

## CCNPP3COLA PEmails

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**From:** Anderson, Kathy NAB [Kathy.Anderson@usace.army.mil]  
**Sent:** Thursday, April 07, 2011 11:21 AM  
**To:** Lutchenkov, Dimitri; Burkman, Jim  
**Cc:** Quinn, Laura; Francis, Woody NAB; Jonathan Stewart; Cheryl Kerr  
**Subject:** 2007-08123 CCNPP (UNCLASSIFIED)  
**Attachments:** Corps Final Work Description 4-7-11.doc

Classification: UNCLASSIFIED

Caveats: NONE

Dimitri and Jim,

Please see the final work description for the permit decision. This information is based on our meeting on March 30, 2011 and the revised tidal and nontidal plans of the same date. Please review and confirm that this is Unistar's final complete revised proposal. Please reply to all. Thanks.

<<Corps Final Work Description 4-7-11.doc>>

*Thank you,*

*Kathy B. Anderson  
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**From:** Anderson, Kathy NAB

**Created By:** Kathy.Anderson@usace.army.mil

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## CORPS FINAL WORK DESCRIPTION FOR PERMIT DECISION

### CORPS OF ENGINEERS PERMIT APPLICATION

CENAB-OP-RMS (NAB-2007-08123-M01 (Calvert Cliffs 3 Nuclear Project, LLC/Unistar Nuclear Operating Services, LLC)

APPLICANT: Calvert Cliffs 3 Nuclear Project, LLC  
Mr. Ed Jarmas  
1650 Calvert Cliffs Parkway  
Lusby, Maryland 20657

UniStar Nuclear Operating Services, LLC  
Mr. George Vanderheyden  
750 E. Pratt Street, 14<sup>th</sup> Floor  
Baltimore, Maryland 21202

LOCATION: In the Chesapeake Bay and unnamed tributaries to the Chesapeake Bay, forested non-tidal wetlands, Johns Creek and Goldstein Branch and their unnamed tributaries at Unistar's Calvert Cliffs site near Lusby, Calvert County, Maryland.

WORK: The applicants propose, in accordance with the attached plans, to perform site preparation activities and construct supporting facilities at the site of a proposed nominal 1,710 MW nuclear power generation station (Unit 3).

PURPOSE AND NEED: The basic project purpose for the Unistar project is to generate electricity for additional base load capacity. The overall project purpose is to construct a nuclear power plant facility to provide for additional base load electrical generating capacity to meet the growing demand for electricity in the State of Maryland.

The following work is proposed in tidal areas in accordance with the revised plans dated 30 March 2011:

#### **Figures 3- 3A through 3E**

**New Sheet Pile, Armor Removal, Armor Installation for Intake at Existing Fore-bay:** To construct the new Unit 3 intake by constructing an 18-inch thick sheet pile wall extending approximately 180 linear feet from the existing shoreline to the existing baffle wall and extending approximately 90 feet channelward of the approximate mean high water (MHW) shoreline, creating an approximate 9,000 square foot wedged-shaped pool within an area that has existing stone on the bottom; to emplace approximately 100 linear feet of stone armor protection 95 feet channelward of the proposed wall; to remove approximately 30 feet of existing shoreline armor protection in order to construct the proposed sheet pile wall; to remove approximately 60-feet of armor within the wedged shape pool; and to install a temporary sheet piling wall in uplands and extending out into the wedge-shaped pool approximately 30 feet channelward to facilitate dewatering, installation of the pipe and the associated trash rack. The area within the wedged shaped pool surrounded by the pipeline sheet piling would be dewatered and dredged by mechanical method to create an approximately 30-foot wide by 30-foot long by 25-foot deep area, resulting in approximately 1,000 cubic yards of sand and gravel, which would be deposited on site at an existing upland (non-wetland), environmentally controlled area at the Lake Davies lay-down. After

dredging, two 60-inch intake pipes with trash racks at the pipe openings, extending approximately 20 feet channelward of the approximate MHW shoreline, to a bottom elevation of -25 feet mean low water, would be installed. After installation of the pipes and associated trash racks, approximately 60 linear feet of shoreline armor protection extending 20 feet from end of the proposed trash rack pad, which is approximately 50 feet channelward of the approximate MHW shoreline would be emplaced within the wedged-shaped area. After this work is completed, the temporary sheet pile wall around the 60-inch intake pipes would be removed, allowing the area to flood and submerge the pipes.

#### **Figures 5 – 5A through 5D**

**Discharge Pipe:** A 30-inch high density polyethylene (HDPE) discharge pipe with a three single port diffuser outfall structure approximately 550 linear feet channelward of the approximate MHW shoreline and depressed 4 feet below the bay bottom would be installed using hydraulic or mechanical dredging methods. The discharge point would be elevated 3 feet above the bay bottom. This installation would temporarily impact approximately 38,500 square feet, approximately 0.9 acres, along 550 linear feet of the bay bottom. Additionally, a 20-foot by 40-foot by 2-inch thick riprap scour pad would be installed at the diffuser outfall permanently impacting 800 square feet, 0.02 acres. Approximately 5,500 cubic yards of existing material dredged for the pipe installation would be deposited on site at an existing upland (non-wetland), environmentally controlled area at the Lake Davies lay-down. The pipe would be installed with a minimum of 4 feet of approximately 5,500 cubic yards of clean sand or stone fill cover to protect it from storms and snagging by small boat anchors. The pipe installation work includes removing and replacing approximately 70 linear feet of shoreline armor protection. Turbidity curtains are anticipated to be used during the work to contain suspended sediments.

#### **Figures 6-6A through 6L (there is no 6 I)**

**Restoration of Barge Unloading Facility including Maintenance and New Dredging:** To facilitate receipt of equipment and materials for the construction of the plant, two existing pile cap crane supports and one mooring bollard would be removed. The existing barge slip would be restored and extended to re-establish use of an approximately 1,500-foot long channel ranging in width from 100-foot to 130-foot to 150-foot within an approximate 195,000 square foot area to a bottom elevation of -16 feet mean low water, requiring approximately 60,000 cubic yards of mechanical dredging. Approximately 1,065-feet of the dredging is considered maintenance, and the remaining 435-feet is an extension beyond the original dredging limits and is required to reach the bottom elevation of -16 feet mean low water. Of the approximately 60,000 cubic yards of dredging required, 45,000 cubic yards are considered maintenance dredging, and 5,000 cubic yards are considered new dredging. Ten-year maintenance dredging is proposed.

The dredge material would be characterized prior to use. The dredge material removed from the barge slip would either be used during the plant construction as sand bedding for underground pipe installation or deposited on site at an existing upland (non-wetland) environmentally controlled disposal area at the Lake Davies lay-down. Suspended sediments resulting from this work are anticipated to be contained by a floating turbidity curtain.

As a part of the restoration, a new 18-inch thick sheet pile wall would be installed along the shore line in front of the existing bulkhead which was built as a part of the original design. The bulkhead would consist of a new sheet pile wall driven immediately in front of the existing remaining bulkhead. This bulkhead would be approximately 90 feet in length starting from the barge slip extending south to an existing outfall culvert. On the landward side of the new sheet pile bulkhead, a concrete apron would be placed along with a gravel apron to allow equipment to be off-loaded from barges with wheeled mounted transporters.

Near shore maintenance dredging would require removal of silt/sediment which has mounded up over the past 30 years and would include restoration of an existing culvert outfall. Due to silt/sediment build up over the years, the discharge from this outfall meanders in a north-south direction prior to discharging into the barge slip area. The restoration activities in this area would include the emplacement of a 40-foot by 40-foot by 2-foot deep riprap apron extending approximately 30 feet channelward of the approximate MHW shoreline directly in front the existing outfall, allowing the discharge to flow directly in the bay as originally designed. The existing water depths range from approximately 0.00 feet to -16.0 mean low water within the proposed work area.

#### **Figures 4 – 4A through 4D**

**Unit 3 Fish Return:** A fish return system would be provided as a part of the intake design. To construct the proposed fish return outfall, a 40 linear foot 18-inch diameter HDPE pipe would be installed in a mechanically excavated trench. The pipe would be installed 4.0 feet below the approximate mean low water level and the outfall location would be protected with a 10-foot by 10-foot by 2-foot thick riprap apron extending approximately 45 feet channelward of the approximate MHW shoreline. To install the pipe, approximately 70 linear feet of the existing shoreline revetment would be removed, and approximately 100 cubic yards of material would be dredged within the work area. The work includes emplacement of a stone pipe pad 65-feet wide at the shoreline tapering to 5-feet wide 40 feet channelward of the approximate MHW shoreline. The dredged material would be deposited on site at an existing upland (non wetland), environmentally controlled area at the Lake Davies lay-down and after the pipe is placed approximately 100 cubic yards of clean sand or stone fill would be emplaced. The existing shoreline revetment would be restored to its original design after pipe installation. Turbidity curtains are anticipated during the work to contain suspended sediments.

The following work is proposed in non-tidal areas in accordance with the revised plans dated 30 March 2011:

#### **Figures 7, 7C through 7F, 10 and 10E**

**Power Block:** To clear and grade for construction of a power block, including reactor, turbine and associated structures, permanently impacting 2,470 square feet (0.06 acres) along 617 linear feet of stream bed.

#### **Figures 6, 6A, 6 B, 8, 9, 9A through D, 10, 10A through D, 10 G, 10 H**

**Lay-down Areas:** To clear and grade for construction of five construction lay-down areas in various locations, permanently impacting 95,832 square feet (2.20 acres) of non-tidal forested wetlands; 52,708 square feet (1.21 acres) of emergent wetlands; 114,563 square feet (2.63 acres) of open water; and 1,535 square feet (0.04 acres) along 384 linear feet of stream bed.

#### **Figures 10E, 10F**

**Cooling Tower:** To clear and grade for construction of a cooling tower, permanently impacting 32,670 square feet (0.75 acres) of non-tidal forested wetlands and 5,780 square feet (0.13 acres) along 1,445 linear feet of stream bed.

**Switchyard:** To clear and grade for construction of a switchyard, permanently impacting 179,903 square feet (4.13 acres) of non-tidal forested wetlands and 16,710 square feet (0.38 acres) along 4,178 linear feet of stream bed.

## **Figures 5A through D**

**Construction Access Road:** To clear and grade for construction of the Unit 3 construction access road which would require three separate road crossings: 1) to construct 200 linear feet of 30-inch diameter reinforced concrete pipe (RCP) and emplace a 15-foot by 15-foot riprap scour pad; 2) to construct 100 linear feet of 36-inch diameter RCP and emplace a 15-foot by 15-foot riprap scour pad; and 3) to construct 520 linear feet of two 54-inch diameter RCP and emplace a 40-foot by 40-foot riprap scour pad. The invert of each pipe would be depressed to match the slope and invert of the stream or wetland being crossed. This road work would permanently impact 31,363 square feet (0.72-acre) area of non-tidal forested wetlands and 4,336 square feet (0.10 acres) along 1,084 linear feet of stream bed.

## **Figures 7 – 7A, 7B**

**Heavy Haul Road:** To clear and grade for construction of a heavy haul road leading from the barge slip to the construction site, permanently impacting 2,570 square feet (0.06 acres) along 642 linear feet of stream bed.

The total proposed project would permanently impact 343,253 square feet (7.88 acres) of forested non-tidal wetlands; 52,707 square feet (1.21 acres) of emergent non-tidal wetlands; 114,563 square feet (2.63 acres) of non-tidal open water; 33,400 square feet (0.77 acres) along 8,350 linear feet stream bed portions; and 248,000 square feet (5.7 acres) of tidal open waters (approximately 138,500 square feet (3.2 acres) of the tidal open water impacts are maintenance dredging; approximately 109,000 square feet (2.5 acres) is new dredging; approximately 52,500 square feet (1.2 acres) of the new dredging would be backfilled). This work includes a total of 3,485 square feet (0.08-acre area) of isolated forested wetland impact that is not subject to Corps jurisdiction.

Woody Francis  
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