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Sent: Thursday, November 11, 2010 9:12 AM
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Cc: Burkman, Jim; Logan, Carla; Miller, Edward A
Subject: Tidal Wetlands Whitepaper
Attachments: Wetlands Whitepaper 111010.docx; Bottom_Oyster.pdf

The attached file contains information that may be helpful to Friday's teleconference on Tidal Mitigation for Calvert Cliffs Unit 3 and describes UniStar's view on Tidal Mitigation.

Regards,

Dimitri Lutchenkov

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Tidal Wetlands Impact Summary
November 2010

Background:

The Calvert Cliffs Unit 3 project would result in impacts to 5.7 acres of tidal open water. This area of impact is entirely within the Flag Pond Oyster Bar, which is within N.O.B. 19-2. Mitigation of new dredging within this impact area is required by CPCN Condition 53.

In a letter dated August 20, 2010, Mr. Peter D. Colosi, Jr. from the National Marine Fisheries Service (NMFS) offered comments and recommendations on mitigation requirements associated with sandy bottom impacts resulting from the construction of Calvert Cliffs Unit 3. In his letter, Mr. Colosi states that 4.5 acres of sandy bottom in the Flag Pond Oyster Bar will be permanently altered by "new dredging", an assumption likely taken from Page F-95 of Appendix F (Essential Fish Habitat Assessment) to the Nuclear Regulatory Commission's (NRC) Draft Environmental Impact Statement (DEIS). The 4.5 acres of dredging is actually the total dredging for the barge slip [maintenance (3.2 acres) and new (1.3 acres)]. The assumption that the dredging area is a sandy bottom type was based upon information on Page 2-64 of the DEIS, a conclusion resulting from three samples taken in the vicinity of the discharge pipe (EA Engineering, Science, and Technology, Inc., Aquatic Field Studies for UniStar Calvert Cliffs Expansion Project, May 2007). Since the release of the DEIS and EFH assessment, a study characterizing the bottom type and oyster habitat has been completed for the projected impact area on NOB-19-2. This study, prepared by EA Engineering, Science, and Technology, Inc. (EA) in October 2010 and the Laboratory of Kennedy Paynter, University of Maryland (UM) in August 2010, confirmed the discharge pipe area as sand, but the barge slip, including its access channel, as hard bottom (sandstone, rock or shell hash) with isolated pockets of sandy material.

Mitigation for the project should be based upon input from the State of Maryland (through CPCN Condition 53), the U.S. Army Corps of Engineers and other federal resource agencies. Other input to be considered should include the amount of impact area, the ecological function of the habitat, and type of impact (permanent vs. temporary).

Proposed Mitigation Strategies:

CPCN Condition 53 requires UniStar to mitigate for tidal impacts by providing funding "up to a capped amount of $45,000 per acre (2008 dollars), the cost of moving, creating, or restoring oyster habitat equal to the area of bottom in NOB 19-2 that would be directly, adversely impacted by UniStar's new dredging or filling of tidal wetlands within NOB 19-2 pursuant to Condition 44." If the mitigation required by CPCN Condition 53 is considered insufficient to address concerns raised by Mr. Colosi regarding mitigation for impacts to Essential Fish Habitat (EFH) species prey habitat, the following information should be considered:

1. Any additional mitigation (above and beyond what the State of Maryland has agreed to in CPCN Condition 53) should only be required for new work dredging/actions (not for maintenance dredging) that impact sandy bottom. Based upon the EA/UM Study, the total area would be: sandy bottom at discharge pipe 0.72 acres plus new dredging at the barge slip 0.09 acres = 0.81 acres.
2. However, since impacts to sandy bottom area within the area of the discharge pipe (0.72 acres) will be temporary and will be offset by placement of coarse material (likely cobble) in the discharge pipe area, which will provide coarse substrate as habitat for forage ground, this area should not require additional mitigation.
3. Impacts to the sandy bottom area from new dredging for the barge slip and access channel (0.09 acres) should not require additional mitigation, because this sandy bottom habitat is comprised of only small, isolated pockets and, therefore, does not provide functional habitat for prey of EFH species. (See Figure).

Therefore, UniStar believes no additional mitigation, beyond what is required by CPCN Condition 53, is warranted to offset losses of habitat for prey of EFH species.

Summary of Acreages:

• Total Limit of New Disturbance*	2.5 acres	NOB 19-2 mitigation per CPCN Condition 53.
• Maintenance Dredging Area	3.2 acres	No mitigation for maintenance work
Included in new disturbance:		
• Discharge Pipe Area (Sand Bottom)	0.72 acres	Will be replaced with substrate suitable for forage ground.
• Barge Slip New Work (Sand Bottom)	0.09 acres	Permanent impact to "patchy" sand substrate
Total =	0.81 acres	New work in Sand Bottom

***New Disturbance of 2.5 acres equals the area of new dredging 1.3 acres and the sum of the intake area, discharge pipe and fish return, 1.2 acres.**

Calvert Cliffs Nuclear Power Plant
Sediment Characterization
2010

Legend

Bottom Type (Paynter)

Sand

Hard Bottom

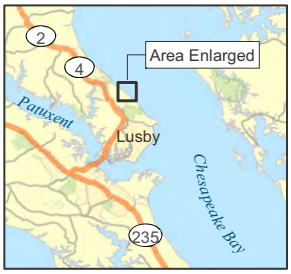
Flag Pond Oyster Bar

Maintenance Dredging

Proposed New Work Dredging

0 200 400

Feet



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