
Subject: RE: Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

Dear Becky,

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Do you have specific questions about these species, or do you want some general information? What exactly will be the effects of the project in question on River and on water quality?

Thanks.

Jennifer Price, Ph.D.  
Biologist, freshwater macroinvertebrates  
SCDNR, freshwater fisheries research section  
1921 Vanboklen Road  
Eastover, SC 29044  
803-353-8232  
pricej@dnr.sc.gov

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Sent: Tuesday, July 10, 2007 2:05 PM  
To: Jennifer Price  
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Jennifer,

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Thanks,  
Julie

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From: Krieg, Rebekah [mailto:rebekah.krieg@pnl.gov]  
Sent: Friday, July 06, 2007 10:05 AM  
To: Julie Holling  
Cc: Stegen, Amanda  
Subject: Federal Threatened and Endangered Species in the Vicinity of Vogtle Electric Generating Plant

Julie,  
I am an aquatic ecologist with Battelle at the Pacific Northwest National Laboratory and I am assisting the U.S. Nuclear Regulatory Commission in preparing an EIS to evaluate impacts associated with an Early Site Permit (ESP) for two additional reactor plants at the Vogtle Electric Generating Plant site near Waynesboro, Georgia. I know you have previously corresponded with one of my coworkers, Amanda Stegen, that is working on the terrestrial ecology sections of the EIS.

I also had some questions related to species that are known to exist in the Savannah River near the VEGP, that occur on your SCDNR Natural Heritage Program list. These are 6 mussel species, all of which have been collected in comprehensive surveys of the Savannah River in the last 10 years that are South Carolina species of concern. These include the

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**Email Number:** 446

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**Subject:** FW: Federal Threatened and Endangered Species in the Vicinity of  
Vogtle Electric Generating Plant  
**Creation Date:** 7/30/2007 1:07:12 PM  
**From:** "^PNNL NRC Vogtle" <nrc.vogtle@pnl.gov>

**Created By:** nrc.vogtle@pnl.gov

**Recipients**  
<VOGTLE\_EIS@nrc.gov>

**Post Office**  
TWGWPO04.HQGWDO01

**Route**  
nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	7078	7/30/2007 1:07:12 PM
TEXT.htm	15461	8/2/2007 8:51:19 AM
Disturbed_Areas.pdf	381712	8/2/2007 8:51:19 AM
vogtle_proposed_plumes.pdf	775133	8/2/2007
8:51:19 AM		
Mime.822	1609818	8/2/2007 8:51:19 AM

**Options**  
**Priority:** Standard  
**Reply Requested:** No  
**Return Notification:** None  
None

**Concealed Subject:** No  
**Security:** Standard

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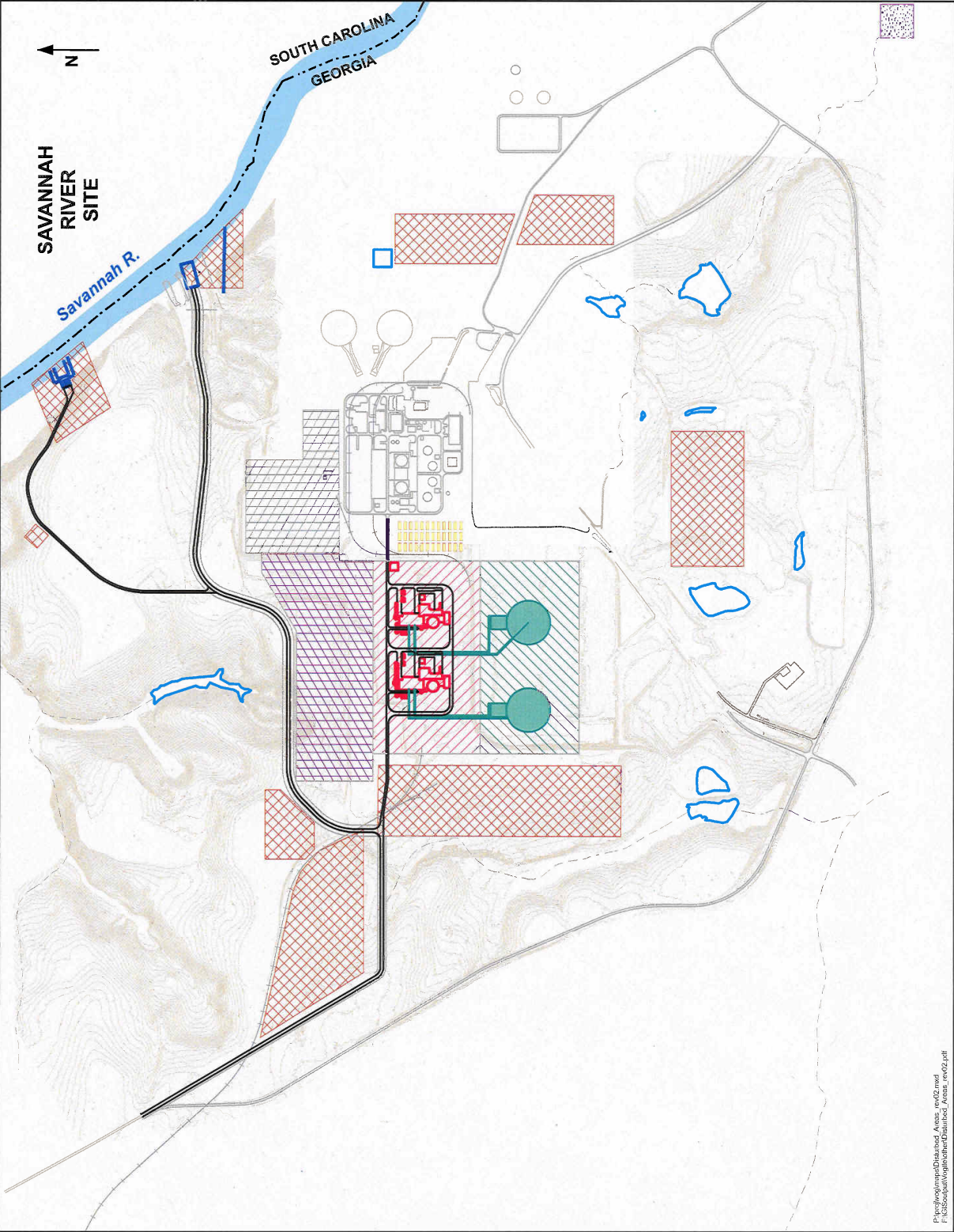
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- Disturbed Areas and New Structures**
- New Intake / New Barge Slip / New Outfall
  - New Road
  - New Power Block
  - New Cooling Tower
  - New Circulation Water Line
  - Temporary Construction Area, Laydown Area, Stockpile, Batch Plant, or Parking
  - New Switchyard Area
  - New Power Block Area
  - New Cooling Tower Area
  - New ISFSI Storage Area
  - New Training Center Expansion Area
- Existing Features**
- Existing Structure or Road: (Road, Building, Power Block, Cooling Tower)
  - Existing Railroad
  - Existing Switchyard
  - Intermittent Stream / River
  - Basin / Mallard Pond
- LIDAR-derived Topography**
- Major Contour
  - Minor Contour
- Many high-elevation contours did not export from CAD to GIS.*
- 0 500 1,000 1,500 2,000 Feet

**SOUTHERN NUCLEAR OPERATING CO.  
VOGTLE NUCLEAR STATION**

**Disturbed Areas**

Reference: Fig 3.1-3 ESP Site Utilization Plan

P:\proj\wotmp\Disturbed Areas\_rev02.mxd  
F:\GIS\output\vogether\Disturbed\_Areas\_rev02.pdf



# Vogtle EIS

## Proposed Thermal Plumes

Source: Southern Nuclear Operating Co.



90° F(32.2° C)



5° F(2.8° C) Above Ambient



Discharge Pipe

