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February 27, 2009

UN#09-142

Mr. William P. Seib
Chief, Maryland Section South
U.S. Army Corps of Engineers – Baltimore District
10 S. Howard Street
Baltimore, Maryland 21201

Subject: Joint Federal/State Application of Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC, Calvert Cliffs Nuclear Power Plant Site, Lusby, Calvert County, Maryland, USACE Tracking No. NAB-2007-08123-M05

Reference USACE Letter from William P. Seib (USACE) to Thomas E. Roberts (UNE), dated October 28, 2008.

Dear Mr. Seib

Enclosed is a supplemental response to Question 2 to your letter dated October 28, 2008.

Please do not hesitate to contact me at 410-470-5524 if you have any questions concerning the attached response.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Lutchenkov", with a long horizontal line extending to the right.

Dimitri Lutchenkov

Enclosures

cc: Kathy Anderson - USACE
Thomas Fredrichs – NRC
Susan Gray – PPRP
Robert Tabisz- MDE
Jeff Thomson - MDE

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bcc: Jim Burkman – Constellation
Lisa Decker – Constellation
Greg Gibson – UNE
Robin Leone – Saul Ewing
Carla Logan – Constellation
Mark Milbradt - UNE
Ed Miller – Constellation
Paul Goldstein – UNE

Application NAB-2007-08123-M05
Response to U.S. Army Corps of Engineers Information Request Dated 10/28/08
Calvert Cliffs 3 Project, LLC and UniStar Nuclear Operating Services, LLC
Revision 1 - February 27, 2009

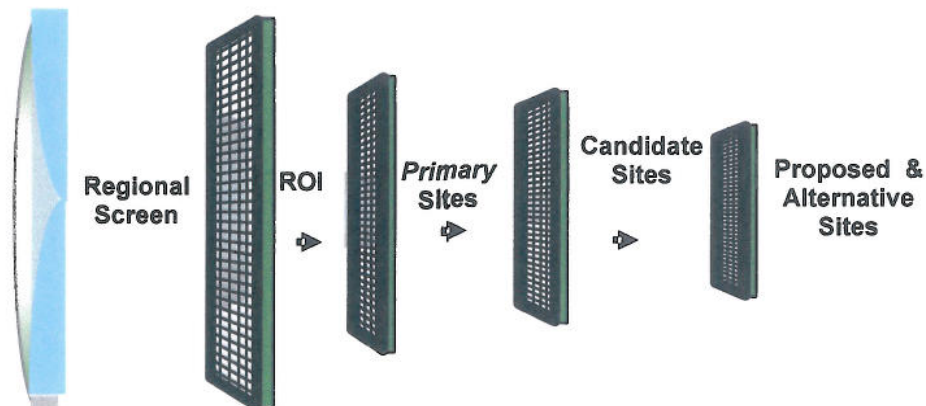
Question 2

A detailed analysis of alternative locations for the proposed project or any of the alternate energy sources that would have less impact to wetlands and waterways. Data collected using resource mapping is acceptable and should be noted as appropriate in all evaluations.

RESPONSE

Alternate energy sources (Wind, Geothermal, Hydropower, Solar Power, Wood Waste, Municipal Solid Waste, Energy Crops, Petroleum liquids (Oil), Fuel Cells, Coal, Natural Gas, Integrated Gasification Combined Cycle (IGCC)) were evaluated and determined to be non-viable energy sources for various reasons as described in Section 9.2 of the Calvert Cliffs (CCNPP) Unit 3 Environmental Report (ER) and in response to Question 1 of USACE letter dated 10/28/08. As such, a detailed analysis of how these alternate energy sources would have less impact to wetlands and waterways is unnecessary since these alternate energy sources are not considered to be viable energy options.

The alternatives analysis implements a multi-phase process in which initial Regions of Interest (ROIs) are identified and screened for "Potential" sites based on a high level set of criteria, further screening identifies "Candidate" sites based on a finer, more detailed, set of criteria and, finally, "Final" sites are selected and analyzed in detail.



The initial ROI is selected based on regulatory and strategic objectives. These include but are not limited to the following:

- Proximity to major population centers (that is, not located in an area with greater than or equal to 300 persons per square mile [ppsm]).
- Proximity of adequate transmission lines (that is, within approximately 30 miles (mi) [48.3 kilometer {km}] of 345- or 500-kV transmission lines). Per the EPR standard grid connection design, 345- or 500-kV transmission lines are needed.
- Lack of a suitable source for cooling water (that is, within 15 mi [24.10 km] of an adequate source for cooling water).
- Dedicated land (that is, not located within areas such as national and state parks, historic sites, and tribal lands).

Further screening is based on NRC site suitability and technical requirements as well as NEPA requirements for the consideration of alternative sites (e.g., reasonable range of alternatives and explicit consideration of environmental issues) and leads to the determination of potential sites. This screening includes but is not limited to the following:

- Consumptive use of water should not cause significant adverse effects on other users.
- The proposed action should not jeopardize Federal, State, and affected Native American tribal listed threatened, endangered, or candidates species or result in the destruction or adverse modification of critical habitat.
- There should not be any potential significant impacts to spawning grounds or nursery areas of populations of important aquatic species on Federal, State, and affected Native American tribal lists.
- Discharges of effluents into waterways should be in accordance with Federal, State, regional, local, and affected Native American tribal regulations and would not adversely affect efforts to meet water-quality objectives.
- There should be no preemption of or adverse impacts on land specially designated for environmental, recreational, or other special purposes.
- There would not be any potential significant impact on terrestrial and aquatic ecosystems, including wetlands, which are unique to the resource area.
- There are no other significant issues that preclude the use of the site.

Next, screening of the potential sites involves the scoring and ranking based on a discrete set of criteria of each site. This resulted in selection of the following four candidate sites:

- Calvert Cliffs Nuclear Power Plant Unit 3
- Nine Mile Point Nuclear Power Plant Unit 3
- R.E. Ginna Nuclear Power Plant Unit 2
- Former Thiokol Site (brownfield site in Maryland)

Section 9.3 of the CCNPP Unit 3 COLA, Revision 4a, which addresses the site alternatives analysis is currently being updated and will be provided once the update is complete.

SUPPLEMENTAL RESPONSE

The former Thiokol site which originally contained over 700 acres, now encompasses approximately 618 acres (ac) [250 hectares (ha)] of land in St. Mary's County, southern Maryland (Figure 1). The subject site is bordered by woodland, scattered agricultural parcels, Maryland Route 235 (northern boundary), and a forested wetland slough (portion of eastern boundary). Surface waters located on-site are Rich Neck Creek and Tom Swamp Run, including their interim tributaries, which flow through the heavily wooded property generally to the south and southwest toward the Potomac River. Surface waters near the former Thiokol site include the Patuxent River and Chesapeake Bay to the northeast and the Potomac River to the west.

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper (map resource database) was accessed to determine the total area of surface waters, including wetlands, present on the 618 acres (ac) [250 hectares (ha)] former Thiokol site. The area of the project including switch yard, power block and laydown would be approximately 257 acres (ac) 104 hectares (ha) exclusive of service roads and support facilities which would add to the total acreage required. In addition, 67 acres (ac) 27.114 (ha) of the site is identified as being a special reserve area that are to remain undisturbed. The NWI map data identifies that approximately 49.2 ac (19.9 ha) of non-tidal wetlands and approximately 14,411 linear feet (lf) (4,392 m) of stream channel occur within the site boundary. The majority of these stream channels are imbedded within the aforementioned forested wetland sloughs. The Federal Emergency Management Agency (FEMA) floodplain maps show no flood zones within the subject site (FEMA, 2009).

The Patuxent River would be the main source of cooling water at the former Thiokol site. In addition, the Patuxent River would also handle the discharge from the former Thiokol site such as ESW and CWS cooling tower blowdown, inlet water processing

(membrane filtration) wastewater and other miscellaneous low volume wastewater. The river is located in St. Mary's County, approximately 3 mi (4.8 km) north of the subject site. As such, a pipe (intake/discharge) corridor consisting of a series of pipes would most likely be constructed between the northern edge of the subject site and the southern shore of the Patuxent River. The pipe (intake/discharge) corridor would be established along an existing roadway/right-of-way to minimize impacts to surface waters. This pipe corridor would need to cross Maryland Route 235, a primary arterial road, and would most likely have to be trenched. The total area of the pipe corridor and associated structures would be approximately 25.1 acres (10.2 ha). NWI map data identifies that the pipeline corridor would include approximately 0.4 ac (0.2 ha) of wetlands.

A 500 kV transmission line is also proposed for the project. As such, an electric power line right-of-way would be required. The right-of-way would be constructed between the southern portion of the subject site and an existing 500kV line located approximately 2 mi (3 km) to the southeast of the site. The total area of the power line right-of-way and associated structures would be approximately 85.07 acres (ac) or 34.43 hectares (ha). NWI map data identifies that the power line right-of-way includes approximately 15.8 ac (6.4 ha) of wetlands and 4,200.8 lf (1,280.4 m) of stream channel.

Based on a "Reconnaissance Level" effort of scope, an impact evaluation was conducted which arranged the footprints of the major project permanent and construction facilities (Construction Access Road, three Laydown Areas, Switch Yard, Power Block, Cooling Tower, and Water Intake) such that the proposed facilities would be designed to minimize encroachment into areas delineated as wetlands or other waters of the U.S. Based on the proposed site development plan (footprint), the total area of impacted wetlands on the former Thiokol site would be 13.9 ac (5.6 ha). An additional 0.4 ac (0.2 ha) and 15.8 ac (6.4 ha) of wetlands would be impacted by the construction of the pipeline corridor and the 500 kV transmission line, respectively. The total length of impacted stream channels on the former Thiokol site would be 2,315.7 lf (705.8 m). An additional 4,200.8 lf (1,280.4 m) of stream channel would be impacted by the construction of the transmission line. The total wetland impacts for the entire project build-out would be 30.1 ac (12.3 ha), while the total stream channel impacts would be 6,516.5 lf (1,986.2 m). No impacts to wetlands or stream channels would occur from the construction of the Cooling Tower, Switch Yard, and Water Intake. No impacts to stream channels would occur from the construction of the Power Block, Pipe Corridor, or Laydown Area 2. The proposed project would permanently impact wetlands and stream features.

Table 1 below presents the potential impacts to surface waters as a result of the "Reconnaissance Level" development of the former Thiokol site and the construction of the pipe (intake/discharge) corridor and the 500 kV transmission line. These impact values are based on the available NWI map data. All impacts are presumed to be

permanent except for those associated with the transmission line which are assumed to be temporary.

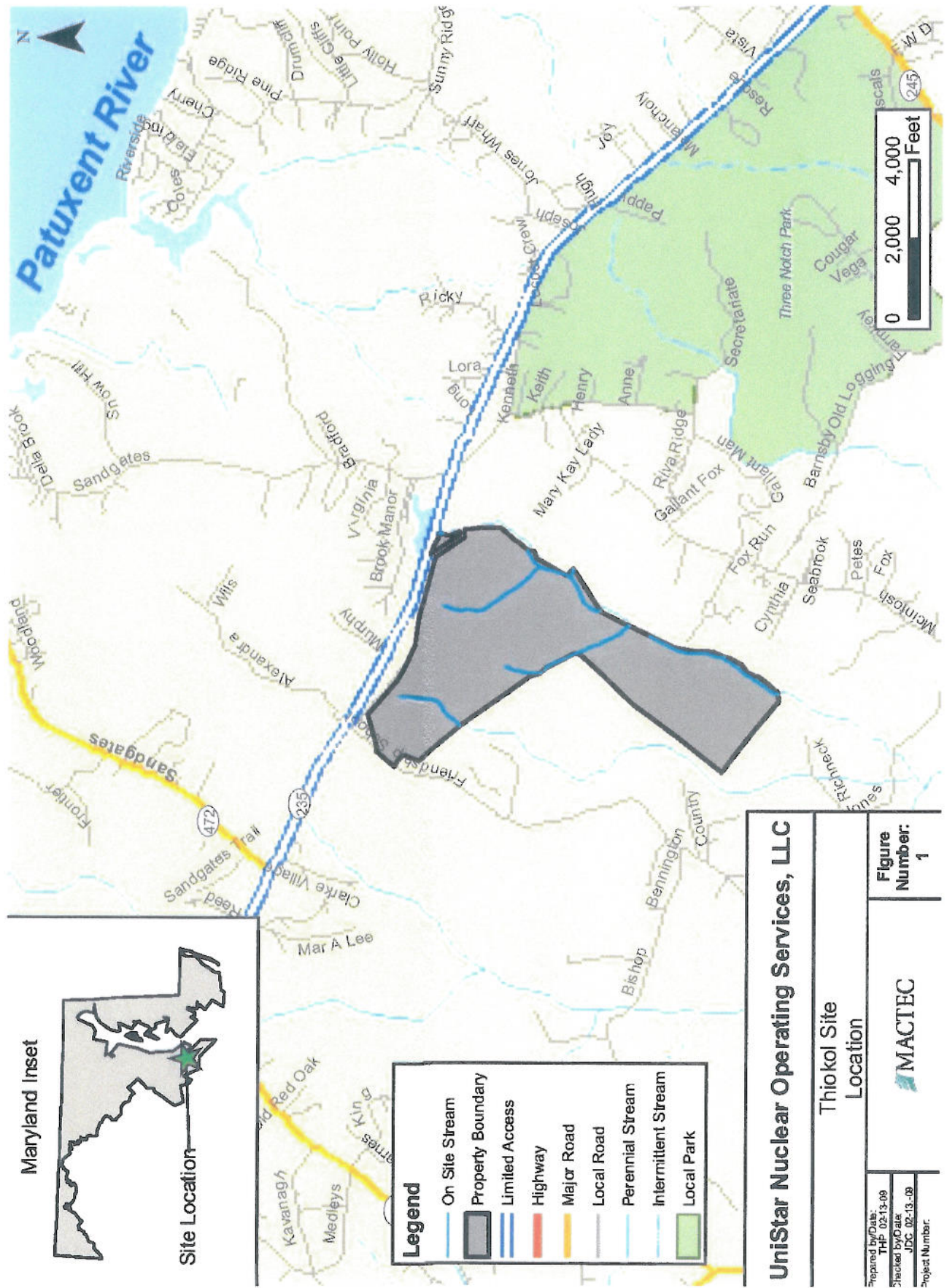
In summary, the Thiokol Site is inferior to that of the Calvert Cliffs site in that wetland impacts are fewer at Calvert Cliffs (11.72 ac). In addition, the Calvert Cliffs site is located on the Chesapeake Bay, a larger body of water than the Patuxent River, and provides direct access for the intake/discharge pipes. At the Calvert Cliffs site, the existing transmission line corridor is wide enough to accommodate the new line coming out of the proposed facility and will not result in additional impacts to wetlands or streams. Finally, two "Special Reserve Areas" exist on the former Thiokol site, which may include special restrictions requiring these areas to remain undisturbed. The boundaries of these areas were delineated by others with involvement from the federal government and the MDE. The "Special Reserve Areas" are to remain undisturbed; i.e., Maryland land records may include special restrictions on these areas. No "Special Reserve Areas" occur on the Calvert Cliffs site.

Per discussions with USACE, K. Anderson, no additional "Reconnaissance Level" information was required for the Nine Mile Point Nuclear Power Plant Unit 3 or R.E. Ginna Nuclear Power Plant Unit 2 alternative sites.

Table 1
Potential Impacts to Surface Waters (Wetlands and Streams) from
Development of the Former Thiokol Site, Pipe (Intake/Discharge)
Corridor, and 500 kV
Transmission Line, St. Mary's County, Maryland

Facility Element	Wetland Impacts Acre (hectare)	Stream Impacts Linear Feet (meter)
Thiokol Site	13.9 ac (5.6 ha)	2,315.7 lf (705.8 m)
Construction Access Road	0.6 (0.2)	30.6 (9.3)
CSW Cooling Tower	None	None
Laydown Area 1	6.1 (2.5)	1,276.7 (389.1)
Laydown Area 2	0.2 (0.1)	None
Laydown Area 3	4.4 (1.8)	1,008.4 (307.4)
Power Block	2.6 (1.1)	None
Switch Yard	None	None
Water Intake	None	None
Pipe (intake/discharge) Corridor	0.4 (0.2)	None
Transmission Line (temporary wetland conversion)	15.8 (6.4)	4,200.8 (1,280.4)
Total Impacts	30.1 (12.3)	6,516.5 (1,986.2)

**ALTERNATE SITE LOCATION
FORMER THIOKOL SITE**



UniStar Nuclear Operating Services, LLC

Thiokol Site Location	
	Figure Number: 1
<small>Prepared by/DWG: TWP 02-13-08 Checked by/DWG: JSC 02-13-08 Project Number:</small>	