Appendix A – Agency Correspondence

Bureau of Ocean Energy Management

Kimberly Q Lanterman (Services - 6)

From:	Reeves, Casey [casey.reeves@boem.gov]
Sent:	Thursday, January 30, 2014 3:52 PM
To:	al.christopher@dmme.virginia.gov
Cc:	Molly P Ploutz (Services - 6); Kimberly Q Lanterman (Services - 6); Byrum, Algene D; Trager, Erin C; Sid Falk; Daniel O'Connell; Matzat, Greg; Messaus, Moghar (FELLOW); John.D.Evans@usace.army.mil; Morin, Michelle; Francois, Darry K
Subject:	VOWTAP RAP Comments
Attachments:	EBRE_Sufficiency Review- RAP Comment Matrix_BOEM_01302014.pdf; VOWTAP RAP PCB Comment Matrix 01302014.pdf; USACE- RE_ [EXTERNAL] VOWTAP Research Activities Plan (UNCLASSIFIED).pdf

Al, et al.,

Please find BOEMs comments on the VOWTAP Research Activities Plan (RAP) and Certified Verification Agent (CVA) nomination attached. In general, the Plan received favorable comments and responses from the Subject Matter Experts who conducted the review. Speaking on my own behalf I believe this document sets a good bar and will serve the project well. That being said, there are some questions and clarifications that can be found in the attached matrices along with a copy of preliminary comments received from the USACE on the main report.

Once the requested revisions and comments within the attached matrices related to the Plan have been addressed BOEM intends on posting the Plan and Appendices to the BOEM website for public information and review, other than those appendices annotated to be withheld (B, N & O). If there is any other information that DMME would like to withhold please let me know. Once the revisions have been made to the RAP BOEM intends to move forward with the NEPA process and further information may be requested in the future.

The comments on the CVA nomination are more specific in nature and we look forward to meeting with both you and them in the near future to fill in any necessary gaps and information requirements. As always feel free to contact me if you have any questions.

BOEM
Casey Reeves
Project Coordinator
703.787.1672

"*How inappropriate to call this planet Earth when it is quite clearly Ocean.*"
- Arthur C. Clarke

From: Spangler, Conrad (DMME)
Sent: Wednesday, December 04, 2013 6:29 PM
To: 'darryl.francois@boem.gov'
Cc: Christopher, Al (DMME); 'Casey.Reeves@boem.gov'; 'Michelle.Morin@boem.gov'
Subject: Re: DMME Research Leases -- Update and future activities

Darryl: thank you for letting us know
and a special thanks for all the help and direction you, Mo, Casey, Erin and everyone have provided. We appreciate your confidence that Virginia is able to successfully carry-out the proposed activities in the lease areas. We look forward to working with BOEM in the next steps of the process, and the exciting prospects of seeing offshore wind in the U.S. become a physical reality. Please let me know when you see ways we can improve our efforts. Conrad

From: Francois, Darryl [mailto:darryl.francois@boem.gov]
Sent: Wednesday, December 04, 2013 05:51 PM
To: Spangler, Conrad (DMME)
Cc: Christopher, Al (DMME); Casey L Reeves <Casey.Reeves@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>
Subject: DMME Research Leases -- Update and future activities

Dear Conrad,

I wanted to alert you that the BOEM Determination of No Competitive Interest in the area that the Virginia Department of Mines Minerals and Energy (DMME) proposed for a research lease under 30 CFR 585.238 will be available in the Federal Register reading room on Friday, December 6, 2013, and officially published the following Monday. I look forward to working with you and your staff to process both of DMME's research lease applications.

As the Bureau of Ocean Energy Management (BOEM) and DMME, as the potential lessee, proceed through the regulatory process for the proposed research leases, it is imperative that DMME directly initiate and be present at any meetings (either in person or remote) with BOEM staff that discuss proposed research activities or the content of proposed plans to conduct those activities.

In addition, as the entity legally qualified to hold these research leases, any formal written communication or submittal of plans concerning them must be provided under the auspices of DMME and your signature as the authorized representative of DMME. Casey Reeves remains the BOEM primary point of contact for DMME, and will keep our lease administration, environmental and engineering staff informed and involved as we proceed.

Sincerely,

Darryl

Darryl K. Francois
Chief Projects and Coordination Branch

Lavallee, Janelle

From:	Kimberly Q Lanterman (Services - 6) <kimberly.q.lanterman@dom.com>
Sent:	Tuesday, December 03, 2013 9:12 AM
To:	Daniels, Jennifer; Lavallee, Janelle
Subject:	VOWTAP Research Activities Plan - Confirmation Email from BOEM
Attachments:	Draft_Schedule_VA_ResearchLease2_111413.pdf
Importance:	High
Follow Up Flag:	Follow up
Flag Status:	Flagged

From: **Bornholdt, Maureen** <maureen.bornholdt@boem.gov>
Date: Mon, Dec 2, 2013 at 12:44 PM
Subject: Re: DMME Research Activities Plan
To: Conrad.Spangler@dmme.virginia.gov, "Christopher, Al (DMME)" <Al.Christopher@dmme.virginia.gov>
Cc: Darryl K Francois <Darryl.Francois@boem.gov>, Michelle Morin <Michelle.Morin@boem.gov>

Conrad and Al,
I appreciate the time that you took after the Fugro briefing to work through the Research Lease #2 process. Your understanding is correct with the following refinements:

- Filing two plans (RAPs) is acceptable. For clarity instead of calling them both "RAPs," let's agree to call the "RAP" covering the installation of the meteorological facilities a SAP. That SAP must include the information requirements found at 585.610 and 611. We will process the SAP, as agreed to at our meeting, following the process at 585.613.
- With the exception of required consultations under Section 106 of the National Historic Preservation Act, no additional consultations will be required if the activities proposed in your SAP fall within the range of activities analyzed in previous consultations. BOEM will evaluate your SAP to determine whether the activities proposed are covered by the Mid Atlantic EA (see process outlined on the Gantt chart provided a few weeks ago (attached)). If they are, no additional NEPA analysis will be required and BOEM will document its review in a Determination of NEPA Adequacy. However, pursuant to BOEM's Section 106 Programmatic Agreement, a Finding of No Historic Properties Affected (Finding) must be prepared upon receipt of the SAP; consulting parties would have 30 days to review the Finding. That said, we believe we can complete the SAP review and Section 106 consultation in the Spring.
- The RAP describing the technology demonstration (turbine and cable installation) must meet the information requirements of 585.626 and 585.627. We will begin our completeness review of that document as soon as it is received.
- The concurrent processing of the two plans, SAP and RAP, will not negatively affect each other.

Also, the publication of the DNCI is imminent--perhaps in the Federal Register's Reading Room later this week.

If you have any questions, please do not hesitate to contact me or Darryl at 703.787.1300.

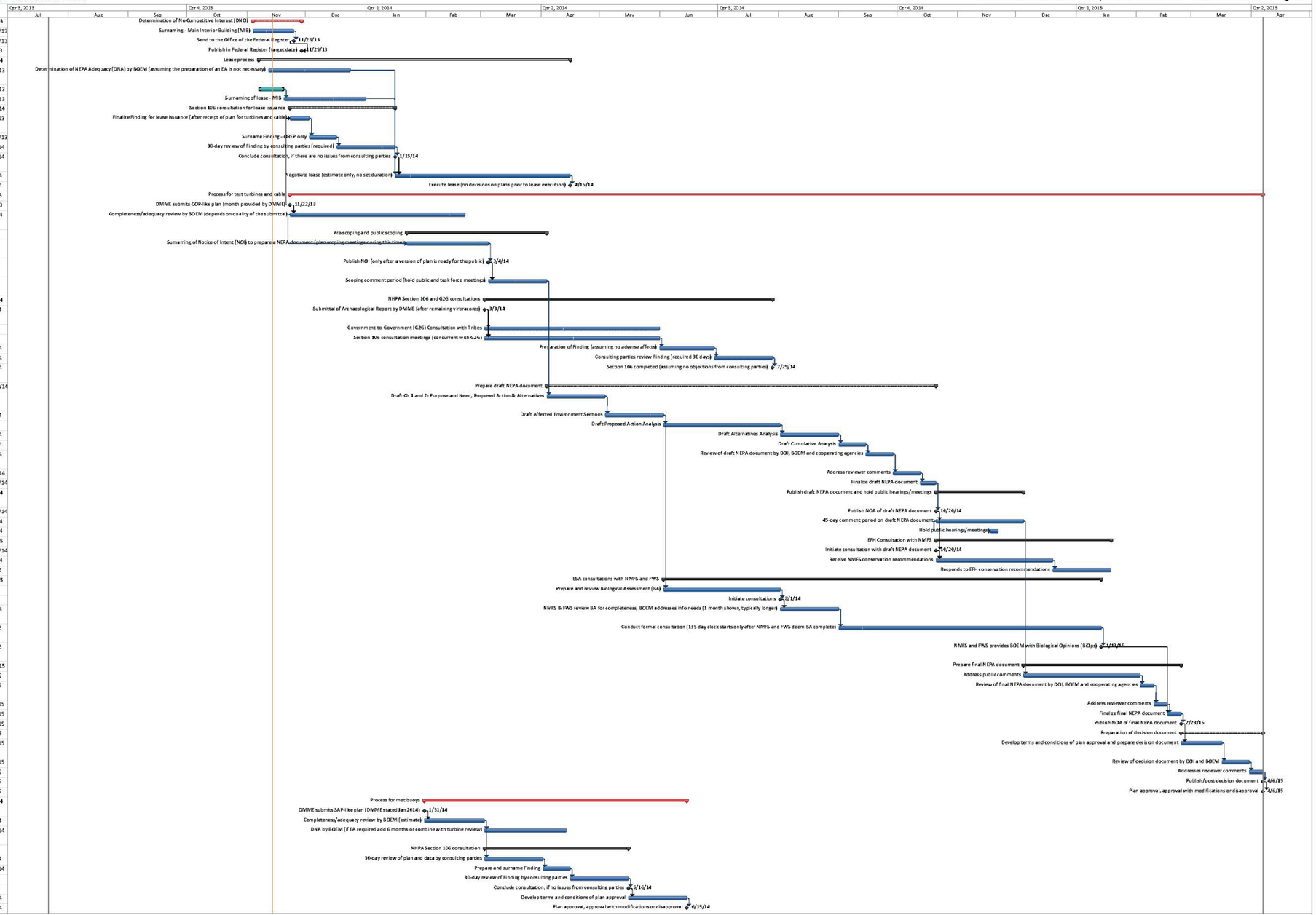
Again, I appreciate your time and look forward to receiving the plans.

Mo
--
Maureen "Mo" Bornholdt
Program Manager
Office of Renewable Energy
Bureau of Ocean Energy Management
381 Elden Street HM 1328
Herndon, Virginia 20170

FOR DISCUSSION PURPOSES ONLY - NOT FOR PUBLIC DISTRIBUTION

Draft Schedule for Proposed Research Lease Offshore Virginia

ID	Task Name	Calendar Days	Start	Finish
1	**Determination of No Competitive Interest (DNCI)**		**Mon 11/4/13**	**Fri 11/29/13**
2	Surnaming - Main Interior Building (MIB)	21	Mon 11/4/13	Mon 11/25/13
3	Send to the Office of the Federal Register	0	Mon 11/25/13	Mon 11/25/13
4	Publish in Federal Register (target date)	0	Fri 11/29/13	Fri 11/29/13
5	**Lease process**		**Thu 11/7/13**	**Tue 4/15/14**
6	Determination of NEPA Adequacy (DNA) by BOEM (assuming the preparation of an EA is not necessary)	42	Tue 11/12/13	Tue 12/24/13
7	Surnaming of lease - OREP	12	Thu 11/7/13	Tue 11/19/13
8	Surnaming of lease - MIB	42	Tue 11/19/13	Tue 12/31/13
9	**Section 106 consultation for lease issuance**		**Fri 11/22/13**	**Wed 1/15/14**
10	Finalize Finding for lease issuance (after receipt of plan for turbines and cable)	10	Fri 11/22/13	Mon 12/2/13
11	Surname Finding - OREP only	14	Mon 12/2/13	Mon 12/16/13
12	30-day review of Finding by consulting parties (required)	30	Mon 12/16/13	Wed 1/15/14
13	Conclude consultation, if there are no issues from consulting parties	0	Wed 1/15/14	Wed 1/15/14
14	Negotiate lease (estimate only, no set duration)	90	Wed 1/15/14	Tue 4/15/14
15	Execute lease (no decisions on plans prior to lease execution)	0	Tue 4/15/14	Tue 4/15/14
16	**Process for test turbines and cable**		**Fri 11/22/13**	**Mon 4/6/15**
17	DMME submits COP-like plan (month provided by DMME)	0	Fri 11/22/13	Fri 11/22/13
18	Completeness/adequacy review by BOEM (depends on quality of the submittal)	90	Fri 11/22/13	Thu 2/20/14
19	**Pre-scoping and public scoping**		**Tue 1/21/14**	**Thu 4/3/14**
20	Surnaming of Notice of Intent (NOI) to prepare a NEPA document (plan scoping meetings during this time)	42	Tue 1/21/14	Tue 3/4/14
21	Publish NOI (only after a version of plan is ready for the public)	0	Tue 3/4/14	Tue 3/4/14
22	Scoping comment period (hold public and task force meetings)	30	Tue 3/4/14	Thu 4/3/14
23	**NHPA Section 106 and G2G consultations**	**74**	**Mon 3/3/14**	**Tue 7/29/14**
24	Submittal of Archaeological Report by DMME (after remaining virbracores)	0	Mon 3/3/14	Mon 3/3/14
25	Government-to-Government (G2G) Consultation with Tribes	90	Mon 3/3/14	Sun 6/1/14
26	Section 106 consultation meetings (concurrent with G2G)	90	Mon 3/3/14	Sun 6/1/14
27	Preparation of Finding (assuming no adverse affects)	28	Sun 6/1/14	Sun 6/29/14
28	Consulting parties review Finding (required 30 days)	30	Sun 6/29/14	Tue 7/29/14
29	Section 106 completed (assuming no objections from consulting parties)	0	Tue 7/29/14	Tue 7/29/14
30	**Prepare draft NEPA document**		**Thu 4/3/14**	**Mon 10/20/14**
31	Draft Ch 1 and 2- Purpose and Need, Proposed Action & Alternatives	30	Thu 4/3/14	Sat 5/3/14
32	Draft Affected Environment Sections	30	Sat 5/3/14	Mon 6/2/14
33	Draft Proposed Action Analysis	60	Mon 6/2/14	Fri 8/1/14
34	Draft Alternatives Analysis	30	Fri 8/1/14	Sun 8/31/14
35	Draft Cumulative Analysis	14	Sun 8/31/14	Sun 9/14/14
36	Review of draft NEPA document by DOI, BOEM and cooperating agencies	14	Sun 9/14/14	Sun 9/28/14
37	Address reviewer comments	14	Sun 9/28/14	Sun 10/12/14
38	Finalize draft NEPA document	8	Sun 10/12/14	Mon 10/20/14
39	**Publish draft NEPA document and hold public hearings/meetings**		**Mon 10/20/14**	**Thu 12/4/14**
40	Publish NOA of draft NEPA document	0	Mon 10/20/14	Mon 10/20/14
41	45-day comment period on draft NEPA document	45	Mon 10/20/14	Thu 12/4/14
42	Hold public hearings/meetings	4	Mon 11/17/14	Fri 11/21/14
43	**EFH Consultation with NMFS**		**Mon 10/20/14**	**Sun 1/18/15**
44	Initiate consultation with draft NEPA document	0	Mon 10/20/14	Mon 10/20/14
45	Receive NMFS conservation recommendations	60	Mon 10/20/14	Fri 12/19/14
46	Responds to EFH conservation recommendations	30	Fri 12/19/14	Sun 1/18/15
47	**ESA consultations with NMFS and FWS**	**225**	**Mon 6/2/14**	**Tue 1/13/15**
48	Prepare and review Biological Assessment (BA)	60	Mon 6/2/14	Fri 8/1/14
49	Initiate consultations	0	Fri 8/1/14	Fri 8/1/14
50	NMFS & FWS review BA for completeness, BOEM addresses info needs (1 month shown, typically longer)	30	Fri 8/1/14	Sun 8/31/14
51	Conduct formal consultation (135-day clock starts only after NMFS and FWS deem BA complete)	135	Sun 8/31/14	Tue 1/13/15
52	NMFS and FWS provides BOEM with Biological Opinions (BiOps)	0	Tue 1/13/15	Tue 1/13/15
53	**Prepare final NEPA document**		**Thu 12/4/14**	**Mon 2/23/15**
54	Address public comments	60	Thu 12/4/14	Mon 2/2/15
55	Review of final NEPA document by DOI, BOEM and cooperating agencies	7	Mon 2/2/15	Mon 2/9/15
56	Address reviewer comments	7	Mon 2/9/15	Mon 2/16/15
57	Finalize final NEPA document	7	Mon 2/16/15	Mon 2/23/15
58	Publish NOA of final NEPA document	0	Mon 2/23/15	Mon 2/23/15
59	**Preparation of decision document**	**59**	**Mon 2/23/15**	**Mon 4/6/15**
60	Develop terms and conditions of plan approval and prepare decision document	21	Mon 2/23/15	Mon 3/16/15
61	Review of decision document by DOI and BOEM	14	Mon 3/16/15	Mon 3/30/15
62	Addresses reviewer comments	7	Mon 3/30/15	Mon 4/6/15
63	Publish/post decision document	0	Mon 4/6/15	Mon 4/6/15
64	Plan approval, approval with modifications or disapproval	0	Mon 4/6/15	Mon 4/6/15
65	**Process for met buoys**		**Fri 1/31/14**	**Sun 6/15/14**
66	DMME submits SAP-like plan (DMME stated Jan 2014)	0	Fri 1/31/14	Fri 1/31/14
67	Completeness/adequacy review by BOEM (estimate)	31	Fri 1/31/14	Mon 3/3/14
68	DNA by BOEM (if EA required add 6 months or combine with turbine review)	42	Mon 3/3/14	Mon 4/14/14
69	**NHPA Section 106 consultation**		**Mon 3/3/14**	**Fri 5/16/14**
70	30-day review of plan and data by consulting parties	30	Mon 3/3/14	Wed 4/2/14
71	Prepare and surname Finding	14	Wed 4/2/14	Wed 4/16/14
72	30-day review of Finding by consulting parties	30	Wed 4/16/14	Fri 5/16/14
73	Conclude consultation, if no issues from consulting parties	0	Fri 5/16/14	Fri 5/16/14
74	Develop terms and conditions of plan approval	30	Fri 5/16/14	Sun 6/15/14
75	Plan approval, approval with modifications or disapproval	0	Sun 6/15/14	Sun 6/15/14



Project: Draft_Schedule_VA_Rese
Date: Thu 11/14/13

Task · Split · Milestone · Summary · Project Summary · External Tasks · External Milestone · Inactive Task · Inactive Milestone · Inactive Summary · Manual Task · Duration-only · Manual Summary Rollup · Manual Summary · Start-only · Finish-only · Deadline · Progress

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Sent: Wednesday, December 04, 2013 6:29 PM

To: 'darryl.francois@boem.gov'

Cc: Christopher, Al (DMME); 'Casey.Reeves@boem.gov'; 'Michelle.Morin@boem.gov'

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Conrad

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Sent: Wednesday, December 04, 2013 05:51 PM

To: Spangler, Conrad (DMME)

Cc: Christopher, Al (DMME); Casey L Reeves <Casey.Reeves@boem.gov>; Morin, Michelle

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activities.

In addition, as the entity legally qualified to hold these research leases, any formal written communication or submittal of plans concerning them must be provided under the auspices of DMME and your signature as the authorized representative of DMME. Casey Reeves remains the BOEM primary point of contact for DMME, and will keep our lease administration, environmental and engineering staff informed and involved as we proceed.

Sincerely,

Darryl

Darryl K. Francois

Chief Projects and Coordination Branch

Office of Renewable Energy Programs

Bureau of Ocean Energy Management

703-787-1305

703-787-1708 (FAX)

darryl.francois@boem.gov

http://emailcharter.org/

United States Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ACQUISITION, TECHNOLOGY AND LOGISTICS

24 December 2013

Suzanne Johnson
Capitol Airspace Group
5400 Shawnee Road, Suite 304
Alexandria, VA 22312
suzanne.johnson@capitolairspace.com

Dear Ms. Johnson:

As requested, the Department of Defense (DoD) Siting Clearinghouse coordinated within DoD an informal review of the Dominion Resources, Inc. proposed project. The results of our informal review indicated that the two wind turbine Virginia Offshore Wind Technology Advancement Project (VOWTAP), located approximately 26 miles east of Virginia Beach, Virginia, as proposed, will have minimal impact on military training, operations and testing conducted in this area.

Please note that this informal review by the DoD Siting Clearinghouse does not constitute an action under 49 United States Code section 44718 and that neither the DoD nor the Secretary of Transportation are bound by the conclusion arrived at under this informal review. Please call me at 703-571-0076 with any questions.

Sincerely,

Steven J. Sample
Chief, Mission Evaluation Branch
DoD Siting Clearinghouse

United States Department of Energy

From: Ring, Bradley [mailto:brad.ring@go.doe.gov]
Sent: Friday, April 19, 2013 10:58 AM
To: Kimberly Q Lanterman (Services - 6); Matzat, Greg; Mauer, Erik; Guy Chapman (Services - 6); Molly P Plautz (Services - 6); Gray, Lori; Margason, Laura; Daigle, Kelly
Subject: Dominion Award EE0005985 Avian and Bat Surveys

Guy, Molly and Kimberly,

In follow up to our discussions this week regarding your plans to initiate non-invasive avian and bat survey plans, your NEPA officers agree that these activities are approved within your NEPA determination.

We ask that you ensure you comply with the terms of this NEPA determination in that all field studies under subtask 3.4 be designed in conformance with applicable requirements and best management practices to limit the potential effects of any resultant ground disturbance. To avoid harassment to marine mammals during boat based passive visual observations, VEPC is required to follow best management practices for boating under NOAA regulations for the Northeast region.

Please let us know if you have any questions.

Thank you,

Brad Ring

U.S. Department of Energy

Golden Field Office

Office: 720-356-1768

Fax: 303-275-4753

brad.ring@go.doe.gov

Lavallee, Janelle

Subject: FW: consultation concurrence letters
Attachments: DOE funding Dominion for surveys in VOWTAP area_May 27 final.pdf; 2013-0452_24MAY14.pdf

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From: Gray, Lori [mailto:Lori.Gray@go.doe.gov]
Sent: Thursday, May 29, 2014 9:52 AM
To: Corwin D Chamberlain (Services - 6)
Cc: Matzat, Greg; Massaua, Meghan; Hahn, Michael; Kerwin, Kristin; Callaway, Melissa; Brodie, Pamela
Subject: consultation concurrence letters

Good morning,
Please see the attached NMFS and SHPO consultation concurrence letters. All required consultations for Dominion's proposed surveys have been completed.
Thank you,
Lori

Lori A. Gray, M.S., CSP
NEPA Division Director
Environmental Oversight Office
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy
15013 Denver West Parkway, Golden, CO 80401
Phone: 720.356.1568 Cell: 720-233.8236
Email: lori.gray@go.doe.gov

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 27 2014

Lori A. Gray
Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

Dear Ms. Gray,

We have completed consultation pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended, concerning your proposed issuance of funds to Dominion Resources, Inc. to conduct a marine geotechnical site investigation. We concur with the determination contained in your April 30, 2014, letter that the proposed action is not likely to adversely affect any listed species or critical habitat designated by us under the ESA. Our supporting analysis is provided below.

Description of the Proposed Action
Dominion will assess site conditions to determine suitability of the area for the siting of the Virginia Offshore Wind Technology Advancement Project (VOWTAP). Surveys are proposed for June 2014. The U.S. Army Corps of Engineers, Norfolk District, has verified that the geotechnical work is eligible for authorization under Nationwide Permit 6. The proposed surveys will occur off the coast of Virginia, as illustrated in Figure 1.

The proposed surveys are being carried out to obtain information necessary to determine if a wind energy facility can be developed in this location. Information collected may also be used to support a lease application that would be filed with the Bureau of Ocean Energy Management (BOEM) if a wind facility is to be pursued. We have considered whether future installation of wind turbines or associated cables meet the definition of "indirect", "interrelated" or "interdependent" actions and have determined that they do not. Indirect effects are those that are caused later in time, but are still reasonably certain to occur; while any development of the area for wind energy would occur after the surveys were completed, and therefore be "later in time," build out of the wind energy facility is not reasonably certain to occur. That is because we do not know if the site will prove to be suitable, and even if it is, no permits or leases have been proposed by the U.S. Army Corps of Engineers or BOEM that would allow for site development. Interrelated actions are those that are part of a larger action and depend upon the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration (50 CFR 402.02). While future development of the VOWTAP site may use the information obtained from these surveys for planning purposes, any future development of the site does not depend on the proposed G&G surveys for their justification and any future development of the site has independent utility (e.g., energy production) apart from

the proposed G&G surveys. As such, these future potential actions are not considered interdependent or interrelated actions and effects of any future development of the VOWTAP site are not considered to be indirect effects or interrelated or interdependent activities of the action under consultation. Any future leasing, permitting, construction, operation and decommissioning of a wind energy facility, including associated cables, would be considered in a subsequent and separate environmental review and would be the subject of separate ESA Section 7 consultation between BOEM and/or USACE and NMFS. Thus, this consultation does not evaluate the effects of any future wind energy development activities.

Survey Area A

Four geotechnical borings, extending 100 meters into the sea bed will be obtained. The drill will operate from a liftboat. A Fugro skid-mounted, Failing 1500 offshore drilling rig will be used to advance the borings using wet, rotary drilling methods. After completing the drilling, the borehole will be abandoned without backfill or grouting. Drilling of boreholes will consist of soil sampling and down-hole Piezo-Cone Penetration Test (PCPT). Work in Area A will take approximately nine days to complete.

Survey Area B

Thirty shallow PCPTs (to a depth of 4 meters) will be obtained. A utility boat, measuring 30 meters, will be used to sample in this area. A four-point anchor system will be used to maintain position at each sample site. Work in Area B will occur over approximately five days.

Survey Area C

The objectives of the nearshore survey are to measure the water depths, map the seafloor, and identify potential obstructions. These surveys will take approximately two days to complete and will be carried out during daylight hours only. A 9 to 12 meter (40 feet) survey vessel will be used. This vessel will be able to access water depths up to 3 meters which corresponds approximately to about 100 to 150 meters from the shoreline. A 300 meter wide corridor will be surveyed. The multibeam and side scan sonar survey will be conducted to provide full data coverage across the 300 meter wide corridor and as close to shore as safely possible. Magnetometer surveys will be collected along tracklines spaced 20 to 30 meters apart. The survey vessel will travel at speeds between 3 and 5 knots (5.6 to 9.3 kilometers per hour (km/hr)).

The geotechnical investigation in Survey Area C will consist of 11 100-meter spaced borings. The borings are 25 meters deep and will be located within 1km of the shoreline. A 19 meter lift boat will be used. A crew boat will be used to shuttle personnel to and from the vessel at the beginning and end of each shift. Drilling in Area C will be limited to daylight only and will take place over approximately two weeks.

Underwater noise is generated by all of the survey methods. The acoustic characteristics of the various marine survey sources are summarized in Table 1.

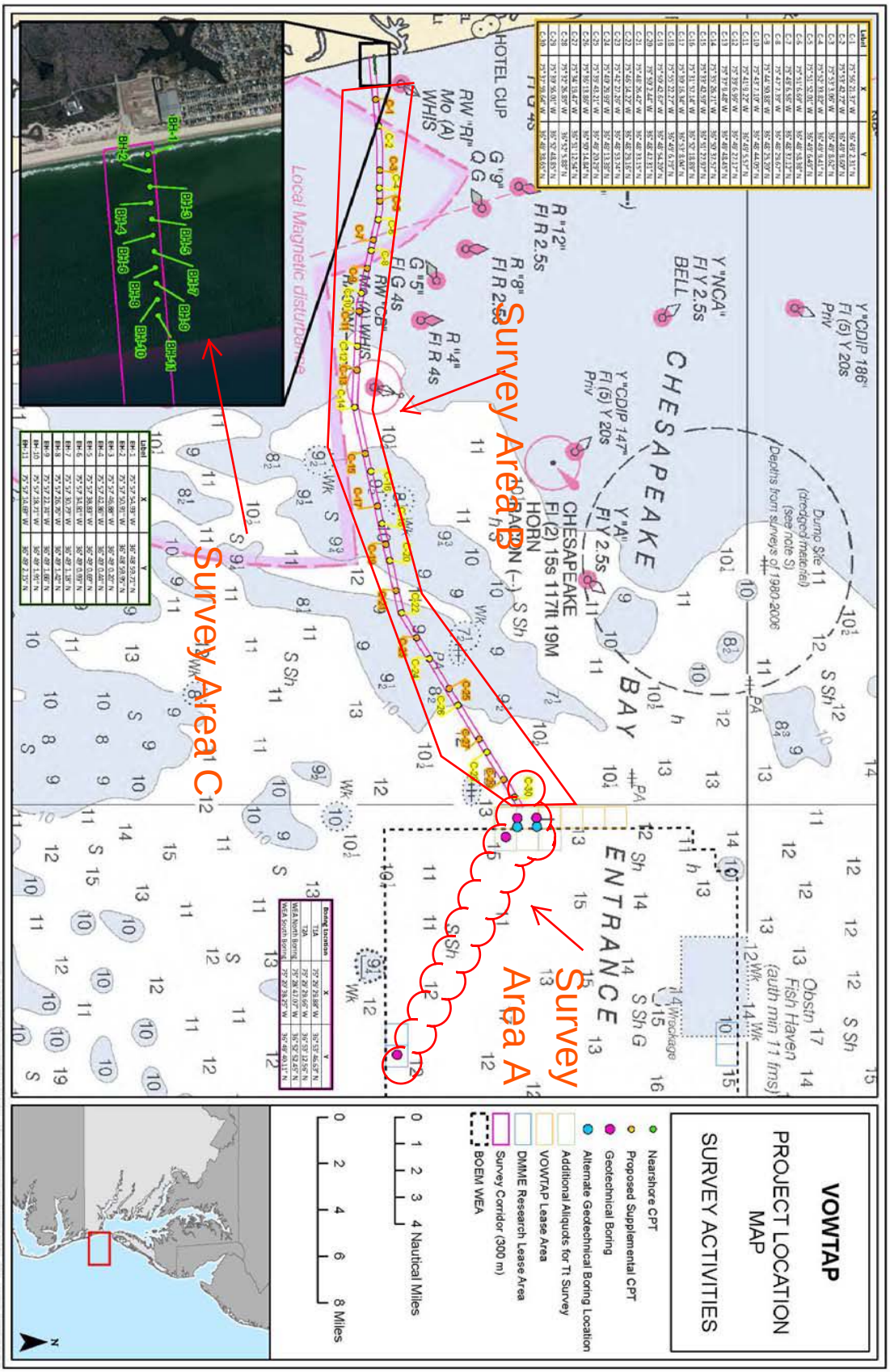

Figure 1. Location of VOTAP survey areas

Table 1. Underwater Noise Associated with G&G Equipment

					Within Hearing Range		
Equipment Type	**Frequency Range**	**Peak Source Level (re 1 uPa at 1m)**	**Source Depth**	**Pulse duration (milisec)**	**Cetaceans**	**Sea Turtles**	**Atlantic sturgeon**
R2Sonic or Reson 7125 Multibeam Sonar	200/400 kHz	190 to 220 dB Peak	1 m below sea level	0.01-0.1	No	No	No
Echotrac Single Beam Sonar	50/200 kHz	205 dB Peak	1m below sea level	0.015-1	**Yes**	No	No
Edge Tech 4125 Sidescan Sonar	400/900 kHz, 600/1600 kHz	210 dB Peak	1 to 3 m above seafloor	2.5-16.1	No	No	No
Fugro skid mounted, Failing 1500 offshore drilling rig	10 to 4000 Hz	150 to 160 dB RMS (estimated)	Within water column and at seafloor	Intermittent continuous	**Yes**	**Yes**	**Yes**
CME 55 Drill Rig and land PCPT equipment	10 to 4000 Hz	150 to 160 dB RMS (estimated)	Within water column and at seafloor	Intermittent continuous	**Yes**	**Yes**	**Yes**

Mitigation Measures
Several measures will be incorporated into the proposed surveys to minimize and monitor effects of the proposed activities on listed species.

Nearshore Geophysical Survey
Work Window: Dominion has committed to restricting the nearshore geophysical survey activities to daylight hours only.

Implementation of Ramp-Up: At the start of each survey day, instruments which have the capability of running at variable power levels will initially be operated at low levels, then gradually increased by 6 dB per 5-minute period, to minimum necessary power requirements for quality data collection. Instruments without variable power will be turned on and off during the duration of the ramp-up period. During these ramp-up procedures, any listed species in the area will have the opportunity to detect the presence of instrumentation, and depart the area before full power surveying commences. Ramp-up for survey operations will not be initiated when the exclusion zone cannot be effectively monitored (poor visibility conditions).

Establishment of an Exclusion Zone: Modeled results indicate that the furthest distance to the 160 decibels (dB) isopleth for nearshore HRG survey equipment is the multibeam sonar, at a distance of 125 meters. Therefore, a 125-meter radius exclusion zone (from the source) for all marine mammals and sea turtles will be established during all geophsyical survey activity (sidescan, multibeam, and single beam sonar).

All marine mammals and sea turtles sighted will be recorded as specified below. Protected Species Observers (PSOs) will be on a heightened state of alert upon detection of any marine mammals and/or sea turtles. Directional movement and behavior will be noted and crew responsible for navigation will be informed of marine mammals and/or sea turtle presence. Shut-down procedures will be followed, as noted below, if individuals appear to be entering or have entered the established exclusion zone.

Visual Monitoring of the Exclusion Zone: The established exclusion zone will be monitored by two trained PSOs to provide alternating shifts during daylight periods. No monitor will work more than 4 consecutive hours without a break during any monitoring shift.

PSOs will be equipped with binoculars and have the ability to estimate distances to marine mammals and sea turtles visually using range finders. Reticled binoculars will also be available for use as appropriate for conditions and visibility, serving as an additional visual tool for monitoring marine mammal and sea turtle activity. Digital SLR camera equipment will also be used to record sightings and verify species identification. Position data will be recorded using the vessel's global positioning system (GPS) unit for each sighting, vessel position change, and any environmental change. The PSO will keep vigilant watch for the presence of marine mammals and sea turtles within the exclusion zone for the survey vessel. The exclusion zone will be monitored for 60 minutes prior to the ramp up of sound sources. If the exclusion zone cannot be effectively monitored (poor visibility conditions), surveys utilizing noise producing equipment will not be initiated until the entire

exclusion zone is visible for the 60 minute period. If marine mammals or sea turtles are observed within the exclusion zone during the 60 minute period and before the ramp up begins, surveys utilizing noise producing equipment will be delayed until they move out of the area and until at least an additional 30 minutes have passed without a marine mammal or sea turtle sighting.

If noise-producing survey equipment shuts down for reasons other than encroachment into the exclusion zone by a non-delphinoid cetacean or sea turtle, including, but not limited to, mechanical or electronic failure, resulting in the cessation of the sound source for a period greater than 20 minutes, restart of survey equipment will use the full ramp-up procedures and clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes. If the pause is less than 20 minutes the equipment will be re-started as soon as practicable at its operational level as long as visual surveys were continued diligently throughout the silent period and the exclusion zone remained clear of cetaceans, pinnipeds, and sea turtles. If visual surveys were not continued diligently during the pause of 20-minutes or less, restart of the noise- producing survey equipment will use the full ramp-up procedures and clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes.

All marine mammal sightings will be recorded by the PSOs on an established log sheet, previously reviewed and accepted by NMFS. The following data will be recorded: dates and location of operations; weather and sea-state conditions; time of observation; approximate location (latitude and longitude) at the time of the sighting; details of sighting (species, numbers, behavior, photography log); general direction of animal's travel and distance of sighting from the vessel (distance should be recorded in meters); activity of the vessels at the time of sighting; and, action taken by the PSO.

All observation data will be provided to NMFS and BOEM within 60 days of the completion of surveys. In addition, should any dead or injured marine mammal or sea turtle be observed during the survey activities, Dominion will report the sighting to NMFS within 24 hours of the observation.

Shut-Down: If a non-delphinoid cetacean or sea turtle is sighted at or within the established exclusion zone surrounding the deployed equipment, an immediate shutdown of the equipment will occur. Subsequent restart or ramp-up of equipment will occur only after the marine mammal or sea turtle has cleared the exclusion zone or until at least an additional 30 minutes have passed without a marine mammal or sea turtle sighting.

Deep Boring, PCPT and CPT Activities

Implementation of Ramp-Up: At the start of each survey day, a ramp- up of instruments must occur. Instruments which have the capability of running at variable power levels, such as the boring drill, will initially be operated at low levels, then gradually increased in a way such that the source level would increase in steps not exceeding 6 dB per 5-minute period, to minimum necessary power requirements for quality data collection. Instruments without variable power, such as PCPT and CPT, will not have the capability to ramp-up. During the borehole drilling ramp-up, any marine mammals or sea turtles in the area will have the opportunity to

detect the presence of instrumentation, and depart the area before full power surveying commences. Ramp-up for survey operations will not be initiated when the exclusion zone cannot be effectively monitored (poor visibility conditions), except during low-light or nighttime hours when night-vision equipment will be used.

Establishment of a Exclusion Zone: A 200-meter radius exclusion zone for all marine mammals and sea turtles will be established around the boring, PCPT, and CPT equipment. Shut-down procedures will be followed as noted below if individuals appear to be entering or have entered the established exclusion zone.

Visual Monitoring of the Exclusion Zone: Each geotechnical survey vessel will employ three trained PSOs to monitor the exclusion zone to provide alternating shifts during the proposed 24-hour operational periods. PSOs will work in shifts such that no monitor will work more than 4 consecutive hours or longer than 12 hours during any 24-hour period. PSOs will be equipped with binoculars and have the ability to estimate distances to marine mammals and sea turtles visually using range finders. Reticled binoculars will also be available for use as appropriate for conditions and visibility, serving as an additional visual tool for monitoring marine mammal and sea turtle activity. Digital SLR camera equipment will also be used to record sightings and verify species identification.

Position data will be recorded using the vessel's global positioning system (GPS) unit for each sighting, vessel position change, and any environmental change. The PSO will keep vigilant watch for the presence of marine mammals and sea turtles approaching the exclusion zone for the survey equipment.

For borehole drilling and PCPT activities, the exclusion zone will be monitored for 60 minutes prior to the ramp up of drilling activities. If the safety exclusion zone cannot be effectively monitored (poor visibility conditions), or in situations where night-vision equipment is ineffective, surveys utilizing noise producing equipment will not be initiated until the entire exclusion zone is visible for the 60 minute period. Night vision binoculars will be used during periods of poor lighting and darkness to monitor the exclusion zone. If marine mammals or sea turtles are observed within the exclusion zone during the 60 minute period and before the ramp up begins, surveys utilizing noise producing equipment will be delayed until they move out of the area and until at least an additional 30 minutes have passed without a marine mammal or sea turtle sighting.

For CPT deployment, the exclusion zone will be monitored for 60 minutes prior to the initial CPT sample, as described for borehole drilling and PCPT activities. PSOs will continuously monitor the exclusion zone throughout the duration of CPT activities until the final CPT is complete. Due to the continuous re-deployment of each CPT, subsequent zone clearing for each deployment would create an unnecessary burden on survey activities and unnecessarily increase the survey duration. Continuous monitoring of the exclusion zone by PSOs, in conjunction with shut-down and re-start procedures, will ensure that project activities will not result in adverse effects on marine species. Initiation of shut-down procedures and data recording for CPT activities will be conducted as described above. However, as PSO monitoring will be continuous, periods between CPT re-deployment greater

than 20 minutes in duration will not require 60-minute zone clearing, unless shut-down has been initiated due to marine mammal or sea turtle encroachment of the exclusion zone.

Shut-Down: Initiation of shut-down procedures will be conducted as described in Section 2.1 for borehole drilling, PCPT and CPT activities; however, as noted above, PSO monitoring for CPT activities will be continuous and will not require 60-minute zone clearing after periods between CPT re-deployment greater than 20 minutes, unless shut-down has been initiated due to marine mammal or sea turtle encroachment of the exclusion zone.

Training

Dominion will ensure that at least two experienced, trained, and dedicated PSOs be available to conduct visual watches covering 12 hours of operations during nearshore geophysical survey activities. Dominion will also ensure that at least three experienced, trained, and dedicated PSOs will be available to conduct visual watches covering 24 hours of operations for each vessel during drilling, PCPT, and CPT activities.

Crew members on board the survey vessel responsible for the navigation duties will receive training on marine mammal and sea turtle sighting/reporting and vessel strike avoidance measures. The fundamental purpose of the training program is to teach the designated crew members and to support the PSOs with marine mammal and sea turtle detection and the specific procedures the vessels should follow in the case of a sighting.

The training will include details on the federal laws and regulations for protected species (ship strike information, critical habitat, migratory routes, and seasonal abundance) and recent sightings of protected species. Participants will also be trained on what to look for to identify whales and sea turtles that are in the area.

To help with species identification, each survey vessel will be equipped with a marine mammal and sea turtle reference guide that provides some basic biology as well as physical descriptions and potential surface behaviors. With these pictures and descriptions, the PSOs and designated crew should not only be able to determine species presence but also identify individual types of species encountered.

Vessel Strike Avoidance Protocol

All G&G surveys, regardless of vessel size, will be required to comply with the following requirements:

1. Vessel operators, crews, and visual observers or protected species observers must maintain a vigilant watch for listed species, and slow down or stop their vessel regardless of vessel size to avoid striking protected species. A visual observer aboard all G&G survey vessels will monitor an area around a transiting survey vessel, the vessel strike exclusion zone, to ensure it is free of listed species. At least one observer will be required aboard all vessels. Visual observers, for the purpose of vessel strike, may be third-party or not third-party, but require training. In addition, vessel operators would be required to comply with NMFS marine mammal and sea turtle viewing guidelines for the Northeast Region.

2. Marine mammals and sea turtles may surface in unpredictable locations or approach slow moving vessels. When marine mammals or sea turtles are sighted in the vessel's path or in close proximity to a moving vessel regardless of vessel size, vessel operators must reduce speed and shift the engine to neutral. Engines will not be re-engaged until the animals are clear of the exclusion area specified below.

3. In accordance with NMFS Compliance Guide for the Right Whale Ship Strike Reduction Rule (50 CFR 224.105 and 78 FR 73726-73736), when safety allows, vessels, regardless of size, shall transit within the 10 knot (18.5 km/h) speed restriction in DMAs, Northeast critical habitat and SMAs (Great South Channel, April 1 through July 31; Off Race Point, March 1 through April 30), mid-Atlantic SMAs (November 1 through April 30), and critical habitat and southeast SMAs from November 15 through April 15. When safety permits, vessel speeds should also be reduced to 10 knots (18.5 km/h) or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a transiting vessel. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity of the vessel; therefore, precautionary measures should be exercised when an animal is observed. Mandatory reductions in speed will also limit continuous noise levels related to propeller cavitation and hull-wave interaction.

4. When North Atlantic right whales are sighted at any time during the year, vessels, regardless of size, must maintain a minimum separation distance of 1,640 feet (500 m). The following avoidance measures must be taken if a vessel comes within 1,640 feet (500 m) of a right whale: a.) While underway, the vessel operator shall steer a course away from the right whale at 10 knots (18.5 km/h) or less, until the minimum separation distance has been established; b.) If a right whale is spotted in the path of a vessel or within 328 feet (100 m) of a vessel underway, the operator shall reduce speed and shift engines to neutral. The operator shall only re-engage engines after the right whale has moved out of the path of the vessel and is more than 328 feet (100 m) away. If the right whale is still within 1,640 feet (500 m) of the vessel, the vessel shall select a course away from the whale's course at a speed of 10 knots (18.5 km/h) or less. This procedure shall also be followed if a right whale is spotted while a vessel is stationary. Whenever possible a vessel should remain parallel to the whale's course while transiting, avoiding abrupt changes in direction until it has left the area.

5. Vessels regardless of size must maintain a minimum separation distance of 328 feet (100 m) year-round if whales other than right whales, seals, or manatees are sighted. The survey will comply with other relevant manatee construction conditions when operating within the species range. All vessels will follow routes of deep water whenever possible. Year-round, vessels, regardless of size, shall maintain a distance of 164 feet (50 m) or greater from delphinoid cetaceans. If encountered during transit, a vessel shall attempt to remain parallel to the animal's course, avoiding excessive speed or abrupt changes in course.

6. Year round if sea turtles are sighted, all vessels regardless of size must maintain a distance of 164 feet (50 m) or greater whenever possible. During any transit of vessel in poor visibility, nighttime observer requirements will be implemented, and vessel speed will not exceed 5 knots in areas where sea turtles may be present.

7. Sightings of any injured or dead protected species must be reported to BOEM and NMFS within 24 hours, regardless of whether the injury or death was caused by their vessel.

Action Area

The action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR §402.02). For this activity, the action area includes the area where the surveys will take place (see Figure 1), as well as waters between the survey areas and the shore where project vessels will transit, an approximately 24 nm (43 km) path east off the coast of Virginia . This area is expected to encompass all effects of the proposed actions.

NMFS Listed Species and Critical Habitat in the Action Area

Individual North Atlantic right whales (*Eubalaena glacialis*) may occur in the action area. The species population size was estimated to be at least 444 individuals in 2009 based on a census of individual whales identified using photo-identification techniques (Waring *et al.* 2013). The population trend for right whales is increasing; the mean growth rate for the population from 1990-2009 was 2.6% (Waring *et al.* 2013). Six major habitats or congregation areas for western North Atlantic right whales exist: the coastal waters of the southeastern United States; the Great South Channel; Georges Bank/Gulf of Maine; Cape Cod and Massachusetts Bays; the Bay of Fundy; and the Scotian Shelf (Waring et al. 2013). Right whales demonstrate extensive movements between these habitats. New England waters are important feeding habitats for right whales. Right whales forage on extremely dense patches of zooplankton, primarily copepods *Calanus finmarchus* but also *Pseudocalanus* spp. and *Centropages* spp.; (Pace and Merrick 2008). Calving occurs in nearshore waters off the coast of Georgia and Florida between December and March. A review of available right whale sightings (see http://www.nefsc.noaa.gov/psb/surveys/) in the action area in June, indicates only one sighting (June 2008, single whale).

Certain U.S. waters were designated as critical habitat for Northern right whales[1] in 1994 (59 FR 28793). The Great South Channel critical habitat is the area bounded by 41°40′ N/69°45′ W; 41°00′ N/69°05′ W; 41°38′ W; and 42°10′ N/68°31′ W. The Cape Cod Bay critical habitat is the area bounded by 42°02.8′ N/70°10′ W; 42°12′ N/70°15′ W; 42°12′ N/70°30′ W; 41°46.8′ N/70°30′ W and on the south and east by the interior shore line of Cape Cod, Massachusetts. The Southeastern US critical habitat is the area between 31 deg.15'N (approximately located at the mouth of the Altamaha River, GA) and 30 deg.15'N (approximately Jacksonville, FL) from the shoreline out to 15 nautical miles offshore; and the waters between 30 deg.15'N and 28 deg.00'N (approximately Sebastian Inlet, FL) from the shoreline out to 5 nautical miles. All critical habitat areas are outside of the action area.

[1] In 2008, NMFS listed the endangered northern right whale (*Eubalaena spp.*) as two separate, endangered species: the North Pacific right whale (*E. japonica*) and North Atlantic right whale (*E. glacialis*) (*73 FR 12024*). We received a petition to revise the 1994 critical habitat designation in October 2009. In an October 2010 Federal Register notice, we announced that we intend to revise existing critical habitat by continuing our ongoing rulemaking process to designate critical habitat for North Atlantic right whales. To date, we have not published a proposed rule so the 1994 critical habitat designation is the only critical habitat for right whales in the Atlantic.

Humpback whales (*Megaptera novaeangliae*) feed on herring, sand lance and other small fish, during the spring, summer, and fall over a range that encompasses the eastern coast of the United States. During the winter months, humpback whales mate and calve in the West Indies. Humpback whales in this area belong to the Gulf of Maine stock. The humpback whale population is thought to be steadily increasing and numbers over 11,000 individuals (Waring *et al.* 2013). Due to the nearshore, shallow nature of the action area, humpback whales are rare. A review of sightings data indicates only two humpback whales sighted in the action area; neither sighting was in June (see http://seamap.env.duke.edu/species/180530).

Fin whales (*Balaenoptera physalus*) occur in the action area. The best abundance estimate available for the western North Atlantic fin whale stock is 3,985 (CV=0.24) (Waring *et al.* 2010). Fin whales are common in waters of the U. S., principally from Cape Hatteras northward, with New England waters representing a major feeding ground. Some calving is thought to take place between October and January in latitudes of the U.S. mid-Atlantic region (Hain et al. 1992); however, it is unknown where calving, mating, and wintering occurs for most of the population. A review of sightings data indicates no sightings of fin whales in the action area (http://seamap.env.duke.edu/species/180530). This is likely due to the nearshore, shallow nature of the action area.

Four species of sea turtles occur in the action area: the threatened Northwest Atlantic DPS of loggerhead (*Caretta caretta*); endangered Kemp's ridley (*Lepidochelys kempi*); endangered leatherback (*Dermochelys coriacea*); and endangered green *(Chelonia mydas)* sea turtles. The distribution of sea turtles in the action area is limited by seasonal temperature patterns; sea turtles are extremely rare north of Cape Hatteras between November and April due to cold water temperatures. Sea turtles make seasonal migrations into the Mid-Atlantic and North Atlantic as water temperatures warm in the spring and then move south as waters cool in the fall. Chesapeake Bay is used as a summer foraging ground for all four sea turtles and during the month of June, loggerhead, Kemp's ridley, leatherback and green sea turtles are likely to occur in the action area.

In July 2013, we proposed to designate critical habitat for the Northwest Atlantic DPS (see 78 *Federal Register* 43006, July 18, 2013); however, the action area does not overlap with the proposed critical habitat area. Therefore, a conference on the effects of the proposed activity on proposed loggerhead sea turtle critical habitat is not required.

The marine range of all five Atlantic sturgeon DPSs extends along the Atlantic coast from Canada to Cape Canaveral, Florida. Atlantic sturgeon originating from all five DPSs occur in the action area. Atlantic sturgeon originating from the New York Bight, Chesapeake Bay, South Atlantic and Carolina DPSs are listed as endangered. Atlantic sturgeon originating from the Gulf of Maine DPS are listed as threatened. Atlantic sturgeon spawn in their natal river and remain in the river until approximately age two and at lengths of approximately 76-92 cm (30-36 inches; ASSRT 2007). After emigration from the natal estuary, subadult and adult Atlantic sturgeon forage within the marine environment, typically in waters less than 50 m in depth, using coastal bays, sounds, and ocean waters (see ASSRT 2007). Only sub-adult or adult Atlantic sturgeon would be present in the action area. Individuals are likely to be migrating and could also be foraging opportunistically.

Effects of the Actions on NMFS Listed Species
Potential effects of the proposed action can be broadly categorized into the following categories: (1) acoustic effects, (2) effects to benthic habitat, (3) and effects of an increase in vessel traffic.

Acoustic Effects
Sources of noise associated with the proposed action include the geophysical survey equipment, drilling equipment and project vessels.

Frequency (i.e., number of cycles per unit of time, with hertz (Hz) as the unit of measurement) and amplitude (loudness, measured in decibels, or dB) are the measures typically used to describe sound. Sound waves consist of both pressure and particle motion components that propagate from the source. Sound in water follows the same physical principles as sound in air. The major difference is that due to the density of water, sound in water travels about 4.5 times faster than in air (approx. 4900 feet/s vs. 1100 feet/s), and attenuates much less rapidly than in air. As a result of the greater speed, the wavelength of a particular sound frequency is about 4.5 times longer in water than in air (Rogers and Cox 1988; Bass and Clarke 2003).

The level of a sound in water can be expressed in several different ways, but always in terms of dB relative to 1 micro-Pascal (µPa). Decibels are a log scale; each 10 dB increase is a ten-fold increase in sound pressure. Accordingly, a 10 dB increase is a 10x increase in sound pressure, and a 20 dB increase is a 100x increase in sound pressure.

The following are commonly used measures of sound:

- Peak sound pressure level (SPL): the maximum sound pressure level (highest level of sound) in a signal measured in dB re 1 µPa.

- Sound exposure level (SEL): the integral of the squared sound pressure over the duration of the pulse (e.g., a full pile driving strike.) SEL is the integration over time of the square of the acoustic pressure in the signal and is thus an indication of the total acoustic energy received by an organism from a particular source (such as pile strikes). Measured in dB re $1\mu Pa^2$-s.

- Cumulative SEL (cSEL or SEL_{cum}): the energy accumulated over time. cSEL indicates the full energy to which an animal is exposed during any kind of signal. The rapidity with which the cSEL accumulates depends on duration of exposure. The actual level of accumulated energy (cSEL) is the logarithmic sum of the total number of single strike SELs. Thus, cSEL (dB) = Single-strike SEL + $10\log_{10}(T)$; where T is time in seconds.

- Root Mean Square (RMS): the average level of a sound signal over a specific period of time.

Background Information on Acoustics and Marine Mammals and Sea Turtles

When anthropogenic disturbances elicit responses from sea turtles and marine mammals, it is not always clear whether they are responding to visual stimuli, the physical presence of humans or

man-made structures, or acoustic stimuli. However, because sound travels well underwater, it is reasonable to assume that, in many conditions, marine organisms would be able to detect sounds from anthropogenic activities before receiving visual stimuli. Possible effects of noise exposure on marine organisms can be characterized by the following range of physical and behavioral responses (Richardson et al. 1995):

1. Behavioral reactions – Range from brief startle responses, to changes or interruptions in feeding, diving, or respiratory patterns, to cessation of vocalizations, to temporary or permanent displacement from habitat.
2. Masking – Reduction in ability to detect communication or other relevant sound signals due to elevated levels of background noise.
3. Temporary threshold shift (TTS) – Temporary, fully recoverable reduction in hearing sensitivity caused by exposure to sound.
4. Permanent threshold shift (PTS) – Permanent, irreversible reduction in hearing sensitivity due to damage or injury to ear structures caused by prolonged exposure to sound or temporary exposure to very intense sound.
5. Non-auditory physiological effects – Effects of sound exposure on tissues in non-auditory systems either through direct exposure or as a consequence of changes in behavior, e.g., resonance of respiratory cavities or growth of gas bubbles in body fluids.

Right, Humpback, and Fin Whale Hearing

In order for whales to be adversely affected by a noise, they must be able to perceive the noises produced by the activities. If a species cannot hear a sound, or hears it poorly, then the sound is unlikely to have a significant effect (Ketten 1998). Baleen whale hearing has not been studied directly, and there are no specific data on sensitivity, frequency or intensity discrimination, or localization (Richardson et al. 1995) for these whales. Thus, predictions about probable impact on baleen whales are based on assumptions about their hearing rather than actual studies of their hearing (Richardson et al. 1995; Ketten 1998).

Ketten (1998) summarized that the vocalizations of most animals are tightly linked to their peak hearing sensitivity. Hence, it is generally assumed that baleen whales hear in the same range as their typical vocalizations, even though there are no direct data from hearing tests on any baleen whale. Most baleen whale sounds are concentrated at frequencies less than 1 kHz (Richardson et al. 1995), although humpback whales can produce songs up to 8 kHz (Payne and Payne 1985). Based on indirect evidence, at least some baleen whales are quite sensitive to frequencies below 1 kHz but can hear sounds up to a considerably higher but unknown frequency. Most of the manmade sounds that elicited reactions by baleen whales were at frequencies below 1 kHz (Richardson et al. 1995). Some or all baleen whales may hear infrasounds, sounds at frequencies well below those detectable by humans. Most species also have the ability to hear beyond their region of best sensitivity. This broader range of hearing probably is most likely related to their need to detect other important environmental phenomena, such as the locations of predators or prey. Among marine mammal species, considerable variation exists in hearing sensitivity and absolute hearing range (Richardson et al. 1995; Ketten 1998). The baleen whales have hearing ranges that are likely to have peak sensitivities with low frequencies (below 1 kHz). Based on the best available information, we assume that sources with frequencies above 180 kHz are not perceived by these species.

Criteria for Assessing Effects to Listed Whales

The available information on the hearing capabilities of cetaceans and the mechanisms they use for receiving and interpreting sounds remains limited due to the difficulties associated with conducting field studies on these animals. However, current thresholds for determining the potential onset of impacts to marine mammals typically center around root-mean-square (RMS) received levels of 180 dB re 1μPa for potential injury, 160 dB re 1μPa for potential behavioral disturbance/harassment from a non-continuous noise source, and 120 dB re 1μPa for potential behavioral disturbance/harassment from a continuous noise source. Marine mammal responses to sound can be highly variable, depending on the individual hearing sensitivity of the animal, the behavioral or motivational state at the time of exposure, past exposure to the noise which may have caused habituation or sensitization, demographic factors, habitat characteristics, environmental factors that affect sound transmission, and non-acoustic characteristics of the sound source, such as whether it is stationary or moving (NRC 2003). Nonetheless, the threshold levels referred to above are considered conservative based on the best available scientific information and are considered to be reasonable predictors of the noise levels that may begin to affect listed whales.

Sea Turtle Hearing

The information available for sea turtle hearing suggests that the auditory capabilities of sea turtles are centered in the low frequency range between 100 Hz and 2,000 Hz (Ridgway *et al.* 1969; Lenhardt *et al.* 1983; Bartol *et al.* 1999, Lenhardt 1994, O'Hara and Wilcox 1990). An early experiment measured cochlear potential in three Pacific green turtles and suggested a best hearing sensitivity in air of 300–500 Hz and an effective hearing range of 60–1,000 Hz (Ridgway et al. 1969). Sea turtle underwater hearing is believed to be about 10 dB less sensitive than their in-air hearing (Lenhardt 1994). Lenhardt et al. (1996) used a behavioral "acoustic startle response" to measure the underwater hearing sensitivity of a juvenile Kemp's ridley and a juvenile loggerhead turtle to a 430-Hz tone. Their results suggest that those species have a hearing sensitivity at a frequency similar to those of the green turtles studied by Ridgway et al. (1969). Lenhardt (1994) was also able to induce startle responses in loggerhead turtles to low frequency (20–80 Hz) sounds projected into their tank. He suggested that sea turtles have a range of best hearing from 100–800 Hz, an upper limit of about 2,000 Hz, and serviceable hearing abilities below 80 Hz. More recently, the hearing abilities of loggerhead sea turtles were measured using auditory evoked potentials in 35 juvenile animals caught in tributaries of Chesapeake Bay (Bartol et al. 1999). Those experiments suggest that the effective hearing range of the loggerhead sea turtle is 250–750 Hz and that its most sensitive hearing is at 250 Hz. In general, however, these experiments indicate that sea turtles generally hear best at low frequencies and that the upper frequency limit of their hearing is no more than 2 kHz.

Ridgway *et al*. (1969) studied the auditory evoked potentials of three green sea turtles (in air and through mechanical stimulation of the ear) and concluded that their maximum sensitivity occurred from 300 to 400 Hz with rapid declines for tones at lower and higher frequencies. They reported an upper limit for cochlear potentials without injury of 2000 Hz and a practical limit of about 1000 Hz. This is similar to estimates for loggerhead sea turtles, which had most sensitive hearing between 250 and 1000 Hz, with rapid decline above 1000 Hz (Bartol *et al*. 1999). We assume that these sensitivities to sound apply to all of the sea turtles in the action area (i.e., the green, hawksbill, Kemp's ridley, leatherback and loggerhead sea turtles).

A study on the effects of airguns on sea turtle behavior also suggests that sea turtles are most likely to respond to low-frequency sounds. McCauley *et al*. (2000) reported that green and loggerhead sea turtles avoided air-gun arrays at 2 km and at 1 km with received levels of 166 dB re 1 Pa and 175 dB re 1 uPa, respectively. The sea turtles responded consistently: above a level of approximately 166 dB re 1 uPa RMS the turtles noticeably increased their swimming activity compared to non-airgun operation periods. Above 175 dB re 1 Pa mean squared pressure their behavior became more erratic possibly indicating the turtles were in an agitated state.

Criteria for Assessing Effects to Sea Turtles

Currently there are no established thresholds for injury or behavioral disturbance for sea turtles. Behavioral reactions of sea turtles (McCauley et al. 2000a and 2000b, DeRuiter and Doukara 2012) have been reported for sea turtles in response to airgun noise. McCauley *et al*. (2000) noted that decibel levels of 166 dB re 1 µPa RMS were required before any behavioral reaction (e.g., increased swimming speed) was observed. Based on this information, NMFS expects any sea turtles exposed to underwater noise greater than 166 dB re 1µPa RMS may experience behavioral disturbance and that sea turtles may actively avoid any area with noise levels greater than 166 dB re 1µPa RMS. While there is some information suggesting the noise levels that might result in injury to sea turtles from exposure to underwater explosives, no such information is available for non-explosive sound sources. However, all available information indicates that injury is not expected upon exposure to impulsive noises less than 180 dB re 1µPa RMS.

Summary of Available Information on Underwater Noise and Sturgeon

Sturgeon have swim bladders, but they are not located very close to the ear; thus, they are assumed to detect primarily particle motion rather than pressure and rely primarily on particle motion to detect sounds (Lovell *et al.* 2005). While there are no data both in terms of hearing sensitivity and structure of the auditory system for shortnose or Atlantic sturgeon, there are data for the closely related lake sturgeon (Lovell *et al.* 2005; Meyer *et al.* 2010), which for the purpose of considering acoustic impacts can be considered as a surrogate for Atlantic sturgeon. The available data suggest that lake sturgeon can hear sounds from below 100 Hz to 800 Hz (Lovell *et al.* 2005; Meyer *et al.* 2010). However, since these two studies examined responses of the ear and did not examine whether fish would behaviorally respond to sounds detected by the ear, it is hard to determine thresholds for hearing (that is, the lowest sound levels that an animal can hear at a particular frequency) using information from these studies.

Criteria for Assessing the Potential for Physiological Effects of Sound on Fish

The Fisheries Hydroacoustic Working Group (FHWG) was formed in 2004 and consists of biologists from NMFS, USFWS, FHWA, and the California, Washington and Oregon DOTs, supported by national experts on sound propagation activities that affect fish and wildlife species of concern. In June 2008, the agencies signed an MOA documenting criteria for assessing physiological effects of pile driving on fish. The criteria were developed for the acoustic levels at which physiological effects to fish could be expected. It should be noted, that these are onset of physiological effects (Stadler and Woodbury, 2009), and not levels at which fish are necessarily mortally damaged. These criteria were developed to apply to all species, including listed green sturgeon, which are biologically similar to Atlantic sturgeon and for these purposes can be considered a surrogate. The interim criteria are:

- Peak SPL: 206 decibels relative to 1 micro-Pascal (dB re 1 µPa).
- cSEL: 187 decibels relative to 1 micro-Pascal-squared second (dB re 1µPa^2-s) for fishes above 2 grams (0.07 ounces).
- cSEL: 183 dB re 1µPa^2-s for fishes below 2 grams (0.07 ounces).

At this time, they represent the best available information on the thresholds at which physiological effects to sturgeon from impulsive sounds are likely to occur. The swim bladder of sturgeon is relatively small compared to other species (Beregi et al. 2001). While there are no data that correlate effects of noise on fishes and swim bladder size, the physiological effects of impulsive noises on sturgeon may actually be less than on other species due to the small size of their swim bladder. It is important to note that physiological effects may range from minor injuries from which individuals are anticipated to completely recover with no impact to fitness to significant injuries that will lead to death. The severity of injury is related to the distance from the sound source and the duration of exposure; therefore, the closer to the source and the greater the duration of the exposure, the higher likelihood of significant injury.

Based on the available information, we consider the potential for physiological effects upon exposure to impulsive noise of 206dB re 1 µPa peak and 187 dB re 1 µPa^2-s cSEL. Use of the 183 dB re 1 µPa^2-s cSEL threshold, is not appropriate for this consultation because all Atlantic sturgeon in the action area will be larger than 2 grams. As explained here, physiological effects could range from minor injuries that a fish is expected to completely recover from with no impairment to survival to major injuries that increase the potential for mortality, or result in death.

Available Information for Assessing Behavioral Effects

Results of empirical studies of hearing of fishes, amphibians, birds, and mammals (including humans), in general, show that behavioral responses vary substantially, even within a single species, depending on a wide range of factors, such as the motivation of an animal at a particular time, the behavior of the animal at the time it detects a new stimulus, the hearing capabilities of an animal or species, and numerous other factors (Brumm and Slabbekoorn 2005). Thus, it may be difficult to assign a single criterion above which behavioral responses to noise would occur.

In order to be detected, a sound must be above the "background" level. Additionally, results from some studies suggest that sound may need to be biologically relevant to an individual to elicit a behavioral response. For example, in an experiment on responses of American shad to sounds produced by their predators (dolphins), it was found that if the predator sound is detectable, but not very loud, the shad will not respond (Plachta and Popper 2003). But, if the sound level is raised an additional 8 or 10 dB, the fish will turn and move away from the sound source. Finally, if the sound is made even louder, as if a predator were nearby, the American shad go into a frenzied series of motions that probably helps them avoid being caught. It was speculated by the researchers that the lowest sound levels were those recognized by the American shad as being from very distant predators, and thus, not worth a response. At somewhat higher levels, the shad recognized that the predator was closer and then started to swim away. Finally, the loudest sound was thought to indicate a very near-by predator, eliciting maximum response to avoid predation. Similarly, results from Doksaeter *et al.* (2009) suggest

that fish will only respond to sounds that are of biological relevance to them. This study showed no responses by free-swimming herring (*Clupea* spp.) when exposed to sonars produced by naval vessels; but, sounds at the same received level produced by major predators of the herring (killer whales) elicited strong flight responses. Sound levels at the fishes from the sonar in this experiment were from 197 dB to 209 dB (rms) re 1 µPa at 1,000 to 2,000Hz.

Mueller-Blenke *et al.* (2010), attempted to evaluate response of Atlantic cod (*Gadus morhua*) and Dover sole (*Solea solea*) held in large pens to playbacks of pile driving sounds recorded during construction of Danish wind farms. The investigators reported that a few representatives of both species exhibited some movement response, reported as increased swimming speed or freezing to the pile-driving stimulus at peak sound pressure levels ranging from 144 to 156 dB re 1 µPa for sole and 140 to 161 dB re 1 µPa for cod. These results must be interpreted cautiously as fish position was not able to be determined more frequently than once every 80 seconds.

Feist (1991) examined the responses of juvenile pink (*Oncorhyncus gorbuscha*) and chum (*O. keta*) salmon behavior during pile driving operations. Feist had observers watching fish schools in less than 1.5 m water depth and within 2 m of the shore over the course of a pile driving operation. The report gave limited information on the types of piles being installed and did not give pile size. Feist did report that there were changes in distribution of schools at up to 300 m from the pile driving operation, but that of the 973 schools observed, only one showed any overt startle or escape reaction to the onset of a pile strike. There was no statistical difference in the number of schools in the area on days with and without pile driving, although other behaviors changed somewhat.

Anderson *et al.* (2007) presents information on the response of sticklebacks (*Gasterosteus aculeatus*), a hearing generalist, to pure tones and broadband sounds from wind farm operations. Sticklebacks responded by freezing in place and exhibiting startle responses at SPLs of 120 dB (re: 1µPa) and less. Purser and Radford (2011) examined the response of three-spined sticklebacks to short and long duration white noise. This exposure resulted in increased startle responses and reduced foraging efficiency, although they did not reduce the total number of prey ingested. Foraging was less efficient due to attacks on non-food items and missed attacks on food items. The SPL of the white noise was reported to be similar (at frequencies between 100 and 1000 Hz) to the noise environment in a shoreline area with recreational speedboat activity. While this does not allow a comparison to the 150 dB re 1 µPa RMS guideline, it does demonstrate that significant noise-induced effects on behavior are possible, and that in addition to avoidance, fish may react to increased noise with a startle response or reduced foraging efficiency during the time of sound exposure.

For the purposes of this consultation, we will use 150 dB re 1 µPa RMS as a conservative indicator of the noise level at which there is the potential for behavioral effects, provided the operational frequency of the source falls within the hearing range of the species of concern. That is not to say that exposure to noise levels of 150 dB re 1 µPa RMS will always result in behavioral modifications or that any behavioral modifications will rise to the level of "take" (i.e., harm or harassment) but that there is a potential, upon exposure to noise at this level, to experience some behavioral response. We expect that behavioral responses could range from a

temporary startle to avoidance of an area with disturbing levels of sound. The effect of any anticipated response on individuals will be considered in the effects analysis below.

Effects of Noise Exposure from Geophysical Surveys

Whales

The only geophysical survey equipment that operates in the hearing range of whales is the single beam sonar. The source level (i.e., within 1 meter) for the equipment, that can be heard by whales, is approximately 205 dB (peak); the sound attenuates with distance so noise levels are greatest closest to the source and diminish the further from the source. Injury can result to whales upon exposure to impulsive noises, such as the geophysical survey equipment, above 180 dB re 1µPa RMS. According to the information provided by DOE and Dominion, noise levels greater than 180 dB re 1µPa RMS will be experienced only very close to the source with noise attenuating to 160 dB re 1µPa RMS within 5 meters of the source. The 125 m exclusion zone will be monitored for at least 60 minutes prior to power up of the survey equipment. The equipment will not be started until the exclusion zone is free of whales for at least 60 minutes. Given the small area of the exclusion zone and the shallow depths and the dive time of whales in the area, it is reasonable to expect that monitoring the exclusion zone for at least 60 minutes will allow the PSO to detect any whales that may be submerged in the exclusion zone. Once the equipment is turned on, should a whale be detected within 125 meters of the survey vessel, all operations will be halted or delayed until the exclusion zone is clear of whales for at least 30 minutes. Based on this, it is extremely unlikely that a whale will be present within 125 m of the source while the geophysical survey equipment is operating; therefore, it is extremely unlikely that any whale will be exposed to noise that could cause injury.

Available information suggests that impulsive noise above 160 dB re 1µPa RMS may trigger a behavioral response in whales; behavioral responses could range from a startle with immediate resumption of normal behaviors to complete avoidance of the area where noise is elevated above 160 dB re 1µPa RMS and could also include changes in foraging behavior. The 160 dB re 1 µPa RMS isopleth (radius) would extend no more than 5 meters from the single beam sonar (the only equipment that operates at a frequency whales in the action area can hear). The exclusion zone extends 120 meters beyond the area where a behavioral response would be expected. As such, we do not anticipate any whales will be exposed to underwater noise that would result in a behavioral response.

Masking

Masking is a natural phenomenon which marine mammals must cope with even in the absence of man-made noise (Richardson et al. 1995). Since the sound produced by the surveys would be intermittent and transient in nature, masking would not be a continuous phenomenon, but would occur for only a few seconds at a time in a small area. Marine mammals demonstrate strategies for reducing the effects of masking, including changing the source level of calls, increasing the frequency or duration of calls, and changing the timing of calls (NRC 2003). Although these strategies are not necessarily without energetic costs, the consequences of temporary and localized increases in background noise level are impossible to determine from the available data (Richardson et al. 1995; NRC 2005). However, one relevant factor in attempting to consider the effect of elevated noise levels on marine mammal populations is the size of the area affected

versus the habitat available. The proposed surveys will take place in an open ocean environment with few, if any, impediments to the movement of whales. Other sound in the area is a result of natural (e.g., waves, storms) and anthropogenic (e.g., other vessel traffic) sources. Whales must cope with natural sound sources constantly and we expect that they are habituated to them. Other sound sources in the area would similarly be transient and limited to the time that a ship passes through the area. Because the potential for masking is limited to the time and space where the survey equipment is operational, which we established above is a small, transient area, the potential for masking in any one area is limited to short time periods (seconds) in small areas (limited to a radius of no more than 5 meters). As such, no masking is likely to occur.

Acoustically Induced Stress

Generally, stress is a normal, adaptive response, and the body returns to homeostasis with minimal biotic cost to the animal. However, stress can turn to "distress" or become pathological if the perturbation is frequent, outside of the normal physiological response range, or persistent (NRC 2003). In addition, an animal that is already in a compromised state may not have sufficient reserves to satisfy the biotic cost of a stress response, and then must divert resources away from other functions Typical adaptive responses to stress include changes in heart rate, blood pressure, or gastrointestinal activity. Stress can also involve activation of the pituitary-adrenal axis, which stimulates the release of more adrenal corticoid hormones. Acute noise exposure may cause inhibited growth (in a young animal), or reproductive or immune responses. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction(Moberg 1987, Rivest and Rivier 1995) and altered metabolism (Elasser *et al*. 2000), immune competence (Blecha 2000) and behavior.

There are very few studies on the effects of stress on marine mammals, and even fewer on noise-induced stress in particular. One controlled laboratory experiment on captive bottlenose dolphins showed cardiac responses to acoustic playbacks, but no changes in the blood chemistry parameters measured (Miksis et al. 2001 in NRC 2003). Beluga whales exposed to playbacks of drilling rig noise (30 minutes at 134-153 dB re 1μPa) exhibited no short term behavioral responses and no changes in catecholamine levels or other blood parameters (Thomas et al. 1990 in NRC 2003). However, techniques to identify the most reliable indicators of stress in natural marine mammal populations have not yet been fully developed, and as such it is difficult to draw conclusions about potential noise-induced stress from the limited number of studies conducted.

There have been some studies on terrestrial mammals, including humans, that may provide additional insight on the potential for noise exposure to cause stress. Jones and Broadbent (1998) reported on reductions in human performance when faced with acute, repetitive exposures to acoustic disturbance. Trimper *et al*. (1998) reported on the physiological stress responses of osprey to low-level aircraft noise while Krausman *et al*. (2004) reported on the auditory and physiological stress responses of endangered Sonoran pronghorn to military overflights.

These studies on stress in terrestrial mammals lead us to believe that this type of stress is likely to result from chronic acoustic exposure. Due to the localized, transient acoustic impacts of the surveys, and the maintenance of an exclusion zone that will prevent any whales from exposure to noise levels that could result in a behavioral response, we do not expect any chronic acoustic

exposure to any individuals from the proposed surveys; therefore, we do not anticipate this type of stress response from the survey activities.

Effects to Sea Turtles and Atlantic sturgeon
None of the geophysical survey equipment operates in a range that can be heard by sea turtles or Atlantic sturgeon. Therefore, we do not anticipate any effects to these species if they are exposed to underwater noise generated by this equipment.

Borings and Cone Penetration Tests
Noise associated with the geotechnical sampling equipment is limited to mechanical noise associated with the advancement of the mechanism into the seafloor. Source levels are estimated at 150-160 dB re 1µPa at 1 m RMS SPL. Noise is expected to attenuate rapidly and decrease to below 150 dB re 1µPa within 100 meters (BOEM 2013). The frequency of these noise sources can be detected by whales, sea turtles and sturgeon.

As noted above, a 200 meter exclusion zone around the survey vessel will be maintained such that no borings or CPTs will occur should a listed species be observed within 200 meters of the survey vessel. The source level is below the level that could potentially result in injury to whales, sea turtles and listed fish. The exclusion zone extends beyond the area where noise levels could cause a behavioral response in whales and sea turtles. As such, no whales or sea turtles will be exposed to noise that would result in a behavioral response. Because Atlantic sturgeon do not occur at the surface, we do not expect the observer would see any Atlantic sturgeon that may occur in the exclusion zone. However, given the short duration of the operations (intermittent noise over 2 hours for CPTs and up to 2 days for the bore holes), we do not expect any negative impacts to any individuals that respond to this noise as it would not disrupt any essential life behaviors and normal behaviors would resume as soon as the operations cease. Given this analysis, we expect all effects to listed species from exposure to the vibracore noise to be insignificant and discountable.

Vessel Noise

Survey and support vessel transits will occur throughout the action area during June 2014. Vessels transmit noise through water; the dominant source of vessel noise from the proposed action is propeller cavitation, although other ancillary noises may be produced. Vessel traffic associated with the proposed action would produce levels of noise of 150 to 170 dB re 1 µPa-m at frequencies below 1,000 Hz.

Exposure to individual vessel noise by ESA-listed marine mammals, sea turtles, and fish within the action area would be transient and temporary as vessels moved along the survey tracks. ESA-listed marine mammal, sea turtle, and fish behavior and use of the habitat would be expected to return to normal following the passing of a vessel. Therefore, impacts from vessel noise would be short term and negligible. The dominant source of vessel noise from the proposed action is propeller cavitation, although other ancillary noises may be produced. Sound sources associated with the operation of the survey vessels are in the range of 150-170 dB re 1µPa RMS (Richardson et al. 1995 in BOEM 2013). Sounds levels may be less during the surveys when the vessels are carrying out the surveys as they will be moving very slowly during that time. Restrictions on vessel approaches near whales will ensure that the survey vessels are

never within 500 meters of right whales and 100 meters from all other whales; this is a sufficient separation distance to avoid any exposure of whales to potentially disturbing noise associated with the operation of all project related vessels Based on the operating procedures which limit vessels from approaching within 100 meters of any whale and 500 meters of a right whale, it is extremely unlikely that any project vessel would come close enough to a whale in a manner that would result in exposure to potentially disturbing levels of noise. As such, no whales are expected to be exposed to injurious or disturbing levels of sound. As no avoidance behaviors are anticipated, the distribution, abundance and behavior of whales in the action area is not likely to be affected by noise associated with project related vessels and any effects will be insignificant or discountable.

Sea turtles and sturgeon may exhibit behavioral reactions to noise sources at levels of 166 dB re 1uPa RMS and 150 dB re 1µPa RMS, respectively. These noise levels will only be experienced within several meters of the project related vessels. We do not expect sea turtles or listed fish to be that close to the survey vessels; therefore, we do not anticipate any behavioral disturbance from noise associated with the operations of the project vessels.

Effects to Benthic Habitat

Activities that disturb the sea floor will also affect benthic communities and can cause effects to listed species by reducing the numbers or altering the composition of the species upon which these species prey. Activities that may affect the sea floor and result in the loss of foraging resources for listed species are limited to the placement of the pads to support the liftboats, anchors, and the drill holes. Effects to benthic resources and habitat will be restricted to the area where anchors are set, pads are place and geotechnical samples are taken. While the geotechnical sampler will take a portion of the benthos that will be brought onto the ship, because of the small size of the sample (3 inch bore samples) and the nature of the removal, there is no sediment plume associated with the sampling.

The geotechnical equipment will affect an extremely small area (limited to the diameter of the drill hole and the small area impacted by the anchor or lift-boat pads) at each sampling location. While there will be some loss of benthic species at the sample sites, including potential forage items for Atlantic sturgeon, loggerhead, and Kemp's ridley sea turtles, the amount of benthic resources potentially lost will be extremely small and limited to immobile individuals that cannot escape capture during sampling. The amount of potential forage lost is extremely small and will be temporary. As such a small area will be disturbed and there will be a large distance between disturbed areas, recolonization is expected to be rapid. These temporary, isolated reductions in the amount of benthic resources are not likely to have a measurable adverse impact on any foraging activity or any other behavior of listed species; this is due to the small size of the affected areas and the temporary nature of any disturbance. Based on this analysis, any effects to listed species resulting from benthic disturbance during the proposed surveys are discountable.

Vessel Traffic

Collision with vessels remains a source of anthropogenic mortality for sea turtles, whales and Atlantic sturgeon. The proposed project will lead to increased vessel traffic in the action area that would not exist but for the proposed action. This increase in vessel traffic will result in some increased risk of vessel strike of listed species. However, due to the limited information

available regarding the incidence of ship strike and the factors contributing to ship strike events, it is difficult to determine how a particular number of vessel transits or a percentage increase in vessel traffic will translate into a number of likely ship strike events or percentage increase in collision risk. In spite of being one of the primary known sources of direct anthropogenic mortality to whales, and to a lesser degree, sea turtles, ship strikes remain relatively rare, stochastic events, and an increase in vessel traffic in the action area would not necessarily translate into an increase in ship strike events. As outlined above, several measures will be implemented to further reduce the likelihood of a project vessel interacting with a whale or sea turtle. These include mandatory adherence to any DMA associated speed restrictions, a requirement to have a dedicated lookout maintain vigilant watch for marine mammals and sea turtles during all transits.

Vessel traffic will increase during survey activities; however, the increase in vessel activity will be limited to one to three vessels. These vessels are expected to operate at speeds of no more than 5 knots during survey activities. The vessels will be required to maintain a distance of at least 500 yards (457 m) from right whales, at least 100 yards (91 m) from all other whales and at least 50 yards (46 m) from all sea turtles. Dedicated lookouts will be posted on all vessels and will communicate with the captain to ensure that all measures to avoid whales and sea turtles are taken.

Whales

The majority of whale interactions with vessels that have been reported as lethal are with vessels greater than 260 feet (80 meters). However, whale strikes can occur with any size vessel from large tankers to small recreational boats (Jensen and Silber, 2004). Vessels associated with the proposed action are not anticipated to be greater than 80 m, therefore reducing the potential for a lethal vessel-whale interaction. Strikes have been reported for vessels traveling between 2 and 51 knots (2 and 59 miles per hour [mph]), with most lethal or severe injuries occurring when vessels are traveling 14 knots (16 mph) or more (Jensen and Silber, 2004; Laist *et al.*, 2001; Vanderlaan and Taggart, 2006). Given the size and speed that the survey vessels will operate at combined with the expected operating conditions (majority of surveys daylight only), the required separation distances and the vigilant watch of dedicated lookouts who will be able to communicate with the captain regarding the presence of whales, the potential for vessel collisions is extremely low. Therefore, effects to whales from the survey vessels are discountable. While the towed gear has the potential to result in interaction with listed species, the speed of towing (less than 5 knots) minimizes the potential for entanglement during the survey, as whales would be able to avoid the slow moving gear and survey vessel. Further, Dominion is limiting the towline length for source and hydrophone deployment. Therefore, we do not anticipate any whales will be entangled or otherwise contact the towed survey gear.

Based on the measures in place, and the intermittent travel of vessels associated with the proposed action, the potential for a vessel strike is greatly reduced. The risk of a strike is further reduced by the required separation distances and the posting of a lookout to communicate with the captain regarding the presence of whales. While vessels may travel over 10 knots while transiting between the survey area and the shore, these trips will be short and intermittent and represent an extremely small increase in vessel traffic in the action area. Vigilant watches will be maintained and all available information on whale presence will be monitored. Based on the

information presented here, we have determined that the potential for survey vessel collisions with whales is extremely low. Therefore, effects to whales from these vessels are discountable.

Sea Turtles

Similar to marine mammals, sea turtles have been killed or injured due to collisions with vessels. Hatchlings and juveniles may be more susceptible to vessel interactions than adults due to their limited swimming ability. The small size and darker coloration of hatchlings also makes them difficult to spot from transiting vessels. While adults and juveniles are larger in size and may be easier to spot when at the surface than hatchlings, they often spend time below the surface of the water, which makes them difficult to spot from a moving vessel. During survey activities the survey vessel will travel at speeds between 3 and 5 knots. Hazel *et al.,* (2007) reported that green sea turtles ability to avoid an approaching vessel decreases significantly as the vessel speed increases. While transiting to and from the survey area, the survey vessel may travel at higher speeds. However, the vessel traffic associated with this activity is limited to one survey vessel. It is extremely unlikely that the addition of one vessel to the action area will increase the risk of vessel strikes. Therefore, potential for vessel collisions is discountable.

Atlantic sturgeon

The factors relevant to determining the risk to Atlantic sturgeon from vessel strikes are currently unknown, but they may be related to size and speed of the vessels, navigational clearance (*i.e.,* depth of water and draft of the vessel) in the area where the vessel is operating, and the behavior of Atlantic sturgeon in the area (e.g., foraging, migrating, etc.). It is important to note that vessel strikes have only been identified as a significant concern in the upper Delaware and James rivers and current thinking suggests that there may be unique geographic features in these areas (e.g., potentially narrow migration corridors combined with shallow/narrow river channels) that increase the risk of interactions between vessels and Atlantic sturgeon. The risk of vessel strikes between Atlantic sturgeon and vessels operating in the action area is likely to be low given that the vessels are operating in the open ocean and there are no restrictions forcing Atlantic sturgeon into close proximity with the vessel as may be present in some rivers. We also expect Atlantic sturgeon in the action area to be at or near the bottom. Given the depths in the action area, interactions between surface vessels and fish at or near the bottom are extremely unlikely. Based on these factors, effects to Atlantic sturgeon from the increase in vessel traffic are likely to be discountable.

Conclusions

We have reviewed the proposed action and agree that activities to be carried out as described herein are not likely to adversely affect any NMFS listed species. Because there is no critical habitat in the action area, none will be affected by the activities.

Re-initiation of consultation is required and shall be requested by DOE or by NFMS where discretionary federal involvement or control over the action has been retained or is authorized by law and (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or, (c) if a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or

exempted; take is defined in the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." If there is any incidental take of a listed species, reinitiation would be required. All observations of dead or injured whales, sea turtles or Atlantic sturgeon should be reported to us immediately (incidental.take@Noaa.gov).

Coordination regarding Essential Fish Habitat (EFH) for the proposed activities was completed previously and no additional coordination is necessary at this time. We look forward to continuing to work cooperatively with DOE and Dominion as the VOWTAP project moves forward. Should you have any questions regarding this consultation, please contact Julie Crocker of my staff at (978)282-8480 or by e-mail (Julie.Crocker@Noaa.gov).

Sincerely,

for John K. Bullard
Regional Administrator

CC: Hooker, BOEM
Evans, USACE
O'Brien - F/NER4

File Code: Sec 7 DOE Funding VOWTAP June 2014 surveys
PCTS: NER-2014-

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National Oceanic and Atmospheric Administration

From: David O'Brien - NOAA Federal [mailto:david.l.o'brien@noaa.gov]
Sent: Thursday, June 13, 2013 2:20 PM
To: Kimberly Q Lanterman
Cc: Hooker, Brian; Reeves, Casey; al.christopher@dmme.virginia.gov; Guy Chapman; Molly P Plautz; Miller, Kathleen; Hall, Callie
Subject: Re: VOWTAP Recommended Sediment Sample Locations & Updated Marine Survey Milestone Schedule

Hello Kim,

I have reviewed the proposed benthic grab sample locations you provided and discussed with Brian Hooker moving one of them in order to collect a sample within a swale of the sand ridge complex. Therefore, NOAA Fisheries concurs with Brian's recommendation to relocate GS-002 into a swale of the sand ridge complex in order to better characterize this habitat. Thank you for the opportunity to review the sample locations and please contact me if you have any questions.

Regards,

Dave

David L. O'Brien

Fisheries Biologist

NOAA Fisheries Service

1375 Greate Rd.

P.O. Box 1346
Gloucester Point, VA 23062

804-684-7828 phone

804-684-7910 fax

david.l.o'brien@noaa.gov

On Thu, Jun 13, 2013 at 1:25 PM, Kimberly Q Lanterman <kimberly.q.lanterman@dom.com> wrote:

Brian – Thank you so much for reviewing and getting us a quick response. We really appreciate it. We will pass the information along to the folks that will be conducting the benthic sampling. We will also let you know if there are any questions or feedback regarding your recommendations.

Kim

From: Hooker, Brian [mailto:brian.hooker@boem.gov]
Sent: Thursday, June 13, 2013 1:18 PM
To: Kimberly Q Lanterman (Services - 6)
Cc: David O'Brien - NOAA Federal; Reeves, Casey; al.christopher@dmme.virginia.gov; Guy Chapman (Services - 6); Molly P Plautz (Services - 6); Miller, Kathleen; Hall, Callie
Subject: Re: VOWTAP Recommended Sediment Sample Locations & Updated Marine Survey Milestone Schedule

Kim et al, attached is my recommendation for the movement of GS-002 to the northwest to sample a swale area between sand ridges. I noted three different possible locations, I am not recommending 3 additional locations. I believe GS-004 will cover the same benthic habitat type as GS-002 would have. My rationale for the change is that swales have greater benthic macrofaunal density, species richness, and biomass due, in part, to the increased abundance of detrital food and the physically less rigorous conditions (NMFS 2004).

Thanks for the opportunity to review and please let me know if you have any questions.

Sincerely,

Brian

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and Marine Benthic Ecosystems of the Northeast U.S. Shelf, and an Evaluation of the

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On Mon, Jun 10, 2013 at 5:47 PM, Kimberly Q Lanterman <kimberly.q.lanterman@dom.com> wrote:

Hello Dave and Brian - I apologize for getting this information to you so late today. Attached please find the recommended benthic grab sample locations for VOWTAP in both image and pdf formats. The sediment sampling effort is overlaid on the bathymetry and sidescan sonar data. All samples will be tested for benthic, TOC, grainsize, and moisture/water content. A pdf of the survey area is also attached that includes a north arrow and aliquot identification numbers to assist you with orienting yourselves to the site.

We would appreciate your review and comment/concurrence on the proposed sample locations. We would appreciate your feedback ASAP, but no later than Thursday (June 13th), since the current schedule to commence the seismic surveys is Friday, June 14th .

The current plan, as indicated in the attached updated milestone schedule, is to collect benthic grab samples at night while running the boomer/bubble pulser during the day (pursuant to regulatory requirement to run seismic equipment during daylight hours only).

If you have any questions regarding this information, please let us know. We look forward to hearing from you by Thursday. Thanks in advance for your assistance!

Have a nice day!

Kim Lanterman

Dominion Resources

Environmental Business Support

Email: Kimberly.Q.Lanterman@dom.com

Office: 803-273-3051

Mobilw: 803-516-0949

--
Brian R. Hooker
Marine Biologist
Bureau of Ocean Energy Management
Office of Renewable Energy Programs
Herndon, Virginia
703-787-1634
571-393-4359 (mobile)
703-787-1708 (fax)

United States Fish and Wildlife Service

From: Troy Andersen <troy_andersen@fws.gov>
Date: April 26, 2013, 11:07:50 AM EDT
To: "Kimberly Q Lanterman (Services - 6)" <kimberly.q.lanterman@dom.com>
Subject: RE: Revised Wildlife Assessment Plan and Response to Agency Comments Document for the Virginia Offshore Wind Technology Advancement Project (VOWTAP)

Kim – received, reviewed and appreciate of the additional survey in May 2013.

Thanks,
Troy

Troy M. Andersen

Endangered Species/Conservation Planning Assistance Supervisor

USFWS – Virginia Field Office

Phone: 804-693-6694 Ext. 166

Mobile: 804-654-9235

Visit us at: http://www.fws.gov/northeast/virginiafield/

From: Kimberly Q Lanterman [mailto:kimberly.q.lanterman@dom.com]
Sent: Tuesday, April 23, 2013 1:42 PM
To: 'Reeves, Casey'; 'troy_andersen@fws.gov'; 'Aschenbach, Ernie (DGIF)'
Cc: 'Miller, Kathleen'; 'Daniels, Jennifer'; 'Svedlow, Aaron'; 'Matzat, Greg'; 'Ring, Bradley (GO)'; 'Mauer, Erik'; 'Christopher, Al (DMME)'; Guy Chapman; Molly P Plautz
Subject: Revised Wildlife Assessment Plan and Response to Agency Comments Document for the Virginia Offshore Wind Technology Advancement Project (VOWTAP)
Importance: High

Hello Everyone – Please find attached a revised version of the Wildlife Assessment Plan (WAP) and a Response to Agency Comments document for the VOWTAP. We have addressed all the agency comments received on the draft WAP. If you have any additional comments on the attached WAP, please let us know asap. We plan to commence the avian surveys on April 29, 2013.

Please share the revised WAP with others in your organization. If you can acknowledge your receipt and acceptance of the revised WAP by April 26, 2013, via email, we would greatly appreciate it. Thanks for your assistance!

Kim Lanterman

Manager, Environmental

Dominion Resources, Inc.

Office: 804-273-3051

Mobile: 804-516-0949

Email: Kimberly.Q.Lanterman@dom.com

United States Army Corps of Engineers

Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

April 23, 2013

Mr. John Evans
Regulatory Wind Energy Project Manager
U.S. Army Corps of Engineers
Norfolk District Office – Regulatory Branch
803 Front Street
Norfolk, Virginia 23510

RE: Preconstruction Notification (PCN): Nationwide Permit 6, Survey Activities Virginia Offshore Wind Technology Advancement Project (VOWTAP) Marine Surveys

Dear Mr. Evans,

Dominion Resources, Inc. (Dominion) is proposing site characterization survey activities to support the Virginia Offshore Wind Technology Advancement Project (VOWTAP), a two turbine (12 megawatts) offshore wind demonstration Project proposed in state and federal waters off the coast of Virginia Beach, Virginia. These surveys will be performed in compliance with the U.S. Army Corps of Engineers' currently authorized Nationwide Permit (NWP) 6 for Survey Activities and in compliance with the associated NWP 6 Regional and General Conditions.

The proposed site characterization activities are described in the following marine survey plans prepared for the VOWTAP and submitted to the U.S. Army Corps of Engineers (USACE) and other regulatory agencies electronically on April 12, 2013 (and attached):

- Geophysical and Shallow Geotechnical Survey Plan;
- Benthic Survey Plan; and
- Survey Plan for Marine Archeological Resources Assessments

Dominion is performing these site characterization activities to support regulatory filings required to support issuance of an offshore research lease from the federal Bureau of Ocean Energy Management (BOEM) and for the filing of a General Activities Plan (GAP) with BOEM. The proposed survey activities will be performed in compliance with BOEM Guidelines as specified in the above-referenced Survey Plans. In addition, the proposed survey activities were evaluated in the BOEM *Final Environmental Assessment (EA) for Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia* dated January 2012 (OCS EIS/EA BOEM 2012-003), which evaluated the cumulative effects of performing these same site characterization activities in support of commercial-scale wind energy

Classification: UNCLASSIFIED
Caveats: DNODS and Transmission corridor.

Kathleen:

Thanks for asking!

Please see my attached PDF that shows a revised line adjustment. My written description may not have been as clear as needed, as the intent was to describe a line crossing inside cells 2 and 5, away from (i.e. north of) the boundary of cells 3 and 6.

Sincerely,

John

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The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----
From: Miller, Kathleen [mailto:Kathleen.Miller@tetratech.com]

Sent: Friday, April 12, 2013 3:02 PM
To: Evans, John D NAO; Welz, Nick
Cc: Daniels, Jennifer; Kimberly.Q.Lanterman@dom.com; guy.chapman@dom.com; Molly P Plautz (molly.p.plautz@dom.com)
Subject: DNODS and Proposed VOWTAP Subsea Transmission Cable (UNCLASSIFIED)

Hi John,

Thanks very much for the information below regarding the planned use of the Dam Neck Ocean Disposal Site (DNODS) by the U.S. Army Corps of Engineers (USACE) and your recommendations to avoid future conflicts associated with projects that may pursue borrowing/dredging sands.

In response to your feedback, Tetra Tech has coordinated with Dominion Resources and the VOWTAP team and have adjusted the proposed subsea cable route for the VOWTAP so that it is now proposed north of the line between cells 2&5 and 3&6 of the DNODS, as you recommended (please see attached figure).

We would greatly appreciate your confirmation that this cable route adjustments adequately addresses your concerns with regard to potential future conflicts with use of the DNODS and installation of the VOWTAP offshore cable route in this location. We sincerely appreciate your efforts in assisting us to locate the proposed cable route in the least-constrained location.

Your prompt response would be very much appreciated as we are finalizing plans for marine surveys this week and will be communicating with regulatory agencies (including the USACE) on these surveys over the next couple of weeks.

Respectfully Submitted,

Kathleen R. Miller | Senior Energy Consultant
Direct: 207.893.1262 | Cell: 207.409.9738 | Portland: 207.879.9496 | Boston: 617.443.7500 | Fax: 617.737.3480 |
kathleen.miller@tetratech.com

Tetra Tech | Energy Programs
451 Presumpscot Street | Portland, ME 04103 | www.tetratech.com
160 Federal Street 3rd Floor | Boston, MA 02110 | www.tetratech.com

-----Original Message-----
From: Evans, John D NAO [mailto:John.D.Evans@usace.army.mil]

Sent: Thursday, March 28, 2013 2:56 PM
To: Welz, Nick
Cc: Daniels, Jennifer; Miller, Kathleen
Subject: DNODS and transmission corridor. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: DNODS and Transmission corridor.

Nick:

Per the DNODS SMMP zones 1, 3, and 4 are set aside for placement of sands. DNODS zones 2, 5, 6, and 7 are designated for finer material. We currently use Cells 1, 2, and 5 depending on the physical characteristics of the dredged material being placed. Cells 3, 4, 6, and 7 will be used in out-years. It is possible that in the future a project may pursue borrowing/dredging sands that have been or will be placed in DNODS zones 1, 3, and 4.

To avoid potential future conflicts I would recommend the transmission route alignment be located through zones 2 & 5, north of the border between zones 2 & 5 to the north and 3 & 6 to the south.

To my knowledge there are currently no projects proposing sand borrow in these DNODS zones. However, as sand resources become more limited and/or regulatory

environment becomes more constraining these areas may be viable alternatives as a sand source (i.e. dredging).

Hope this helps,

John

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The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----
From: Welz, Nick [mailto:Nick.Welz@tetratech.com]

Sent: Monday, March 18, 2013 2:11 PM
To: Evans, John D NAO
Cc: Daniels, Jennifer; Miller, Kathleen
Subject: RE: Electronic Copy of VOWTAP Interagency Kick-off Meeting Letter (UNCLASSIFIED)

John,

Thank you again for the information below and for your continued cooperation. While we look forward to meeting Tom or Peter in Norfolk next week, we're sorry that we won't see you in person. Maybe next time.

In the interest of assisting you as you gather input from your colleagues, we wanted to provide you with the attached image from the 2009 Dam Neck ODS Site Management and Monitoring Plan. This image divides the DNODS into 7 smaller areas within the larger polygon. As you know, our transmission route crosses the DNODS on a generally east/west bearing near the border between zones 2 & 5 to the north and 3 & 6 to the south - ~16,000 feet south of the northern border.

We were hoping that you or your colleagues might have some specific information about these smaller, sub-areas such as their current status, future capacities, planned work schedules etc... Also, I wonder if it might be best for the VOWTAP route to follow the boundary line between zones more precisely? Again, our overriding concern is that we might survey a transmission route in the coming weeks and subsequently learn that area X cannot be traversed by a cable because of conditions X, Y & Z. That, as you know, would require the re-mobilization of a second survey and would impact both the project's budget and overall schedule.

We realize that perhaps this level of detailed review normally takes place after you receive an application for an individual permit. In this case, however, with marine survey mobilizing so soon, we hope that you can assist as soon as possible. Thank you in advance and we look forward to your reply.

Nicholas G. Welz | Senior Marine Scientist
Direct 617.443.7539 | Business 617.443.7500 | Fax 617.737.3480 | Mobile 781.789.2837
Nick.Welz@tetratech.com

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and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

-----Original Message-----
From: Miller, Kathleen

Sent: Thursday, March 14, 2013 9:35 AM
To: Evans, John D NAO
Cc: Welz, Nick; Daniels, Jennifer
Subject: RE: Electronic Copy of VOWTAP Interagency Kick-off Meeting Letter (UNCLASSIFIED)

Excellent! Thanks very much John.

Kathleen R. Miller | Senior Energy Consultant
Direct: 207.893.1262 | Cell: 207.409.9738 | Portland: 207.879.9496 | Boston: 617.443.7500 | Fax: 617.737.3480 | kathleen.miller@tetratech.com

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160 Federal Street 3rd Floor | Boston, MA 02110 | www.tetratech.com

-----Original Message-----
From: Evans, John D NAO [mailto:John.D.Evans@usace.army.mil]

Sent: Thursday, March 14, 2013 9:26 AM
To: Miller, Kathleen
Subject: FW: Electronic Copy of VOWTAP Interagency Kick-off Meeting Letter (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: VOWTAP Kick-off Meeting 25 March

Kathleen:

Here are some comments that I sent to Dominion, and they do apply to the upcoming G&G work. Please forward to Nick Wells, as I don't have his email address. I am still waiting on District and EPA preliminary comments about crossing the DNODS with the transmission line.

Best Wishes,

John

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The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----
From: Evans, John D NAO

Sent: Wednesday, March 13, 2013 10:00 AM
To: 'Kimberly Q Lanterman'; Walker, Tom NAO
Cc: Darrow, Michael R. NAO; Kube, Peter R NAO; Cathie France (Cathie.France@dmme.virginia.gov)
Subject: RE: Electronic Copy of VOWTAP Interagency Kick-off Meeting Letter (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: VOWTAP Kick-off Meeting 25 March

Kim:

Thank you for the invitation to the VOWTAP Interagency meeting on 25 March at the Half Moone Center from 11 AM to 2 PM. While I do not believe that I can attend due to prior travel commitments, I do trust that Tom or Peter, my Regulatory Section Chief, will be able to participate in my absence.

As we have noted in prior discussions, the pilot project does not appear to meet the criteria to use Nationwide Permit 52 (NWP-52) (Water based wind energy pilot projects) due to project duration and existing conditions within the proposed transmission corridor. As such, an individual permit will be required and that process could take a minimum of four months -- depending in part on public and agency comments to our public notice of the permit application.

In that BOEM would appear to be the lead federal agency to lease the research aliquots and transmission corridor, and to conduct the associated coordination regarding navigation, national security, endangered species, historic resources, and other maritime interests; I would expect that all matters associated with the Corps permit would be addressed and resolved before the submission of a permit application.

With regards to the site characterization activities, also known as Geological and Geophysical Activities (G&G), a Corps permit would be required only for the discharge of dredged or fill materials within 3 miles of shore, or structures attached to the bottom, out to the limits of the continental shelf.

I believe that VOWTAP G&G activities will meet the criteria of Nationwide Permit 6 (NWP-6) (Survey activities), but caution that endangered species are present in the project area, that the Endangered Species Act (ESA) requires consultation, and that ESA consultation must be completed before using NWP-6. As BOEM has completed an assessment of the effect of G&G activities, including ESA consultation, I would not expect any ESA delay as long as the G&G activities comply with BOEM conditions for G&G activities.

Again, we appreciate this opportunity for early coordination and look forward to participation at the kickoff meeting.

Best Wishes,

John

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The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----
From: Kimberly Q Lanterman [mailto:kimberly.q.lanterman@dom.com]

Sent: Wednesday, March 13, 2013 8:47 AM
To: Walker, Tom NAO
Cc: Evans, John D NAO
Subject: Electronic Copy of VOWTAP Interagency Kick-off Meeting Letter
Importance: High

Hello Mr. Walker - I am sending you an upfront, electronic copy of a letter (with attachments) inviting you to an interagency kickoff meeting for the Virginia Offshore Wind Technology Advancement Project (VOWTAP). You will also be receiving a hard copy of this letter within the next couple of days. Information on the project and the interagency kickoff meeting is contained in the letter. We hope you and/or someone from your team will be able to attend the meeting to help kick off this exciting offshore wind demonstration project. If you have any questions or would like additional information, please let me know. Thanks.

Kim Lanterman
Manager, Environmental
Dominion Resources, Inc.
Office: 804-273-3051
Mobile: 804-516-0949

Email: Kimberly.Q.Lanterman@dom.com
From: "Evans, John D NAO" <John.D.Evans@usace.army.mil>
Date: May 15, 2013, 2:58:25 PM EDT
To: "Kimberly Q Lanterman (Services - 6)" <kimberly.q.lanterman@dom.com>, "'Miller, Kathleen'" <Kathleen.Miller@tetratech.com>
Cc: 'David O'Brien - NOAA Federal' <david.l.o'brien@noaa.gov>, 'Troy Andersen' <troy_andersen@fws.gov>, "'Aschenbach, Ernie (DGIF)'" <Ernie.Aschenbach@dgif.virginia.gov>, "Kube, Peter R NAO" <Peter.R.Kube@usace.army.mil>
Subject: RE: Pre-Construction Notification (PCN) for Nationwide Permit 6, Survey Activities - VOWTAP Marine Surveys (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: VOWTAP NWP-6 Verification

Kim and Kathleen:

The VOWTAP "Marine Survey" consists primarily of Geological and Geophysical (G&G) activities. As such, most G&G actions do not constitute a discharge of dredged or fill material and therefore do not require a Corps Section 10 and/or Section 404 permit. Where there are Corps regulated activities, such as sediment sampling, Nationwide Permit 6 (NWP-6) may authorize those survey activities that have minimal adverse environmental impact. NWP-6 is normally "non-reporting". That is, if the survey activity meets the terms and conditions of the NWP, then the activity may proceed without Corps notification. However, where endangered species may be present, the permit applicant must provide pre-construction notification (PCN) to the Corps and cannot proceed until we determine and notify the applicant that the activity will have "no effect" on endangered species; or we complete endangered species consultation.

The VOWTAP bottom disturbing/bottom contact activities are the only activities that require Section 10 and/or Section 404 authorization. The bottom impacts are limited to grab samples, vibracores, and cone penetration tests at the proposed turbine locations. These survey activities are of such minimal impact that they clearly meet the terms and conditions for NWP-6. Further, as the bottom disturbing activities are so inconsequential, we have determined that they will have no effect on any endangered sea turtle, whale, sturgeon, or any other listed species that might be present in the vicinity of the bottom disturbance. Therefore, this digitally signed email is our verification that the proposed bottom disturbance activities of the VOWTAP Marine Survey are permitted by NWP-6.

Please let me know if you have any questions regarding this verification.

Sincerely,

John

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The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html. We value your comments and appreciate your taking the time to complete the survey.

From: Kimberly Q Lanterman [mailto:kimberly.q.lanterman@dom.com]
Sent: Tuesday, April 23, 2013 1:13 PM
To: Evans, John D NAO
Subject: Pre-Construction Notification (PCN) for Nationwide Permit 6, Survey Activities - VOWTAP Marine Surveys
Importance: High

Hello John – I am attaching the PCN for NWP 6 for the marine surveys for the Virginia Offshore Wind Technology Advancement Project (VOWTAP). The attachments to the PCN are also attached. We would like to start marine survey activities on May 20, 2013, if possible. We would appreciate your authorization that we are approved to conduct the VOWTAP marine surveys under NWP 6 prior to May 20, 2013.

If you have any questions or need additional information, please let me know. We look forward to working with you on this project.

Kim Lanterman
Manager, Environmental
Dominion Resources, Inc.
Office: 804-273-3051
Mobile: 804-516-0949
Email: Kimberly.Q.Lanterman@dom.com

Lavallee, Janelle

Subject: FW: Section 10 - RE: Data form update. (UNCLASSIFIED)

From: "Evans, John D NAO" <John.D.Evans@usace.army.mil>
Date: February 7, 2014 at 8:32:49 AM EST
To: "Kimberly Q Lanterman (Services - 6)" <kimberly.q.lanterman@dom.com>
Subject: Section 10 - RE: Data form update. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kim:

TGIF!

I have reviewed the history of Lake Christine and agree that the lake is not a Section 10 Rivers and Harbors Act waterway. As such, the only need for a Corps permit in Lake Christine would be for an activity that includes the discharge of dredged or fill material as regulated by Section 404 of the Clean Water Act.

My understanding of the proposed transmission and data cable construction plan is to use horizontal directional drilling from upland to upland, for cable placement under all waters and wetlands at Camp Pendleton. There will be no discharge of dredged or fill material in waters or wetlands for any activity landward of the high tide line on the Camp Pendleton beach.

If my understanding is accurate, then we may not need to review all of the data forms and delineation work. It would seem reasonable for Dominion to state that all VOWTAP construction activity landward of the high tide line at Camp Pendleton is in upland, or by horizontal directional drilling under waters or wetlands, and in no case involves any discharge of dredged or fill material in waters or wetlands, and therefore does not require Section 404 Clean Water Act authorization.

Please let me know how you want to proceed.

Sincerely,

John

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The Norfolk District is committed to providing the highest level of support to the public. Please assist us in better serving you by completing our customer survey at the following link:
http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

-----Original Message-----
From: Evans, John D NAO
Sent: Monday, February 03, 2014 8:49 AM
To: 'Kimberly Q Lanterman (Services - 6)'

Subject: Data form update. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kim:

Good morning.

I have read the various emails from Thursday late afternoon and Friday, and there is certainly lots of VOWTAP activity. As a part of that, when do you anticipate that data forms will be available for each data point?

Also, I appreciate Joe's discussion of Lake Christine. I will try to address the Section 10 issue this week.

Have a Great Week,

John

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Reply to
Attention of

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-101111

October 29, 2014

Western Virginia Regulatory Section
NAO-2013-0418 (VMRC 14-0968) (Atlantic Ocean)

Dominion Virginia Power
Mr. Mark D. Mitchell
Vice President – Generation Construction
5000 Dominion Blvd
Glen Allen, VA 23060

Dear Mr. Mitchell:

Attached is the Department of the Army Permit Number NAO-2013-0418 authorizing Dominion Virginia Power to perform certain work in waters of the United States for the project known as the Virginia Offshore Wind Technology Advancement Project (VOWTAP). Two copies of the permit must be signed by you or an authorized agent, in the space provided for the permittee's signature and returned to this office. Upon receipt, the district engineer or his authorized representative will sign both copies and return an original to you. The permit is not valid until signed by both parties.

You must pay a permit fee of $100.00 for this commercial facility. Make your check out to **"U.S. Treasurer"**, mail it to the address on the letterhead, mark the envelope "ATTN: RMO/Christy Alexander", and email or send to the Regulatory Branch, Attn: John Evans, a copy of the permit payment. Please include your name and permit number (NAO-2013-0418) on the check and correspondence.

This letter contains an initial proffered permit for your proposed project. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Norfolk District Office at the following address:

United States Army Corps of Engineers
CENAO-WR-R
William T. Walker, Regulatory Branch Chief
803 Front Street
Norfolk, VA 23510-1096

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 33 1.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by December 27, 2014. It is not necessary to submit an RFA form to the District office if you do not object to the decision in this letter.

Please take note of project specific, special and general conditions incorporated in this permit. Enclosed is a "compliance certification" form, which must be signed and returned within 30 days of completion of the project, including any required mitigation. Your signature on this form certifies that you have completed the work in accordance with the permit terms and conditions.

Please note that you cannot begin work until you have obtained a Section 401 Water Quality Certificate/Virginia Water Protection Permit or a waiver. All the conditions in the 401 certificate/Water Protection Permit automatically are conditions of your Department of the Army Permit. In addition, you should obtain a permit from the Virginia Marine Resources Commission and/or the local wetlands board.

If you find that any material change in the plan of the work is necessary, you must submit revised plans and we must approve them before you begin any work.

If you have any questions, you may email John Evans at john.d.evans@usace.army.mil or call him at (757) 201-7794.

Sincerely,

Kimberly A. Baggett
Chief, Special Projects Virginia Regulatory Section

Enclosures:
- Department of the Army Permit
- Project Drawings
- Certificate of Compliance
- Administrative Appeals Form

Copies Furnished by email (*permit and drawings*):
Environmental Protection Agency, ATTN: Carol Petrow
Virginia Department of Environmental Quality, Virginia Beach

U.S. Army Corps
Of Engineers
Norfolk District

Fort Norfolk, 803 Front Street
Norfolk, Virginia 23510-1096

DEPARTMENT OF THE ARMY PERMIT

Permittee: Dominion Virginia Power
Permit No.: NAO-2013-0418 (VMRC 14-0968)
Issuing Office: U.S. Army Corps of Engineers Norfolk District Regulatory Branch (CENAO-WR-R)

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below pursuant to:

- ☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- ☐ Section 404 of the Clean Water Act (33 U.S.C. 1344).
- ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

Project Description:

Dominion Virginia Power is authorized to construct the Virginia Offshore Wind Technology Advancement Project (VOWTAP). The project includes two 6-MW wind turbines on the Outer Continental Shelf (OCS), about 24 nautical miles east of Virginia Beach, the foundations in OCS Block 6111, Aliquot H. The actual construction location shall be in accordance with the Bureau of Ocean Energy Management (BOEM) lease and BOEM approval of the Research Activities Plan (RAP).

Dominion Virginia Power is also authorized to place by jet plow approximately 24 nautical miles of 34.5 kilovolt (kV) marine alternating current electric transmission cable between the turbine sites and to existing Dominion infrastructure located in the City of Virginia Beach, Virginia. The construction corridor may be adjusted as needed within the survey corridor as show on the attached preliminary engineering drawings.

This permit is for two research turbines on the OCS, and transmission line, and therefore our permit decision is primarily accordance with 33 CFR 325(f), that limits our OCS evaluation to the impact of the proposed work on navigation and national security.

Regulatory Guidance Letter (RGL) 88-08 provides additional discussion of OCS activities, but does not supersede 33 CFR 325(f).

The primary law for activities on the OCS is the Outer Continental Shelf Lands Act (OCSLA), 42 USC 1331-1356, including the extension of Section 10 authority to the OCS. For permit actions on the OCS, BOEM is the lead federal agency for compliance with the National Environmental Policy Act (NEPA), Endangered Species Act, National Historic Preservation Act, Magnuson-Stevens Fishery Conservation and Management Act, and other laws and regulations.

Project Location:

The lease site is Outer Continental Shelf (OCS) Block 6111, Aliquot H. Wind turbine generator 1 (WTG-1) center point position is 36.886821, -75.491572, and WTG-2 center point is 36.869286, -75.491632. This area is about 24 nautical miles east of Virginia Beach.

There will be an electrical transmission line between the turbine platforms and to Camp Pendleton, Virginia Beach, avoiding the southeast end of the Atlantic Ocean Channel, but is authorized to cross danger zones 334.380 and 334.390, and the Dam Neck Ocean Disposal Site (DNODS)

Project Specific Conditions:

1. Prior to the commencement of any work authorized by this permit, you shall advise the project manager, John Evans, by email to john.d.evans@usace.army.mil or in writing at: Norfolk District, Corps of Engineers, Regulatory Branch, Attn: NAO-2003-0418, 803 Front Street, Norfolk, VA 23510, of the time the authorized activity will commence and the name and telephone number of all contractors or other persons performing the work. A copy of this permit and drawings must be provided to the contractor and made available to any regulatory representative during an inspection of the project site.

2. The time limit for completing the authorized work ends on December 31, 2024. Should you be unable to complete the authorized activity in the time limit provided, you must submit your request for a time extension to this office for consideration at least one month before the permit expiration date.

3. By signing this permit, the permittee acknowledges that they are crossing the DNODS, an EPA approved ocean disposal placement site for dredged materials. As such, the permittee acknowledges that many feet of dredged material are likely to be placed over the transmission line.

4. The export electrical transmission cable must pass through DNODS cells 2 and 3, in an east/west alignment, between 2000 feet and 3000 feet north of the boundary with DNODS cells 3 and 6.

5. By signing this permit, the permittee acknowledges that they understand that future operations at the DNODS may include dredging operations to recover sediments that may be needed for beneficial uses such as beach nourishment and other fill activities.

6. For safety considerations and to reduce potential line damage, the permittee shall plow all cables not less than 6.0 feet below the existing bottom, upon entering and until exiting a 100-foot wide perimeter around the DNODS, and while crossing the DNODS.

7. The permittee shall submit to the Corps within 30 days of cable placement, a high precision, and high accuracy, sub-meter GPS, as-built survey, prepared and certified by a state-certified and licensed professional engineer or surveyor. The survey shall be between and from the wind turbine platforms to landfall, and must show the cable burial depth, accurate to + or – 0.1 foot, not less than every 50.0 horizontal feet.

8. The permittee shall also summit shape file survey data to: NOAA - National Ocean Service, ATTN: Ms. Tara Wallace (Station 7350), 1315 East West Highway, Silver Springs, MD 20910.

9. Enclosed is a “compliance certification” form, which must be signed and returned within 30 days of completion of the project. Your signature on this form certifies that you have completed the work in accordance with the permit terms and conditions.

Special Conditions:

All project specific conditions listed above are special conditions of this permit.

1. The construction or work authorized by this permit will be conducted in a manner so as to minimize any degradation of water quality and/or damage to aquatic life. Also, you will employ measures to prevent or control spills of fuels or lubricants from entering the waterway.

2. Failure to comply with the terms and conditions of this permit can result in enforcement actions against the permittee and/or contractor.

3. In granting an authorization pursuant to this permit, the Norfolk District has relied on the information and data provided by the permittee. If, subsequent to notification by the Corps that a project qualifies for this permit, such information and data prove to be materially false or materially incomplete, the authorization may be suspended or revoked, in whole or in part, and/or the Government may institute appropriate legal proceedings.

4. Your use of the permitted activity must not interfere with the public's right to reasonable navigation on all navigable waters of the United States.

General Conditions:

1. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition **3** below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

2. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately stop work and notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

3. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

4. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

5. The permittee understands and agrees that if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army of his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required upon due notice from the Corps of Engineers to remove, relocate, or alter the structural work or obstructions caused thereby without expense to the United States. No claim shall be made against the United States on account of any such removal or alternation.

Further Information:

1. Limits of this authorization:

   a. This permit does not obviate the need to obtain other Federal, state or local authorizations required by law.

   b. This permit does not grant any property rights or exclusive privileges.

   c. This permit does not authorize any injury to the property or rights of others.

   d. This permit does not authorize interference with any existing or proposed Federal projects.

2. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

3. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

4. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

   a. You fail to comply with the terms and conditions of this permit.

   b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 3 above).

   c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

   Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

5. Extensions: Project Specific Condition #2 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as a permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

_____
(Permittee)

_____
(Date)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

_____
Paul B. Olson, P.E.
Colonel, U.S. Army
Commanding

_____
(Date)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____
(Transferee)

_____
(Date)

Lavallee, Janelle

Subject: FW: PCN: Nationwide Permit 6, Survey Activities, NAO-2013-0418, VOWTAP Additional G&G Surveys (UNCLASSIFIED)

-----Original Message-----
From: Evans, John D NAO [mailto:John.D.Evans@usace.army.mil]
Sent: Monday, May 12, 2014 9:38 AM
To: Corwin D Chamberlain (Services - 6)
Cc: 'Worrell, Justin (MRC)'; John Walters (John.R.Walters@uscg.mil)
Subject: RE: PCN: Nationwide Permit 6, Survey Activities, NAO-2013-0418, VOWTAP Additional G&G Surveys (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NAO-2013-0418 Summer Survey 2014

Corey:

I was just a little confused by the VMRC permit application, with regard to the full extent of the 2014 survey activities. As requested by Kim, this confirms that all proposed 2014 wind energy geological and geophysical (G&G) survey work, in both state and federal waters, meets the terms, conditions, and regional conditions for NWP-6.

Regarding the use of lift boats, please insure compliance with general condition #1 regarding navigation. With respect to the navigation general condition, the permittee needs to insure that lift boats meet general condition #1, paragraph (b), regarding safety lights and signals. See U.S.
Coast Guard Inland and International navigation rules for specific required day shapes and night lights.

Sincerely,

John

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The Norfolk District is committed to providing the highest level of support to the public. Please assist us in better serving you by completing our customer survey at the following link:
http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

-----Original Message-----
From: Kimberly Q Lanterman (Services - 6) [mailto:kimberly.q.lanterman@dom.com]
Sent: Thursday, April 24, 2014 10:44 AM
To: Evans, John D NAO; Corwin D Chamberlain (Services - 6)
Cc: 'Worrell, Justin (MRC)'
Subject: [EXTERNAL] RE: Preconstruction Notification (PCN): Nationwide Permit 6, Survey Activities, NAO-2013-0418, Virginia Offshore Wind Technology Advancement Project (VOWTAP), Additional G&G Surveys (UNCLASSIFIED)

Hello John - I thought I had sent you the survey plan prepared by Fugro directly. It must not have gone through to you. Sorry about that. I am attaching it again to see if it will go through this time. Please let us know if you receive it.

We will be doing additional surveys to support VOWTAP in both state and federal waters. The JPA submitted to VMRC only included the work in state waters since that is all that they take jurisdiction over. We will also be doing Cone

Penetration Tests (CPTs) along the proposed cable route and up to 4 deep geotechnical borings in the vicinity of the two VOWTAP turbines. This will is being done to supplement the work conducted last year to support engineering and design. All of the work will be done within the research lease area and cable route survey corridor where it was conducted last year.
The work is also similar to what was conducted last year (marine site characterization studies/surveys). Therefore, can you please confirm that you still have no issues with the continuation of the survey activities and that we may proceed with the authorized activity as long the activity continues to meet the terms and conditions of NWP-6?

We will need to check on the response to your question below regarding the lift boats and the applicable rule that the vessel will comply with and get back to you. Thanks.

Kim

-----Original Message-----
From: Evans, John D NAO [mailto:John.D.Evans@usace.army.mil]
Sent: Thursday, April 24, 2014 10:16 AM
To: Kimberly Q Lanterman (Services - 6); Corwin D Chamberlain (Services - 6)
Cc: 'Worrell, Justin (MRC)'
Subject: RE: Preconstruction Notification (PCN): Nationwide Permit 6, Survey Activities, NAO-2013-0418, Virginia Offshore Wind Technology Advancement Project (VOWTAP), Additional G&G Surveys (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NAO-2013-0418 Summer Survey 2014

Kim and Corey:

VMRC has provided Rev-4 of VMRC 13-0614 and that is the "April 2014 Marine Geotechnical Site Investigation Plan". I'm not sure if that is the survey plan that you were going to send for the summer activities. In any case, I understand that the 2014 survey area is only for that area within Commonwealth waters, as shown by the attached state water survey.

As was determined for the initial survey activities last year (please see attached PDF), this is only the continuation of an activity that has been verified as meeting the terms and conditions of NWP-6. As long as the activity continues to meet the terms, conditions, and regional conditions of NWP-6, attached, you may proceed with that authorized activity.

I do have one question. When the lift boats are in a lift position and working within Commonwealth waters, what Rule and day shape/night nights does the vessel comply with and display?

Rule 27a?
Rule 30d?
Other?

http://www.navcen.uscg.gov/?pageName=navRulesContent

Thanks,

John

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The Norfolk District is committed to providing the highest level of support to the public. Please assist us in better serving you by completing our customer survey at the following link:
http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Classification: UNCLASSIFIED
Caveats: NAO-2013-0418 Summer Survey 2014

Virginia Marine Resources Commission

COMMONWEALTH of VIRGINIA
Marine Resources Commission
2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

Douglas W. Domenech
Secretary of Natural Resources

Jack G. Travelstead
Commissioner

April 24, 2013

Dominion Resources, Inc.
Attention: Kimberly Lanterman
5000 Dominion Boulevard
Glen Allen, VA 23060

RE: VMRC Permit #13-0614

Dear Ms. Lanterman:

This will acknowledge receipt of your application describing various benthic survey techniques proposed to aid in the future plans of the Virginia Offshore Wind Technology Advancement Project in the Atlantic Ocean. As discussed previously, only such surveying techniques that directly or physically impact the submerged bottomlands of the Atlantic Ocean within the State's three-mile territorial limit will require a permit from the Virginia Marine Resources Commission. This will include benthic grab sampling and vibracore sampling. Surveying techniques not physically impacting the bottomlands or occurring outside of the three-mile territorial limit will not require a permit from our agency.

For your information, you may also need permits from the following agencies:

1. U.S. Army Corps of Engineers, 803 Front Street, Norfolk, VA 23510
2. Department of Environmental Quality, 5636 Southern Boulevard, Virginia Beach, VA 23462
3. City of Virginia Beach, Office of the City Engineer, Municipal Center, Virginia Beach, VA 23456

Your application has been forwarded to each agency as necessary for processing. Our public interest review will now commence with a project notice being sent to Camp Pendleton and the Virginia-Pilot. If you should have further questions, feel free to call me at 757-247-8063.

Sincerely,

Justin D. Worrell
Environmental Engineer, Sr.

JDW/and
HM
cc: U. S. Army Corps of Engineers#6
Virginia Beach Waterfront Operations
DEQ#6

An Agency of the Natural Resources Secretariat
www.mrc.virginia.gov
Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

COMMONWEALTH of VIRGINIA

Marine Resources Commission
2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

Molly Joseph Ward
Secretary of Natural Resources

John M.R. Bull
Commissioner

April 15, 2014

Dominion Resources, Inc.
Attn: Kim Lanterman
5000 Dominion Boulevard
Glen Allen, VA 23060

Re: VMRC #13-0614

Dear Ms. Lanterman,

We have received Dominion's proposal (dated-received April 10 and 11, 2014) for additional geotechnical surveys and borings within the Atlantic Ocean in support of the Virginia Offshore Wind Technology Advancement Project, adjacent to Camp Pendleton in Virginia Beach. Provided that all of the proposed activities will continue to occur within the identified corridor of State-territorial waters in the existing VMRC #13-0614 permit, no further Commission authorization will be required.

Please attach a copy of this letter to the existing permit and notify the Commission a minimum of 15 days prior to the start of the activities. You should also continue to coordinate all activities with the Virginia National Guard at Camp Pendleton.

Should you have any questions regarding this matter, please feel free to call me at (757) 247-8063.

Sincerely,

Justin D. Worrell
Environmental Engineer, Sr.

JDW/and
HM
cc: U.S. Army Corps of Engineers
Department of Environmental Quality
Virginia Beach Wetlands Board
LTC Elena M. Scarbrough, Commander – Camp Pendleton
Tony Watkinson, Chief – Habitat Management

COMMONWEALTH of VIRGINIA

Marine Resources Commission

2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

Molly Joseph Ward
Secretary of Natural Resources

John M.R. Bull
Commissioner

March 25, 2015

Virginia Electric and Power Company
dba Dominion Virginia Power
Attn: Kim Lanterman
5000 Dominion Boulevard
Glen Allen, VA 23060

RE: VMRC #14-0968

Dear Ms. Lanterman:

This is to inform you that the Marine Resources Commission, at their meeting on March 24, 2015, considered Dominion's request to install a 34.5 kV submarine export cable under State-owned submerged bottomlands within the Atlantic Ocean from the Camp Pendleton State Military Reservation shoreline in Virginia Beach to the three nautical mile boundary of the Commonwealth's territorial sea. The export cable will be a portion of the line that will transmit electrical power from two (2) 6-MW wind turbine generators to be constructed in federal waters approximately 24 nautical miles offshore to support the Virginia Offshore Wind Technology Advancement Project (VOWTAP).

The Commission reviewed slides of the project, and all documents in the official record. After hearing the staff presentation the Commission unanimously voted to approve the project with a special condition regarding the possible future placement of protective structures over the installed export cable. Protective structures may be installed provided that the permittee submits a formal request detailing the need and the existing conditions. Such a request must include a new bathymetric survey indicating the amount of existing cover over the installed cable, and all specific physical details, dimensions, and elevations of the structures to be installed along the ocean floor. Commission staff would then review these materials and if found acceptable with minimal impacts to bottom and sediment transport, would allow the installation in accordance with the permit without the need for an additional public notice.

The draft permit is being prepared and will be sent to you for execution in the near future. Should you have any questions regarding this matter, please feel free to contact Justin Worrell of my staff at (757) 247-8063.

Sincerely,

Tony Watkinson
Chief, Habitat Management

TW/jdw:and
HM
cc: Commissioner John Bull
Matthew Hull, Assistant Attorney General

COMMONWEALTH of VIRGINIA

Marine Resources Commission

2600 Washington Avenue
Third Floor
Newport News, Virginia 23607

Molly Joseph Ward
Secretary of Natural Resources

John M.R. Bull
Commissioner

March 25, 2015

Virginia Electric and Power Company
dba Dominion Virginia Power
Attn: Kim Lanterman
5000 Dominion Boulevard
Glen Allen, VA 23060

RE: VMRC #14-0968

Dear Ms. Lanterman:

This is to inform you that the Marine Resources Commission, at their meeting on March 24, 2015, considered Dominion's request to install a 34.5 kV submarine export cable under State-owned submerged bottomlands within the Atlantic Ocean from the Camp Pendleton State Military Reservation shoreline in Virginia Beach to the three nautical mile boundary of the Commonwealth's territorial sea. The export cable will be a portion of the line that will transmit electrical power from two (2) 6-MW wind turbine generators to be constructed in federal waters approximately 24 nautical miles offshore to support the Virginia Offshore Wind Technology Advancement Project (VOWTAP).

The Commission reviewed slides of the project, and all documents in the official record. After hearing the staff presentation the Commission unanimously voted to approve the project with a special condition regarding the possible future placement of protective structures over the installed export cable. Protective structures may be installed provided that the permittee submits a formal request detailing the need and the existing conditions. Such a request must include a new bathymetric survey indicating the amount of existing cover over the installed cable, and all specific physical details, dimensions, and elevations of the structures to be installed along the ocean floor. Commission staff would then review these materials and if found acceptable with minimal impacts to bottom and sediment transport, would allow the installation in accordance with the permit without the need for an additional public notice.

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Sincerely,

Tony Watkinson
Chief, Habitat Management

TW/jdw:and
HM
cc: Commissioner John Bull
Matthew Hull, Assistant Attorney General

Virginia Department of Historical Resources

COMMONWEALTH of VIRGINIA

Douglas W. Domenech
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

October 10, 2013

Ms. Kimberly Q. Lanterman
Dominion Resources, Inc.
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060

Re: Virginia Offshore Wind Technology Advancement Project (VOWTAP)
DHR File No. 2013-0452

Dear Ms. Lanterman:

We have received the document entitled *Cultural Resource Survey Plans: Terrestrial Archaeology, Historic Architecture, Visual Impacts* prepared by Tetra Tech, Inc. for Dominion Resources, Inc. in support of the project referenced above. We previously approved the plan for terrestrial archaeology and recently issued a permit to complete the recommended studies on Camp Pendleton.

Regarding the proposed historic architectural survey and assessment of visual impacts, we generally concur with the plan; however, we suggest that regardless of public accessibility, visual impacts to the Chesapeake Light Tower, if it is determined eligible for listing in the National Register of Historic Places, should be assessed. We concur that the National Register evaluation of the light tower could be limited to archival research and contextual study. Finally, we recommend that any visual simulations to assess potential impacts to historic properties include a consideration of night time visibility to do lighting requirements.

Thank you for the opportunity to review this plan. If you have any questions concerning these comments or if we may be of further assistance at this time, please contact me at roger.kirchen@dhr.virginia.gov.

Sincerely,

Roger W. Kirchen, Manager
Office of Review and Compliance

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6416
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Ave.
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way
2nd Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
P.O. Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

From: "Kirchen, Roger (DHR)" <Roger.Kirchen@dhr.virginia.gov>
Date: April 26, 2013, 10:02:27 AM EDT
To: "Kimberly Q Lanterman (Services - 6)" <kimberly.q.lanterman@dom.com>
Cc: "kathleen.miller@tetratech.com" <kathleen.miller@tetratech.com>
Subject: RE: Marine Site Characterization Survey Plans for the Virginia Offshore Wind Technology Advancement Project (VOWTAP) - For Review and Comment

Thank you for the opportunity to review the marine site characterization survey plans for the VOWTAP. The Virginia Department of Historic Resources, serving as the State Historic Preservation Office, has reviewed and accepts the provided survey plans. It is our opinion that the proposed surveys will be sufficient to identify submerged resources and potentially significant paleolandforms and determine the need for additional evaluative studies. We look forward to working with Dominion, DOE, BOEM, and your partners on this important project.

Roger

_____

Roger W. Kirchen, Manager

Office of Review and Compliance

Division of Resource Services and Review

Department of Historic Resources

2801 Kensington Avenue

Richmond, VA 23221

phone: 804-482-6091 (NEW!)

fax: 804-367-2391

roger.kirchen@dhr.virginia.gov

From: Kimberly Q Lanterman [mailto:kimberly.q.lanterman@dom.com]
Sent: Friday, April 12, 2013 12:17 PM
To: 'Casey Reeves'; 'Erin Trager'; 'Algene Byrum'; 'brian.hooker@boem.gov'; 'Evans, John D NAO'; Watkinson, Tony (MRC); Worrell, Justin (MRC); 'Jim Casey (james.casey@navy.mil)'; 'John.R.Walters@uscg.mil'; 'David O'Brien - NOAA Federal'; 'denise.gruccio@noaa.gov'; Kirchen, Roger

(DHR); 'Troy Andersen'; Aschenbach, Ernie (DGIF)
Cc: 'Mauer, Erik'; 'Matzat, Greg'; 'Smentek-Duerr, Alana'; 'Ring, Bradley (GO)'; Guy Chapman; Molly P Plautz; 'Miller, Kathleen'; 'Daniels, Jennifer'
Subject: Marine Site Characterization Survey Plans for the Virginia Offshore Wind Technology Advancement Project (VOWTAP) - For Review and Comment
Importance: High

Hello Everyone - As many of you know from our interagency kickoff meeting on March 25th, Dominion is commencing the regulatory permitting process for the Virginia Offshore Wind Technology Advancement Project (VOWTAP). One of the first steps in this process is to perform marine site characterization surveys in accordance with the Bureau of Ocean Energy Management's (BOEM's) Guidelines. If you are interested in learning more about these Guidelines, they can be found at the following link: http://www.boem.gov/Renewable-Energy-Program/Regulatory-Information/Index.aspx#Notices_to_Lessees,_Operators_and_Applicants

Dominion has contracted the services of Tetra Tech to conduct the marine site characterization surveys and to perform the associated regulatory permitting for the VOWTAP. Tetra Tech has prepared the attached Geophysical and Shallow Geotechnical Survey Plan, Benthic Survey Plan, and Marine Archaeological Survey Plan (Survey Plans) in accordance with BOEM's Guidelines. We would appreciate your review and comments on these Survey Plans prior to commencement of the surveys. We realize that all of the plans may not be applicable to all of the agencies represented on this email communication. Therefore, please feel free to only review and comment on the specific Survey Plan(s) that you believe are applicable to your agency's jurisdiction.

Dominion and Tetra Tech understand that the offshore wind regulatory review process established by BOEM is new and that participating agencies may not be familiar with some of these survey activities . We would like to provide you plenty of opportunity to ask questions and to understand this process as we move forward. We will schedule a conference call on Monday, April 22nd to review the Survey Plans and to invite participating agencies to ask questions and provide comments. You will be receiving a separate meeting invite for the call. If you would like to submit written comments, we ask that you provide them via email no later than Friday, April 26, 2013. If you do not intend to submit written comments, an email confirmation of your receipt and review of the Survey Plans, as applicable, would be very much appreciated by Friday, April 26th to Kimberly.Q.Lanterman@dom.com and Kathleen.Miller@Tetratech.com.

Our goal is to schedule a required Pre-Survey Meeting with BOEM in early May, so we would very much appreciate your timely review and comments on the attached Survey Plans.

Please let us know if you have any questions regarding the attached Survey Plans or the VOWTAP in general. Thank you in advance for your review, and we look forward to working with you on this project.

Kim Lanterman

Manager, Environmental

Dominion Resources, Inc.

Office: 804-273-3051

Mobile: 804-516-0949

Email: Kimberly.Q.Lanterman@dom.com

COMMONWEALTH of VIRGINIA

Molly Joseph Ward
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

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www.dhr.virginia.gov

September 11, 2014

Ms. Brandi M. Carrier, M.A., RPA
Bureau of Ocean Energy Management
Office of Renewable Energy
381 Elden Street, HM1328
Herndon, VA 20170

Re: Virginia Offshore Wind Technology Advancement Project (VOWTAP)
DHR File No. 2013-0452

Dear Ms. Carrier:

Thank you for convening the consulting parties meeting on August 27th, 2014 to discuss the Virginia Offshore Wind Technology Advancement Project (VOWTAP). We have received and reviewed as part of the Research Activities Plan (RAP) the following reports, *Terrestrial Archaeology Survey Report*, *Marine Archaeological Resources Assessment*, *Historic Properties Survey Report*, and *Visual Impact Assessment Report*, prepared by Tetra Tech, Inc. and R. Christopher Goodwin & Associates, Inc. The project involves the construction of two 12 megawatt (MW) wind turbines located approximately 24 nautical miles off shore of Virginia Beach. The turbines will be 574 feet tall measured from mean sea level to rotor tip, and will have nighttime lighting. A submarine cable will convey the energy from the VOWTAP to shore, where it will connect to a new Switch Cabinet and underground onshore transmission line. Our comments are provided to BOEM as assistance in meeting your responsibilities under Section 106 of the National Historic Preservation Act.

The *Terrestrial Archaeology Survey Report* was completed under a Permit to Conduct Archaeological Investigations on State-Controlled Land issued to Robert Bisha of Dominion Resources, Inc. on October 9, 2013. The study considered two landfall alternatives and three transmission line route alternatives. Three isolated lithic artifacts were identified within Alternative 3. The isolated artifacts are, by definition, not eligible for listing in the National Register of Historic Places (NRHP) and no further consideration of these resources is warranted. Furthermore, Alternative 3 has been removed from consideration. We concur that no further study is warranted for the terrestrial portion of the project unless changes are made to the impact area.

The *Marine Archaeological Resources Assessment* consisted of geophysical remote sensing survey and geotechnical investigations within the research lease area and submerged transmission cable corridor. The study identified three cultural anomalies – Targets CR001, CR002, and LA001 – which, based on their geophysical signatures, may be historic period shipwrecks. We request that these resources be formally recorded with DHR as archaeological sites to aid in their future management. It is our opinion that these

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resources are *potentially eligible* for listing in the NRHP and should be avoided or subjected to further evaluation. We understand that BOEM intends to condition its approval of the RAP to require avoidance of these three resources. The marine assessment also included the consideration of paleochannels that may represent high potential areas for submerged pre-contact archaeological resources. Eight paleochannels were identified within the cable corridor. Due to extensive erosion and other destructive natural processes, it is recommended that seven of the eight paleochannels do not retain integrity and are unlikely to contain intact archaeological deposits. The study finds that Paleochannel P-1 may contain intact levee sediments, but, due to their age, are unlikely to contain evidence of human occupation. DHR concurs with the recommendations regarding the paleo-environmental assessment.

Regarding the *Historic Properties Survey Report*, the survey identified five previously surveyed resources and one newly recorded resource within the three Areas of Potential Effects (APE) – Offshore, Shoreline, and Onshore. All of the five previously surveyed resources are listed in the NRHP – Camp Pendleton (DHR ID #134-0413), Cape Henry Lighthouse Historic District (DHR ID #134-0007), Cape Henry Light Station (DHR ID #134-0079), DeWitt Cottage (DHR ID #134-0066), and the US Coast Guard Station (DHR ID #134-00047). We concur that the one newly recorded resource, the Chesapeake Light Station (no DHR File No.) is *potentially eligible* for listing in the NRHP under Criterion C and recommend that BOEM treat this resource as eligible for the purposes of Section 106. We request that the Chesapeake Light Station be formally recorded with DHR as an architectural resource to aid in its future management and that the existing survey forms be updated for the remaining NRHP-listed resources.

Based upon a review of the *Visual Impact Assessment Report*, we concur that Camp Pendleton (DHR ID #134-0413), Cape Henry Lighthouse Historic District (DHR ID #134-0007), Cape Henry Light Station (DHR ID #134-0079), DeWitt Cottage (DHR ID #134-0066), and the US Coast Guard Station (DHR ID #134-00047) will not be adversely visually affected by the proposed project; however, consistent with the consultant's statement in the *Historic Properties Survey Report*, we recommend a visual effects assessment for the Chesapeake Light Station.

We appreciate BOEM's consideration of historic properties during the planning and implementation of this important project. Please provide the requested additional information when available. If you have any questions regarding these comments or our review of this project, please do not hesitate to contact me at roger.kirchen@dhr.virginia.gov.

Sincerely,

Roger W. Kirchen, Director
Review and Compliance Division

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Virginia Department of Conservation and Recreation

DCR
Virginia Department of Conservation & Recreation

INFORMATION SERVICES ORDER FORM
Updated 11/10

Mail or Email to: Project Review Coordinator
DCR Division of Natural Heritage
217 Governor Street
Richmond, VA 23219
Voice: (804) 371-2708 Fax: (804) 371-2674
nhreview@dcr.virginia.gov

ENVIRONMENTAL REVIEW SERVICES:

- [X] **Project Review** (30 calendar day turnaround)..**$90 per site**; add **$35 for 1-5** natural heritage occurrences (rare plants, rare animals, significant communities and karst) and **$60 for 6** or more occurrences.
  Multi-quad project area **$90 per quad**.
- [X] **Project Review with Accompanying Map...$250 per site;** for projects including alternative energy projects with potential impact to Natural Heritage Resources, written comments with 8.5 X 11 map displaying Natural Heritage Screening Coverage.
- [X] **Priority Service** (5 business day turnaround)..**$500 surcharge**

Details: Describe project in the space below, please include detailed project description, project location information including **latitude, longitude,** acreage, and existing site conditions (photographs if available). Attach additional information as necessary. In order to ensure an accurate assessement, please submit **an electronic copy of a site map** (preferably from a USGS topo map with identified project boundaries) and all other information to **nhreview@dcr.virginia.gov** or fax a map to: **Environmental Review Coordinator @(804) 371-2674**. Please include the project title on all correspondence. **Incomplete submittal of information will delay the review process.**

Project Title: Virginia Offshore Wind Technology Advancement Project (VOWTAP) onshore electrical transmission line.

Project Description:

Dominion Resources, Inc. (Dominion) is proposing the Virginia Offshore Wind Technology Advancement Project (VOWTAP or Project), a 12 megawatt (MW), two turbine offshore wind demonstration project located approximately 23 nautical miles (26 statute miles, 42 kilometers) offshore of Virginia Beach, Virginia. The electricity generated from the two 6 MW turbines will be transmitted to shore through a 34.5 kV electric transmission cable.

Two cable landfall alternative sites are being evaluated, one at Camp Pendleton in the Rifle Range Road parking lot, and one at the Croatan Beach parking lot. The cable will be installed below the beach at either alternative, using Horizontal Directional Drilling (HDD). HDD will allow Dominion to avoid impacts to sensitive coastal habitats. From the landfall location, the onshore transmission cable will follow one of three potential alternatives to an existing substation on South Birdneck Road.

Please see the attached Project Description, map, and GIS shapefiles for the proposed onshore components of the VOWTAP.

(DCR199-005) (11/2010)

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor
Richmond, Virginia 23219
(804) 786-6124

October 17, 2013

Aaron Svedlow
Tetra Tech, Inc.
451 Presumpscot Street
Portland, ME 04103

Re: Virginia Offshore Wind Technology Advancement Project (VOWTAP) Onshore Electrical Transmission Line

Dear Mr. Svedlow:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Alternatives 1, 2, 3A and 3B

According to the information currently in our files, the Camp Pendleton – Dam Neck Dune and Swale Conservation Site is located adjacent to the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Camp Pendleton – Dam Neck Dune and Swale Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Quercus incana	Bluejack oak	G5/S2/NL/NL
Ludwigia brevipes	Long beach seedbox	G2G3/S2/SOC/NL
Rhynchospora fascicularis	Fasciculate beakrush	G5/S1/NL/NL
Juncus elliottii	Bog rush	G4G5/S1S2/NL/NL
Erigeron vernus	White-top fleabane	G5/S2/NL/NL
Lipocarpha maculata	American halfchaff sedge	G5/S1/NL/NL
Cicindela trifasciata	A Tiger beetle	G5/S1/NL/NL

In addition, Dune marsh-elder (*Iva imbricata*, G5?/S1S2/NL/NL), Carolina yellow-eyed grass (*Xyris caroliniana*, G4G5/S1/NL/NL) and Glossy-seed yellow stargrass (*Hypoxis sessilis,* G4/SH/NL/NL) have been historically documented within the project area.

Due to the potential for this site to support populations of Bluejack oak, Long beach seedbox, Fasciculate beakrush, Bog rush, White-top fleabane, American halfchaff sedge, Dune marsh-elder, Carolina yellow-eyed grass and a Tiger beetle, DCR recommends an inventory for the resources in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified and available to conduct inventories for rare, threatened, and endangered species. Please contact J. Christopher Ludwig, Natural Heritage Inventory Manager, at chris.ludwig@dcr.virginia.gov or 804-371-6206 to discuss arrangements for field work.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

A fee of $750.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, **DCR - Division of Natural Heritage, 600 East Main Street, 24th Floor, Richmond, VA 23219.** Payment is due within thirty days of the invoice date. Please note the change of address for remittance of payment as of July 1, 2013. Late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Should you have any questions or concerns, feel free to contact me at (804) 692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Alli Baird

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

Cc: Troy Andersen, USFWS

Virginia Department of Environmental Quality

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

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August 7, 2014

Mr. Corwin Chamberlain
Environmental Services-Business Support
5000 Dominion Boulevard
Glen Allen, Virginia 23060

RE: Federal Consistency Certification for the Virginia Offshore Wind Technology Advancement Project, Department of the Interior, Bureau of Ocean Energy Management, DEQ 14-090F.

Dear Mr. Chamberlain:

The Commonwealth of Virginia has completed its review of the Federal Consistency Certification (FCC) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal consistency documents and responding to appropriate officials on behalf of the Commonwealth. This letter is in response to the FCC contained in the Virginia Offshore Wind Technology Advancement Project (VOWTAP) Research Activities Plan (RAP) dated February 2014 (received on June 2, 2014) and prepared by Tetra Tech for Dominion Resources, Inc. and the Department of Mines, Minerals, and Energy. The following agencies and planning district commission participated in this review:

Department of Environmental Quality
Department of Game and Inland Fisheries
Department of Conservation and Recreation
Virginia Marine Resources Commission
Department of Health
Department of Historic Resources
Hampton Roads Planning District Commission

In addition, the Department of Agriculture and Consumer Services, Virginia Institute of Marine Science, and the City of Virginia Beach were invited to comment on the proposal.

PROJECT DESCRIPTION

Virginia Electric and Power Company, a wholly-owned subsidiary of Dominion Resources, Inc. (Dominion or applicant), proposes to construct, own, and operate the Virginia Offshore Wind Technology Advancement Project, a 12 megawatt (MW) offshore wind technology testing facility located in a Section 238 Research Lease Area obtained and held by the Department of Mines, Minerals and Energy (DMME) approximately 27 statute miles (mi) east of the City of Virginia Beach, Virginia. Dominion will be the owner and operator of the project working under the terms of an operator agreement with DMME and the terms of the Section 238 Research Lease. VOWTAP will consist of two, 6 MW wind turbine generators (WTGs), a 34.5-kilovolt (kV) alternating current (AC) submarine cable interconnecting the WTGs (Inter-Array Cable), a 34.5 kV AC submarine transmission cable (Export Cable), and a 34.5 kV underground cable (Onshore Interconnection Cable) that will connect the project with existing Dominion infrastructure located in the City of Virginia Beach. Interconnection with the existing Dominion infrastructure will also require an onshore Switch Cabinet, an underground Fiber Optic Cable, and a new Interconnection Station to be located entirely within the boundaries of the Camp Pendleton State Military Reservation (Camp Pendleton), in the City of Virginia Beach. The offshore components of the VOWTAP, including the WTGs and Inter-Array Cable, will be located in federal waters, while the Export Cable will traverse both federal and state territorial waters.

PUBLIC PARTICIPATION

In accordance with 15 CFR §930.2, the public was invited to participate in the review of the FCC. Public notice of this proposed action was published on the DEQ website from June 11, 2014 through July 1, 2014. No public comments were received in response to the notice.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (CZMA), as amended, and the federal consistency regulations implementing the CZMA (15 CFR, Part 930, Subpart D, Section 930.50 *et seq.*), projects receiving federal permits, licenses or approvals, which can affect Virginia's coastal uses or resources, must be constructed and operated in a manner which is consistent with the Virginia Coastal Zone Management Program (VCP). The VCP is comprised of a network of programs administered by several agencies. In order to be consistent with the VCP, all the applicable permits and approvals listed under the enforceable policies of the VCP must be obtained prior to commencing the project.

FEDERAL CONSISTENCY CONCURRENCE

Based on our review of the consistency certification and the comments submitted by agencies administering the enforceable policies of the VCP, DEQ concurs that the proposal is consistent with the VCP provided all applicable permits and approvals are

obtained as described below. However, other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, the applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state and local laws and regulations.

FEDERAL CONSISTENCY ANALYSIS

According to information in the FCC, the proposed activity would have no effect on the following enforceable policies: dunes management; point source pollution control; shoreline sanitation; and coastal lands management. The resource agencies that are responsible for the administration of the enforceable policies of the VCP generally agree with findings of the FCC. The applicant must ensure that the proposed action is consistent with the aforementioned policies. In addition, the document considers potential project impacts on the advisory policies of the VCP and finds the proposal consistent with those policies. The analysis which follows responds to the discussion of the enforceable policies of the VCP that apply to this project.

1. Fisheries Management. According to the VOWTAP RAP (page 4-45), many fishes are highly mobile and would be able to avoid direct mortality or injury associated with project construction, operation, or decommissioning. There will, however, be certain habitat disturbances that will result in the displacement of demersal and pelagic fish from a portion of the available habitat within the Project Area. If a fish approaches the areas affected by construction activities (e.g., jet plowing, pile driving, vessel anchoring and jacking), it would likely move away from the activity. Any fish that are displaced during construction are expected to return quickly following construction. Operation of the VOWTAP and the associated Inter-Array and Export Cables will not have a significant effect on demersal or pelagic finfish species. It is possible, however, that as the WTGs become an established part of the marine environment and are covered by algae and sessile invertebrates, these areas could attract finfish and other mobile species to the Project Area.

1(a) Agency Jurisdiction. The Department of Game and Inland Fisheries (Virginia Code 29.1-100 to 29.1-570) and Virginia Marine Resources Commission (Virginia Code 28.2-200 to 28.2-713) have management authority for the conservation and enhancement of finfish and shellfish resources in the Commonwealth. In addition, the Virginia Department of Health (VDH) Division of Shellfish Sanitation (DSS) is responsible for protecting the health of the consumers of molluscan shellfish and crustacea by ensuring that shellfish growing waters are properly classified for harvesting, and that molluscan shellfish and crustacea processing facilities meet sanitation standards.

1(b) Agency Findings.

(i) Department of Game and Inland Fisheries

The Department of Game and Inland Fisheries (DGIF) did not indicate any concerns with respect to potential project impacts on fish resources and species under its jurisdiction.

(ii) Virginia Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) notes that the portions of the project constructed farther than 3 miles from shore and portions installed landward of mean low water along the shoreline are outside of VMRC's jurisdiction. However, VMRC previously issued a permit (VMRC #13-0614) that authorizes Dominion to perform marine surveys of the proposed transmission route within the state's 3-mile jurisdictional area. Once a Joint Permit Application is submitted by the applicant for the transmission line construction, VMRC will subject it to a full public and agency interest review to determine if a permit should be issued (note: JPA 14-0968 has been submitted by the applicant for construction).

(iii) Department of Health

VDH-DSS has no comments on the proposal.

1(c) Conclusion. The proposed project is consistent with the fisheries management enforceable policy of the VCP.

For further information, contact DGIF, Ernie Aschenbach at (804) 367-2733; VMRC, Justin Worrell at (757) 247-8063; or VDH-DSS, Keith Skiles at (804) 864-7487.

2. Subaqueous Lands Management. According to the VOWTAP RAP (page 3-20), the installation of the Export and Inter-Array cables will be accomplished using a jet plow to minimize seafloor disturbance. The jet plow will be towed from a dynamic positioning (DP) cable-installation vessel. To achieve the required minimum burial depth of 3.3 feet along the Inter-Array Cable and 6.6 feet along the Export Cable, high pressure water from vessel-mounted pumps will be injected into the sediments through nozzles distributed along the front of the plow. The document (page 1-6) states that VMRC will issue a Submerged Lands Lease for the portions of the VOWTAP located in state waters under the Virginia Code and regulations.

2(a) Agency Jurisdiction. The Virginia Marine Resources Commission, pursuant to Section 28.2-1200 *et seq.* of the *Code of Virginia*, has jurisdiction over any encroachments in, on, or over any state-owned rivers, streams, or creeks in the Commonwealth. VMRC administers the subaqueous lands management enforceable policy of the VCP.

The VMRC serves as the clearinghouse for the Joint Permit Application used by:

- VMRC for encroachments on or over state-owned subaqueous beds as well as tidal wetlands;
- U.S. Army Corps of Engineers for issuing permits pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act;
- DEQ for issuance of a Virginia Water Protection Permit; and
- local wetlands board for impacts to wetlands.

2(b) Findings. As noted above (section 1. Fisheries Management), VMRC finds that the portions of the project constructed farther than 3 miles from shore and portions installed landward of mean low water along the shoreline are outside of the agency's jurisdiction. A previously-issued VMRC permit (VMRC #13-0614) authorizes Dominion Resources to perform marine surveys of the proposed transmission route within the state's 3-mile jurisdictional area. VMRC anticipates that the applicant will submit a JPA for the construction of the transmission line which will be subject to a public and agency interest review for impacts to state subaqueous lands (note: JPA 14-0968 has been submitted by the applicant for construction).

2(c) Conclusion. The project will be consistent with the subaqueous lands management enforceable policy of the VCP, provided the applicant obtains and complies with the conditions of a VMRC permit issued for impacts to state subaqueous lands.

3. Wetlands Management. According to the VOWTAP RAP (page 4-133), field investigations identified and delineated four jurisdictional wetlands and waters in the project area, including two palustrine forested wetlands (PFO) and two lacustrine open water areas (L1); both occur along the Onshore Interconnection Cable and Fiber Optic Cable route. Because Dominion has sited the project to avoid jurisdictional wetlands and waterbodies, the document finds that the only potential impacts to wetlands would be indirect disturbance from sedimentation or stormwater runoff. No impacts to wetlands are anticipated as a result of the operation of the project.

3(a) Agency Jurisdiction. The wetlands management enforceable policy is administered by the Virginia Marine Resources Commission for tidal wetlands (Virginia Code 28.2-1301 through 28.2-1320) and the Department of Environmental Quality through the Virginia Water Protection Permit program for tidal and non-tidal wetlands (Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act).

3(b) Agency Findings.

(i) Department of Environmental Quality

The Virginia Water Protection Permit (VWPP) program at the DEQ Tidewater Regional Office (TRO) notes that a Joint Permit Application (JPA 14-0968) for the project was

received on July 17, 2014. The VWPP staff is currently processing the application for a VWP Individual Permit or a Waiver. VWPP staff did not express any concerns with the project.

(ii) Virginia Marine Resources Commission

VMRC does not indicate that the project will impact tidal wetlands under its jurisdiction. However, VMRC will review the JPA for the transmission line for any necessary authorizations under the agency's jurisdiction.

3(c) Recommendations. The project must comply with section 404 (b)(1) guidelines of the Clean Water Act and with the Commonwealth's wetlands mitigation policies. Both federal and state guidelines recommend avoidance and minimization of wetlands impacts as the first steps in the mitigation process.

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable;
- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The applicant should take all appropriate measures to promote re-vegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.
- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent entry in state waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- Flag or mark all non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur.
- Employ measures to prevent spills of fuels or lubricants into state waters.

3(d) Conclusion. The project will be consistent with the wetlands management enforceable policy of the VCP, provided the applicant obtains and complies with any applicable permits and authorizations under VWPP jurisdiction.

4. Nonpoint Source Pollution Control. According to the FCC (VOWTAP RAP page 1-11), Dominion will implement an Erosion Sediment Control (ESC) Plan and associated Best Management Practices (BMPs) in accordance with 9 VAC 25-840. The Plan will be provided to relevant agencies for review and approval prior to construction

4(a) Agency Jurisdiction. Effective July 1, 2013, the Department of Environmental Quality administers the nonpoint source pollution control enforceable policy of the VCP through *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*). In addition, DEQ is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program. Note that these programs were previously administered by the Department of Conservation and Recreation.

4(b) Requirements.

(i) Erosion and Sediment Control Plan

The applicant is responsible for submitting a project-specific erosion and sediment control (ESC) plan to the City of Virginia Beach for review and approval pursuant to the local ESC requirements, should the project involve a land-disturbing activity equal to or greater than 10,000 square feet (2,500 square feet in a Chesapeake Bay Preservation Area). Depending on local requirements the area of land disturbance requiring an ESC plan may be less. The ESC plan must be approved prior to any land-disturbing activity at the project site. All regulated land-disturbing activities associated with the project, including on and off site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the project must be covered by the project specific ESC plan. Local ESC program requirements must be requested through the City of Virginia Beach. [Reference: Virginia Erosion and Sediment Control Law §62.1-44.15 *et seq.*; *Virginia Erosion and Sediment Control Regulations* 9 VAC 25-840-30 *et seq.*].

(ii) Stormwater Management Plan

Depending on local requirements, a Stormwater Management (SWM) plan may be required. Local SWM program requirements must be requested through the City of Virginia Beach. [Reference: Virginia Stormwater Management Act §62.1-44.15 *et seq.*; *Virginia Stormwater Management* (*VSMP*) *Permit Regulations* 9 VAC 25-870-54 *et seq.*].

(iii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities

The operator or owner of a construction project involving land-disturbing activities equal to one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DEQ's website at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management *Act* 62.1-44.15 *et seq.*] *VSMP Permit Regulations* 9 VAC 25-880 *et seq.*].

4(c) Conclusion. The project is consistent with the nonpoint source pollution control enforceable policy of the VCP, provided the activities comply with ESC and SWM requirements as locally administered.

5. Air Pollution Control. According to the VOWTAP RAP (page 4-190), emissions associated with the construction phase of the project will result from transport of construction materials and the use of construction equipment. Other than limited testing of small emergency generator engines on the WTG platforms, normal operation of the project will not directly generate emissions of any regulated air pollutants, including greenhouse gases. However, there will be indirect emissions associated with construction and operation of the project as well as indirect emissions associated with the decommissioning of the turbines. The document notes that emission associated with the construction phase of the project as well as the operational phase will be considered a major source requiring an air permit to be issued by DEQ. The project will be considered a state major source since the Potential to Emit (PTE) emissions were estimated to more than 100 tons per year of any criteria pollutant; however, it will not require a Prevention of Significant Deterioration permit since the emissions are estimated to be less than 250 tons per year of any criteria pollutant, and less than 100,000 tons per year of greenhouse gases (GHGs).

5(a) Agency Jurisdiction. The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (DEQ) (Virginia Code §10-1.1300 through §10.1-1320).

5(b) Agency Findings. The DEQ Air Division finds that the project site is located in a designated ozone maintenance and emission control area for ozone (O_3) and oxides of nitrogen (NO_x). Precursors to O_3 pollution include volatile organic compounds (VOCs) and NO_x.

5(c) Recommendation. The applicant should take all reasonable precautions to limit emissions of VOCs and NO_x, principally by controlling or limiting the burning of fossil fuels.

5(d) Requirements.

(i) Fugitive Dust

During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution.* These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the open burning or use of special incineration devices for the disposal of debris, this activity must meet the requirements of 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100 of the *Regulations* for open burning, and it may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact City of Virginia Beach fire officials to determine what local requirements, if any, exist.

(iii) State Major Source

DEQ concurs that the project, as described, constitutes construction of a new source with a PTE above major source thresholds, and therefore, may be subject to permitting under 9 VAC 5-80-1100. The addition of emergency generators would also be subject to federal regulations for which a permit may be required. The applicant submitted a letter of intent on May 21, 2014 for the construction on the source. Therefore, an air permit application must be sent to the DEQ-TRO for review and approval.

5(e) Conclusion. The project is consistent with the air pollution control enforceable policy of the VCP provided the applicant obtains and complies with all applicable permits and approvals prior to implementation of the project.

6. Coastal Lands Management. The VOWTAP RAP (page 4-20) states that the Virginia Beach Chesapeake Bay Preservation Area Board regulates activities within the Chesapeake Bay Watershed in accordance with the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15 *et. seq.*). The document asserts that all onshore project

activities are located at least 1 mile from the closest Chesapeake Bay Preservation Area.

6(a) Agency Jurisdiction. Effective July 1, 2013, the DEQ Office of Stormwater Management (OSWM) administers the Chesapeake Bay Preservation Act (Bay Act) (Virginia Code §62.1-44.15 *et seq.*) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (*Regulations*) (9 VAC 25-830-10 *et seq.*). Note that this enforceable policy was previously administered by the Department of Conservation and Recreation.

6(b) Agency Findings. DEQ-OSWM finds that the turbines will be located in the Atlantic Ocean, with the cabling between the turbines and the shore occurring on the ocean bottom. The locations of the onshore structures are on land that drains to the Atlantic Ocean. Accordingly, as the project is located outside of the Chesapeake Bay watershed, there are no requirements for compliance with the Chesapeake Bay Preservation Act.

6(c) Conclusion. This project is consistent with the coastal lands management enforceable policy as administered through the Bay Act and *Regulations*.

For additional information regarding these comments, contact DEQ-OSWN, Shawn Smith at (804) 527-5037.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

In addition to the enforceable policies of the VCP, comments were also provided with respect to other applicable requirements and recommendations. The applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

1. Solid and Hazardous Waste Management. According to the VOWTAP RAP (page 4-197), construction and operation of the project will involve the use of small amounts of hazardous materials, including hydraulic fluids, glycol, synthetic ester liquid, and diesel fuel. As standard practice, marine vessels involved in construction and operation of the project will operate under oil spill prevention and response plans that comply with U.S. Coast Guard requirements relating to prevention and control of oil spills and the discharge of wastes.

1(a) Agency Jurisdiction. Solid and hazardous wastes in Virginia are regulated by the Virginia Department of Environmental Quality, the Virginia Waste Management Board (VWMB) and the U.S. Environmental Protection Agency. They administer programs created by the federal Resource Conservation and Recovery Act, Comprehensive Environmental Response Compensation and Liability Act, commonly called Superfund, and the Virginia Waste Management Act. DEQ administers regulations established by the VWMB and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are

required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

1(b) Agency Findings. The DEQ Division of Land Protection and Revitalization (DLPR) (formerly the Waste Division) conducted a cursory review of DEQ database files under zip code 23451, including a geographic information system (GIS) database search of the project site and found three Resource Conservation and Recovery Act (RCRA) hazardous waste facilities, one Formerly Used Defense (FUDs), and one petroleum release site is in proximity to the project area. Detailed information on these sites is included in DEQ-DLPR comments attached to this response.

1(c) Recommendations.

(i) RCRA Sites

The following websites may be accessed to locate additional information for the RCRA sites using their identification numbers:

http://www.epa.gov/superfund/sites/cursites/index.htm or
http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

(ii) FUDs

The DEQ Federal Facilities Restoration Program recommends contacting the Environmental Officer at the installation for information concerning Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) obligations at this installation. The applicant should advise the Environmental Officer prior to initiating any land, sediment, or groundwater disturbing activities associated with the project.

(iii) Petroleum Release Site

DEQ's Petroleum Contamination (PC) case files for zip code 23451 should be evaluated by the applicant to establish the exact location of PC sites and the nature, extent of the petroleum release, and the potential to impact the proposed project. The applicant should contact the DEQ Tidewater Regional Office at (757) 518-2000 for further information and the administrative records of the PC cases which are in close proximity to the proposed project.

(iv) Pollution Prevention

DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

1(d) Requirements.

(i) Waste Management

Any soil that is suspected of contamination or wastes that are generated during construction must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All demolition and construction waste, including excess soil, must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* prior to disposal at an appropriate facility.

(ii) Asbestos-containing Material and Lead-based Paint

Any structures being modified, demolished, or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9 VAC 20-80-640 for ACM and 9 VAC 20-60-261 for LBP must be followed.

Questions or requests for further information may be directed to DEQ-DLPR, Steve Coe at (804) 698-4029.

2. Natural Heritage Resources. The VOWTAP RAP (page 4-77) notes that the Department of Conservation and Recreation, Natural Heritage Program serves as a consulting agency for projects with potential to impact state-listed threatened and endangered animal species. According to the document, the tiger beetle (*Cicindela trifasciata*), is known to occur in the project vicinity and is a natural heritage resource of concern. In addition, six vascular plant species (bluejack oak, long beach seedbox, fasciculate beakrush, bog rush, white top fleabane, and American halfchaff sedge), listed as natural heritage resources of concern, occur at the Camp Pendleton-Dam Neck Dune and Swale Conservation Site, which is located adjacent to the project.

2(a) Agency Jurisdiction.

(i) Department of Conservation and Recreation

The mission of the Virginia Department of Conservation and Recreation (DCR) is to conserve Virginia's natural and recreational resources. The DCR-Natural Heritage Program's (DCR-DNH) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. The *Virginia Natural Area Preserves Act*, 10.1-209 through 217 of the *Code of Virginia*, was passed in 1989 and codified DCR's powers and duties related to statewide biological inventory: maintaining a statewide database for conservation planning and project review, land protection for the conservation of biodiversity, and the protection and ecological management of natural heritage resources (the habitats of rare, threatened, and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) Department of Agriculture and Consumer Services

The Endangered Plant and Insect Species Act of 1979, Chapter 39, §3.1-102- through 1030 of the *Code of Virginia*, as amended, authorizes the Virginia Department of Agriculture and Consumer Services (VDACS) to conserve, protect and manage endangered species of plants and insects. The VDACS Virginia Endangered Plant and Insect Species Program personnel cooperates with the U.S. Fish and Wildlife Service, DCR-DNH and other agencies and organizations on the recovery, protection or conservation of listed threatened or endangered species and designated plant and insect species that are rare throughout their worldwide ranges. In those instances where recovery plans, developed by the U.S. Fish and Wildlife Service, are available, adherence to the order and tasks outlines in the plans are followed to the extent possible.

2(b) Agency Findings. DCR-DNH supports using HDD within existing road rights-of-way to route the onshore interconnection cable and fiber optic cable under sensitive coastal habitat areas, and the installation within previously disturbed areas of onshore project components including the switch cabinet and interconnection station to avoid impacts to natural heritage resources.

(i) Camp Pendleton-Dam Neck Dune and Swale Conservation Site

According to the information currently in DCR files, the Camp Pendleton-Dam Neck Dune and Swale Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Camp Pendleton-Dam Neck Dune and Swale Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Cicindela trifasciata	Tiger beetle	G5/S1/NL/NL

The tiger beetle, has a broad range, from southern California to central Chile and from Virginia south to Venezuela (NatureServe, 2009). In Virginia, it is known from the southern coastal plain and piedmont. It has a dark brown-blackish dorsal surface with a greenish hue (Knisely and Schulz, 1997). The dorsal surface is covered with shallow green punctures. The ventral surface of the thorax is coppery and the abdomen is metallic blue or greenish-blue (Knisely and Schulz, 1997). The tiger beetle occurs in a wide variety of water-edge habitats, including mudflats or swales in coastal areas, tidal

estuaries, marshes and bays, and pond, river and stream edges (Knisely and Schultz, 1997). Threats to this and other tiger beetles include habitat destruction from development or conversion to agricultural or timber operations.

(ii) Marine Mammals, Sea Turtles, and Marine/Coastal Birds

There is potential for several state and federally-listed species including marine mammals, sea turtles, and marine/coastal birds to occur in the project area. According to the Interim Avian Survey Report, April 2013-October 2013 (VOWTAP RAP, Appendix L), the gull-billed tern, peregrine falcon, piping plover and roseate tern were documented in the project area.

(iii) State-listed Threatened and Endangered Plant and Insect Species

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. DCR finds that the current activity will not affect any documented state-listed plants or insects.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

2(c) Recommendations.

(i) Camp Pendleton-Dam Neck Dune and Swale Conservation Site

Due to the high potential for this site to support populations of a tiger beetle (VOWTAP RAP, page 4-91), DCR-DNH recommends an inventory for the resource in the study area. With the survey results DCR-DNH can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-DNH biologists are qualified and available to conduct inventories for rare, threatened, and endangered species. Contact the Natural Heritage Inventory Manager, J. Christopher Ludwig at chris.ludwig@dcr.virginia.gov to discuss arrangements for field work.

(ii) Marine Mammals, Sea Turtles, and Marine/Coastal Birds

Due to the legal status of marine mammals, sea turtles, and marine/coastal birds and potential for marine resources, DCR-DNH recommends coordination with the Virginia Department of Game and Inland Fisheries (DGIF), the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to ensure compliance with protected species legislation.

(iii) Natural Heritage Resources

New and updated information is continually added to Biotics. Accordingly, the applicant should re-submit project information and mapping to DCR-DNH for an update on natural heritage information once the construction laydown area(s), construction port, and the operations and maintenance facility with associated Base Port locations are identified, and/or six months has passed before it is utilized.

3. Wildlife Resources and Protected Species. According to the VOWTAP RAP (page 4-78), the project area primarily consists of open-water marine habitats east of Virginia Beach, but also includes coastal and some terrestrial habitats on the Virginia mainland. A list of protected species that may occur in the project area was developed based on agency consultation, site-specific surveys, and a review of publically available information. Impacts to federal- and state-listed species and/or species of concern may result from construction, operation, or decommissioning of the VOWTAP. The VOWTAP RAP (page 4-200) list a number of actions that will be implemented for the protection of wildlife resources and protected species.

3(a) Agency Jurisdiction. The Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects (*Virginia Code* Title 29.1). The DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

3(b) Agency Findings. DGIF supports the development of the offshore wind demonstration project, as proposed, and the implementation of the Wildlife Assessment Plan (discussed March 27, 2013).

3(c) Agency Recommendations. DGIF recommends the following:

- Contact STANTEC or the appropriate federal funding agencies regarding ongoing bat monitoring research at the Chesapeake Lighthouse and along the Atlantic Coast to inform the project's environmental assessment.

- Add a March 2014 avian survey to the protocol and opportunities for post-construction wildlife research at the turbine sites, including acoustic monitoring for bat activity, should be pursued as the project moves forward.
- Include DGIF in the review of the results of preconstruction surveys and the cooperative implementation of post-construction wildlife research.
- Adhere to a Time-of-Year Restriction (TOYR) protective of sea turtles from May 20 through October 31, of any given year (TOYR = no work in this area during this time) during development on beaches (e.g., the land-fall locations of transmission infrastructure and appurtenances to be constructed).
- Survey the beach for sea turtle nests between May 20 through August 31 prior to all work (regardless of what is found during the terrestrial wildlife habitat and natural communities assessment) if construction becomes necessary during the customary TOYR protective of sea turtles.
- Coordinate with the USFWS and NOAA Fisheries regarding the protection of federally listed sea turtles.

DGIF will provide additional guidance, as appropriate, base on the survey results.

For additional information regarding these comments, contact DGIF, Ernie Aschenbach at (804) 367-2733.

4. Historic Resources. According to the VOWTAP RAP (page 4-137), potential impacts to submerged pre-historic and historic cultural resources would include direct physical disturbance from construction activities. Three potential submerged cultural sites were identified in geophysical surveys and will be avoided to prevent disturbance during construction, operation, and decommissioning. The document (page 4-140) states that during the construction of the onshore facilities, there is the potential for construction crews to encounter unanticipated archaeological discoveries. To ensure the proper handling of any unanticipated cultural resources, an Unanticipated Discovery Plan including archeological resource identification training will be developed in consultation with jurisdictional federal and state agencies and will be implemented prior to construction. The document (page 4-145) finds that there are four previously documented National Historic Landmark (NHL) or National Register of Historic Places (NRHP) properties that have the potential to be affected by the project. The document concludes that impacts to these coastline historic properties from the project will be minimal since the WTGs will be located at approximately 24 nm (27 statute miles from these properties.

4(a) Agency Jurisdiction. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State's Historic Preservation Office, ensures that federal actions comply with *Section 106 of the National Historic Preservation Act of 1966* (NHPA), as amended, and its implementing regulation at 36 CFR Part 800. The NHPA requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of

Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding.

4(b) Agency Findings. DHR has been in consultation with the Bureau of Ocean Energy Management regarding this project.

4(c) Requirements. BOEM must continue to consult directly with DHR, as necessary, pursuant to Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations codified at 36 CFR Part 800 which require Federal agencies to consider the effects of their undertakings on historic properties.

5. Regional Comments.

5(a) Jurisdiction. In accordance with CFR 930, Subpart A, § 930.6(b) of the *Federal Consistency Regulations*, DEQ, on behalf of the state, is responsible for securing necessary review and comment from other state agencies, the public, regional government agencies, and local government agencies, in determining the Commonwealth's concurrence or objection to a federal consistency certification.

5(b) Agency Findings. The Hampton Roads Planning District Commission (HRPDC) reviewed the FCC and consulted with the City of Virginia Beach regarding the project. According to the HRPDC, the project appears to be consistent with local and regional plans and policies.

For additional information, contact HRPDC, Ben McFarlane at (757) 420-8300.

REGULATORY AND COORDINATION NEEDS

1. Wetlands Management. Potential surface water impacts will require authorization through the Virginia Water Protection Permit program pursuant to Virginia Code §62.1-44.15:5. A JPA (#14-0986) is currently under review by the VWPP program at DEQ-TRO for either a VWP Individual Permit or a Waiver. In addition, VMRC will review the JPA for any impacts to tidal wetlands under its jurisdiction. For additional information and coordination regarding the VWPP, contact DEQ-TRO, Bert Parolari at (757) 518-2166 and/or VMRC Justin Worrell at (757) 247-8063.

2. Subaqueous Lands Management. Project activities must be consistent with the subaqueous lands management enforceable policy as administered by VMRC in accordance with §28.2-1203 of the Code of Virginia. Proposed impacts to state subaqueous land will require authorizations from VMRC. Accordingly, Dominion must continue to coordinate with VMRC through the JPA process with respect to proposed project impacts to subaqueous lands. For additional information and coordination, contact VMRC, Justin Worrell at (757) 247-8063.

3. Nonpoint Source Pollution Control.

3(a) Erosion and Sediment Control and Stormwater Management. The proposed project must comply with *Virginia's Erosion and Sediment Control Law* (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq.*) and *Stormwater Management Law* (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq.*) as locally administered. Land-disturbing activities of 10,000 square feet or more would be regulated by *VESCL&R* and *VSWML&R*. Local erosion and sediment control, and stormwater management requirements should be coordinated with the City of Virginia Beach, Department of Planning and Community Development at (757) 385-4621.

3(b) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities. Land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepety at (804) 698-4039 or Shantelle Nicholson at (804) 698-4085.

4. Air Pollution Control. Guidance on minimizing the emission of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) may be obtained from DEQ-TRO. Activities associated with this project are subject to air regulations administered by DEQ. The state air pollution regulations that may apply to the project are:

- fugitive dust and emissions control (9 VAC 5-50-60 *et seq.*); and
- open burning restrictions (9 VAC 5-130 *et seq.*).

In addition, as the project constitutes construction of a new source with a PTE above major source thresholds, it may require a permit under 9 VAC 5-80-1100 *et seq.* Therefore, an air permit application must be sent to the DEQ-TRO for review and approval.

Contact the City of Chesapeake fire officials for any local requirements on open burning. For additional information, contact DEQ-TRO, Troy Breathwaite at (757) 518-2006.

5. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. Some of the applicable state laws and regulations are:

- Virginia Waste Management Act (Code of Virginia Section 10.1-1400 *et seq.*);
- Virginia Hazardous Waste Management Regulations (VHWMR) (9 VAC 20-60);
- Virginia Solid Waste Management Regulations (VSWMR) (9 VAC 20-81 *et seq.*);
- Virginia Regulations for the Transportation of Hazardous Materials (9 VAC 20-110).

Some of the applicable federal laws and regulations are:

- Resource Conservation and Recovery Act (RCRA) (42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations); and
- U.S. Department of Transportation Rules for Transportation of Hazardous materials (49 CFR Part 107).

For additional information, contact DEQ-TRO, Milt Johnston at (757) 518-2151.

5(a) Asbestos Containing Material. The applicant must thoroughly inspect existing structures to be disturbed for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*). Contact the DEQ-PRO, Jason Miller at (804) 527-5028 and the Department of Labor and Industry, Ronald L. Graham at (804) 371-0444 for additional information.

5(b) Lead-Based Paint. If applicable, this project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation, David Dick at (804) 367-8588.

6. Natural Heritage Resources.

(i) Camp Pendleton-Dam Neck Dune and Swale Conservation Site

An inventory for the tiger beetle may be coordinated with DCR-DNH by contacting the Natural Heritage Inventory Manager, J. Christopher Ludwig at chris.ludwig@dcr.virginia.gov to discuss arrangements for field work.

(ii) Marine Mammals, Sea Turtles, and Marine/Coastal Birds

Coordination of this project with respect to impacts on listed marine mammals, sea turtles, and marine/coastal birds may be accomplished by contacting DGIF, Ernie Aschenbach at (804) 367-2733; USFWS, Cindy Schulz at (804) 824-2426; and NMFS at (804) 684-7382 to ensure compliance with protected species legislation.

(iii) Natural Heritage Resources

Contact DCR-DNH, Rene Hypes at (804) 371-2708 to secure updated information on natural heritage resources for an update on natural heritage information once the construction laydown area(s), construction port, and the operations and maintenance

facility with associated Base Port locations are identified, and/or six months has passed before it is utilized.

7. Historic Resources. BOEM must continue to coordinate this project with the Department of Historic Resources pursuant to *Section 106 of the National Historic Preservation Act* (as amended) and its implementing regulations at 36 CRF Part 800. For additional information and coordination, contact DHR, Roger Kirchen at (804) 482-6091.

Thank you for the opportunity to comment on the FCC submitted for the Virginia Offshore Wind Technology Advancement Project. The detailed comments of reviewing agencies are attached for your review. If you have questions, please call me at (804) 698-4325 or John Fisher at (804) 698-4339.

Sincerely,

Ellie Irons, Program Manager
Environmental Impact Review

Enclosures

Ec: Cindy Keltner, DEQ-TRO
Steve Coe, DEQ-DLPR
Kotur Narasimhan, DEQ-Air
Larry Gavan, DEQ-OSWM
Holly Sepety, DEQ-OSWM
Daniel Moore, DEQ-OSWM
Tony Watkinson, VMRC
Pam Mason, VIMS
Amy Ewing, DGIF
Robbie Rhur, DCR
Barry Matthews, VDH
Keith Tignor, VDACS
Roger Kirchen, DHR
Clay Bernick, City of Virginia Beach
Randy Keaton, HRPDC

Fisher, John (DEQ)

From: Aschenbach, Ernie (DGIF)
Sent: Friday, June 20, 2014 1:38 PM
To: Fisher, John (DEQ)
Cc: ProjectReview (DGIF); Cason, Gladys (DGIF)
Subject: ESSLog 33680; Virginia Offshore Wind Technology Advancement Project, DEQ# 14-090F Federal Consistency Determination
Attachments: 33680_DGIFWAPCommentsToDominion_RTF20130327.pdf; 33680_update_re_VOWTAP_WAP.pdf

Importance: High

We have reviewed the DEQ-OEIR Federal Consistency request for the above-referenced project.

Provided adherence to our 2013 recommendations (attached), we find this project consistent with the Fisheries Enforceable Policy of the Coastal Zone Management Act.

Thanks.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
P.O. Box 11104
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

COMMONWEALTH of VIRGINIA

Douglas W. Domenech
Secretary of Natural Resources

Department of Game and Inland Fisheries

Robert W. Duncan
Executive Director

March 27, 2013

Kim Lanterman
VOWTAP Team Environmental Lead
Dominion Resources, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, Virginia 23060

RE: VOWTAP, Draft
Wildlife Assessment Plan
ESSLog 33680

Dear Ms. Lanterman:

Thank you for the opportunity to review the Draft Wildlife Assessment Plan and provide comments. The Virginia Department of Game and Inland Fisheries (VDGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises law enforcement and regulatory jurisdiction over those resources, inclusive of State or Federally *Endangered* or *Threatened* species, but excluding listed insects. We are a consulting agency under the U. S. Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), and we provide environmental analysis of projects or permit applications coordinated through the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, the Virginia Department of Transportation, the U. S. Army Corps of Engineers, and other state or federal agencies. Our role in these procedures is to determine likely impacts upon fish and wildlife resources and habitats, and to recommend appropriate measures to avoid, reduce, or compensate for those impacts.

We support development of an offshore wind demonstration project as proposed, and we support implementation of the Wildlife Assessment Plan as discussed in conference on 27 March. Further, we reiterate our recommendations that the VOWTAP team contact STANTEC or the appropriate federal funding agencies regarding ongoing bat monitoring research at the Chesapeake Lighthouse and along the Atlantic Coast to inform this project's environmental assessment, that a March 2014 avian survey be added to the survey protocol, and that opportunities for post-construction wildlife research at the turbine sites, including acoustic monitoring for bat activity, be pursued as this project moves forward. We look forward to working with you regarding further development of this project, to review of the results of your pre-construction surveys, and to cooperative implementation of post-construction wildlife research.

Again, thank you for the opportunity to participate in your pre-construction planning, and please call Ernie Aschenbach at 804-367-2733 if we may be of further assistance regarding this project.

Sincerely,

Raymond T. Fernald, Manager
Environmental Programs

RTF/EA

From:	Kimberly Q Lanterman
To:	ProjectReview (DGIF)
Cc:	Boettcher, Ruth (DGIF); Fernald, Ray (DGIF); Reynolds, Rick (DGIF); "troy_andersen@fws.gov"; "david.l.o"brien@noaa.gov"
Subject:	RE: ESSLog 33680; updated VDGIF comments re: VOWTAP, updated Wildlife Assessment Plan
Date:	Monday, April 15, 2013 12:12:24 PM
Attachments:	image001.png

Hello Ernie - In response to your recommendations provided in the email below, we wanted to let you know that the proposed onshore cable landfall site is currently proposed within an existing gravel parking lot on the Camp Pendleton property that is located west of both the beach and dune habitats (green circle below). In addition, we are also planning to do a horizontal directional drill (HDD) to install the cable without impacting the intertidal zone, dune, and beach habitats. Let me know if this helps alleviate your concerns regarding grassland birds and turtle habitat. We also plan to do consultations with the FWS and NOAA as part of the project. The project description included in our NEPA filing will include all these details.

Thanks.

Kim Lanterman

-----Original Message-----
From: ProjectReview (DGIF) [mailto:ProjectReview@dgif.virginia.gov]
Sent: Friday, April 12, 2013 12:59 PM
To: Kimberly Q Lanterman (Services - 6)
Cc: ProjectReview (DGIF); Boettcher, Ruth (DGIF); Fernald, Ray (DGIF); Reynolds, Rick (DGIF); troy_andersen@fws.gov; 'david.l.o'brien@noaa.gov'

Subject: RE: ESSLog 33680; updated VDGIF comments re: VOWTAP, updated Wildlife Assessment Plan

We have reviewed the new Section 2.3 Terrestrial Wildlife Habitat and Natural Communities Assessment of the updated WAP, and have the following recommendations.

In general, we recommend development on beaches (e.g., where land-fall of transmission infrastructure and appurtenances may be constructed) adhere to a Time of Year Restriction (TOYR) protective of sea turtles from May 20 through October 31, of any given year (TOYR = no work in this area during this time). If construction becomes necessary during the customary TOYR protective of sea turtles, we recommend the beach be surveyed for sea turtle nests between May 20 through August 31 prior to all work (no matter what is found during the terrestrial wildlife habitat and natural communities assessment). We also recommend contacting the USFWS and NOAA - Fisheries regarding the protection of federally listed sea turtles. Additional guidance will be provided as appropriate, base on the survey results.

Thanks.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries P.O. Box 11104
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

-----Original Message-----
From: Kimberly Q Lanterman [mailto:kimberly.q.lanterman@dom.com]
Sent: Thursday, April 11, 2013 12:46 PM
To: Aschenbach, Ernie (DGIF)
Cc: ProjectReview (DGIF); Boettcher, Ruth (DGIF); Cason, Gladys (DGIF); Fernald, Ray (DGIF); Reynolds, Rick (DGIF)
Subject: RE: ESSLog 33680; VDGIF comments re: VOWTAP, updated Wildlife Assessment Plan
Importance: High

Hello Ernie - Thank you very much for the response. I am attaching a slightly modified version of the VOWTAP Wildlife Assessment Plan (WAP) for your review and concurrence. We have added a new Section 2.3 Terrestrial Wildlife Habitat and Natural Communities Assessment to the WAP, since we will be required to assess existing onshore wildlife habitats (and vegetation communities) as part of our studies. This was inadvertently left out of the previous versions of the WAP. This is the only change/addition to the plan. If you can do a review of this section and let me know if you are okay with the revised WAP, I would greatly appreciate it. We would appreciate

receiving an email confirmation indicating your approval of the revised WAP by tomorrow, April 12, 2013. Thanks.

Kim Lanterman

-----Original Message-----
From: Aschenbach, Ernie (DGIF) [mailto:Ernie.Aschenbach@dgif.virginia.gov]
Sent: Thursday, April 11, 2013 12:36 PM
To: Kimberly Q Lanterman (Services - 6)
Cc: ProjectReview (DGIF); Boettcher, Ruth (DGIF); Cason, Gladys (DGIF); Fernald, Ray (DGIF); Reynolds, Rick (DGIF)
Subject: RE: ESSLog 33680; VDGIF comments re: VOWTAP, updated Wildlife Assessment Plan

Kim Lanterman
VOWTAP Team Environmental Lead
Dominion Resources, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, Virginia 23060
Email: Kimberly.q.lanterman@dom.com

Hello!

Thank you for the opportunity to review the draft Wildlife Assessment Plan and for addressing our recommendations in the updated Wildlife Assessment Plan.

We look forward to working with you regarding further development of this project, to review of the results of your pre-construction surveys, and to cooperative implementation of post-construction wildlife research.

Thanks again...

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries P.O. Box 11104
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

Fisher, John (DEQ)

From: Worrell, Justin (MRC)
Sent: Tuesday, June 10, 2014 1:51 PM
To: Fisher, John (DEQ)
Subject: Virginia Offshore Wind Technology Advancement - Federal #14-090F

John,

A portion of the project will require a permit from the Commission – specifically the installation of the transmission line under State-owned submerged bottomlands within the 3-mile limit of Virginia's territorial sea in the Atlantic Ocean. Portions of the project constructed farther than 3 miles out, and portions installed landward of mean low water along the shoreline are outside of the jurisdiction of the Commission. A previously-issued Commission permit (VMRC #13-0614) currently authorizes Dominion Resources to perform marine surveys of the proposed transmission route within the 3-mile jurisdictional area. Once a formal Joint Permit Application is submitted for the transmission line, we will subject it to a full public and agency interest review and determine if a Commission permit should be issued.

Thank you for the opportunity to provide comments.

Justin D. Worrell
Environmental Engineer, Sr.
Habitat Management Division
Virginia Marine Resources Commission
(757) 247-8063 telephone
(757) 247-8062 fax

Fisher, John (DEQ)

From: Dufore, Ezekiel (VDH)
Sent: Thursday, July 03, 2014 1:27 PM
To: Fisher, John (DEQ)
Cc: Soto, Roy (VDH)
Subject: 14-090F Virginia Offshore Wind Technoloy Advancement Project

Project #: 14-090F
Location: Offshore

The Virginia Department of Health has no comments to submit in regards to the above project at this time.

Ezekiel Dufore
Office of Drinking Water
Virginia Department of Health
James Madison Building
109 Governor Street
Richmond, VA 23219
(w) 804-864-7201
ezekiel.dufore@vdh.virginia.gov

Fisher, John (DEQ)

From: Keltner, Cindy (DEQ)
Sent: Wednesday, August 06, 2014 10:02 AM
To: Fisher, John (DEQ)
Subject: FW: Virginia Offshore Wind Technology Advancement Project (14-090F)

Good morning John,

Below are Bert's groups comments. If you would like me to send this around to the other managers, let me know. I know air would have no comments.

Thanks.
Cindy

From: Ambrose, Larissa (DEQ)
Sent: Wednesday, August 06, 2014 9:55 AM
To: Keltner, Cindy (DEQ)
Subject: RE: Virginia Offshore Wind Technology Advancement Project (14-090F)

Here are our comments:

"We received a Joint Permit Application (JPA 14-0968) for this project on July 17, 2014 and are currently processing the application for a VWP Individual Permit or a Waiver. Provided the applicant receives a waiver or permit from our program and adheres to the conditions of that permit, the project will be consistent with our program."

Larissa Marie Ambrose
Project Manager
Virginia Water Protection Program
Department of Environmental Quality
5636 Southern Blvd
Virginia Beach, VA 23462
(757) 518-2124
Larissa.Ambrose@deq.virginia.gov
www.deq.virginia.gov

Fisher, John (DEQ)

From: Gavan, Larry (DEQ)
Sent: Thursday, June 12, 2014 10:27 AM
To: Fisher, John (DEQ)
Subject: Offshore Wind Farm 14-090F

Pls. see the comments below.
Thx
L

(a) Agency Jurisdiction. The DEQ administers the nonpoint source pollution control enforceable policy of the VCP through the *Virginia Erosion and Sediment Control Law and Regulations* (*VESCL&R*) and *Virginia Stormwater Management Law and Regulations* (*VSWML&R*).

(b) Erosion and Sediment Control Plan. The Applicant is responsible for submitting a project-specific erosion and sediment control (ESC) plan to the locality in which the project is located for review and approval pursuant to the local ESC requirements, if the project involves a land-disturbing activity of 10,000 square feet or more (2,500 square feet or more in a Chesapeake Bay Preservation Area). Depending on local requirements the area of land disturbance requiring an ESC plan may be less. The ESC plan must be approved by the locality prior to any land-disturbing activity at the project site. All regulated land-disturbing activities associated with the project, including on and off site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the project must be covered by the project specific ESC plan. Local ESC program requirements must be requested through the locality. [Reference: *Virginia Erosion and Sediment Control Law* §62.1-44.15 et seq.; *Virginia Erosion and Sediment Control Regulations 9*VAC25-840-30 et seq.]

(c) Stormwater Management Plan. Depending on local requirements, a Stormwater Management (SWM) plan may be required. Local SWM program requirements must be requested through the locality. [Reference: *Virginia Stormwater Management Act* §62.1-44.15 et seq.; *Virginia Stormwater Management* (*VSMP*) *Permit Regulations 9*VAC25-870-54 et seq.]

Fisher, John (DEQ)

From: Keltner, Cindy (DEQ)
Sent: Wednesday, August 06, 2014 3:13 PM
To: Fisher, John (DEQ)
Subject: RE: Virginia Offshore Wind Technology Advancement Project (14-090F)

Hi John,

Below is the TRO Air Permit comments for the project. Let me know if you need anything else.

The project, as described, constitutes construction of a new source with a PTE above major source thresholds and therefore may be subject to permitting. The addition of emergency generators would also be subject to federal regulations for which a permit may be also be required. A letter of intent was received on May 21, 2014 for the construction on the source. It is, therefore, recommended that an air permit application be sent in to the DEQ Tidewater Regional Office Air Permit Program attn: Troy Breathwaite – DEQ Tidewater Regional Office – 5636 Southern Blvd., Virginia Beach, VA 23462. Phone (757) 518-2006

Cindy

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JUN 13 2014
DEQ-Office of Environmental Impact Review

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John E. Fisher **DEQ - OEIA PROJECT NUMBER: 14 – 090F**

PROJECT TYPE: ☐ STATE EA / EIR ☐ FEDERAL EA / EIS ☐ SCC

X CONSISTENCY CERTIFICATION

PROJECT TITLE: VIRGINIA OFFSHORE WIND TECHNOLOGY ADVANCEMENT PROJECT

PROJECT SPONSOR: DOI / BUREAU OF OCEAN ENERGY MANAGEMENT

PROJECT LOCATION: **X OZONE MAINTENANCE AND EMISSION CONTROL AREA FOR NOX & VOC**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION** **X OPERATION**

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F – STAGE II Vapor Recovery
3. ☐ 9 VAC 5-45-780 et seq. – Asphalt Paving operations
4. **X 9 VAC 5-130 et seq. – Open Burning**
5. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
6. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
7. ☐ 9 VAC 5-50-160 et seq. – Standards of Performance for Toxic Pollutants
8. ☐ 9 VAC 5-50-400 Subpart_____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
9. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
10. ☐ 9 VAC 5-80-1700 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
11. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
12. ☐ 9 VAC 5-80-800 et seq. Of the regulations – Operating Permits and exemptions. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_X)for land based activities. For permit that may be needed, our Tidewater regional Office may be consulted.

K. S. Narasimhan

(Kotur S. Narasimhan)
Office of Air Data Analysis **DATE: June 13, 2014**

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JUN 2 3 2014
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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

MEMORANDUM

TO: Daniel Moore

FROM: Shawn Smith, Chesapeake Bay Local Assistance

DATE: June 20, 2014

SUBJECT: DEQ 14-090F Virginia Offshore Wind Technology Advancement Project, City of Virginia Beach

The project proposes to install wind turbines and associated onshore structures and cabling for research on wind energy. The turbines will be located in the Atlantic Ocean, with cabling from the turbines to the shore also occurring on the ocean bottom. The location of the onshore structures is within land that drains to the Atlantic Ocean. As the project is located outside of the Chesapeake Bay watershed, there are no requirements for compliance with the Chesapeake Bay Preservation Act for this project.

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VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

TO: John Fisher, Environmental Program Planner

FROM: Steve Coe, Division of Land Protection & Revitalization Review Coordinator

DATE: August 5, 2014

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Report; 14-090F VOWTAP Virginia Beach

The Division of Land Protection and Revitalization (DLPR) has completed its review of the Environmental Impact Review Request for the Virginia Offshore Wind Technology Advancement Project (VOWTAP), Virginia Beach, Virginia. We have the following comments concerning the waste issues associated with this project.

Solid and hazardous waste issues were generally addressed in this report. The report did not include a search of waste-related data bases. The Waste Division staff conducted a cursory review of its data files including a GIS database search, and was able to identify possible waste sites that would impact or be impacted by the proposed project.

Facility waste sites of concern were located within the same 23451 zip, but proximity to the project site was not determined.

RCRA/Hazardous Waste Facilities – 70 sites were identified in zip code 23451, 3 specific to the Fort Pendleton site, but proximity to the project corridors was not determined.

1) ID# VAD982677452 – VAARNG-SMR, 203 Red Horse Drive, Virginia Beach, VA 23451. Contact: Pamela W. Coleman at 443-298-6445.
2) ID# VAR000511899 – Mid-Atlantic Military Family Com, LLC, South Birdneck Road, Virginia Beach, VA 23451. Contact: R. Jarl Bliss at 703-834-1900.
3) ID# VAD982364069 – 203RD Red Horse Squadron VA National Guard, Red Horse Drive, Virginia Beach, VA 23451. Contact: Steven L. Philips at 757-437-4611.

CERCLA Sites – none

The following websites may prove helpful in locating additional information for these identification numbers: http://www.epa.gov/superfund/sites/cursites/index.htm or http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

FUDs Site – one

FUDs #	FFID #	Site Name	Location		
C03VA0188	VA9799F1662	CP PENDLETON	VIRGINIA BEACH	VA	23451

DEQ's Federal Facilities Restoration Program recommends contacting the Environmental Officer at the installation for information concerning Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) obligations at this installation. Please advise the Environmental Officer prior to initiating any land, sediment, or groundwater disturbing activities associated with the project.

Solid Waste Facilities – none

VRP Sites - none

Petroleum Release events – one petroleum release event was identified at the Fort Pendleton site, but proximity to the project corridors was not determined. Project engineer should review the database to determine if there is the potential for contaminated soils in the project area.

ID# 19982272 – Camp Pendleton ST Military, 203 Red Horse Drive, Virginia Beach, Virginia 23451. Event Date: 4/9/2007. Status: Closed.

(Note: Dates above are the latest PC Database edit dates of the specific PC Case Nos.)

Please note that the DEQ's Petroleum Contamination (PC) case files of the PC Case Nos., in zip code 23451 and any identified petroleum releases (per the example above) should be evaluated by the project engineer or manager to establish the exact location of the release and the nature and extent of the petroleum release and the potential to impact the proposed project. The facility representative should contact the DEQ's Tidewater Regional Office (757-518-2000)for further information and the administrative records of the PC cases which are in close proximity to the proposed project.

NOTE: In any construction or demolition project, the proper management of wastes (solid or hazardous) generated is a priority. The information below provides waste management guidance such projects.

General Comments

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.

Asbestos and/or Lead-based Paint

All structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Ms. Lisa Silvia at the Tidewater Regional Office (757-518-2175).

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe, Environmental Specialist, at (804) 698-4029.

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

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JUL 01 2014
DEQ-Office of Environmental Impact Review

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor
Richmond, Virginia 23219
(804) 786-6124

MEMORANDUM

DATE: July 1, 2014

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 14-090F, Virginia Offshore Wind Technology Advancement Project

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Camp Pendleton – Dam Neck Dune and Swale Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Camp Pendleton – Dam Neck Dune and Swale Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Cicindela trifasciata	A Tiger beetle	G5/S1/NL/NL

The Tiger beetle, has a broad range, from southern California to central Chile and from Virginia south to Venezuela (NatureServe, 2009). In Virginia, it is known from the southern coastal plain and piedmont. It has a dark brown – blackish dorsal surface with a greenish hue (Knisely and Schulz, 1997). The dorsal surface is covered with shallow green punctures. The ventral surface of the thorax is coppery and the abdomen is metallic blue or greenish-blue (Knisely and Schulz, 1997). This tiger beetle occurs in a wide variety of water-edge habitats, including mudflats or swales in coastal areas, tidal estuaries, marshes and bays, and pond, river and stream edges (Knisely and Schultz, 1997).

Threats to this and other tiger beetles include habitat destruction from development or conversion to agricultural or timber operations.

Due to the high potential for this site to support populations of a Tiger beetle as stated on page 4-91 of *Virginia Offshore Wind Technology Advancement Project (*VOWTAP*)* prepared by Tetra Tech, Inc., , dated December 2013, revised February 2014. DCR recommends an inventory for the resource in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified and available to conduct inventories for rare, threatened, and endangered species. Please contact J. Christopher Ludwig, Natural Heritage Inventory Manager, at chris.ludwig@dcr.virginia.gov or 804-371-6206 to discuss arrangements for field work.

There is potential for several state and federally-listed species including marine mammals, sea turtles, and marine/coastal birds to occur in the project area. According to the *Interim Avian Survey Report, April 2013 – October 2013,* VOWTAP dated December 2013 (Appendix L) the Gull-billed tern, Peregrine falcon, Piping plover and Roseate tern were documented in the project area . Due to the legal status of these species and potential for marine resources, DCR-DNH recommends coordination with the Virginia Department of Game and Inland Fisheries (VDGIF), the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to ensure compliance with protected species legislation.

DCR supports the installation using HDD within existing road rights of way to route the Onshore Interconnection Cable and Fiber Optic Cable under sensitive coastal habitat areas and the installation of onshore Project components including the Switch Cabinet and Interconnection Station within previously disturbed areas to avoid impacts to natural heritage resources as stated on pp 4-103, 4-104 and 4-105 of the VOWTAP..

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information once the construction laydown area(s), construction port and the operations and maintenance facility with an associated Base Port locations are identified and or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Cc: Amy Ewing, VDGIF

Troy Andersen, USFWS
David O'Brien, NOAA

Fisher, John (DEQ)

From: Kirchen, Roger (DHR)
Sent: Thursday, July 10, 2014 1:24 PM
To: Fisher, John (DEQ)
Subject: Virginia Offshore Wind Technology Advancement Project (DEQ #14-090F; DHR File No. 2013-0452)

DHR has been in consultation with the Bureau of Ocean Energy Management regarding this project. We request that the BOEM continue to consult directly with DHR, as necessary, pursuant to Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations codified at 36 CFR Part 800 which require Federal agencies to consider the effects of their undertakings on historic properties.

Roger

Roger W. Kirchen, Director
Division of Review and Compliance
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221
phone: 804-482-6091 (NEW!)
fax: 804-367-2391
roger.kirchen@dhr.virginia.gov

DHR is updating Virginia's Statewide Comprehensive Preservation Plan and we need public input. We invite you, as part of this public process, to complete a survey that takes approximately 15 minutes. The survey can be accessed from the link below. Thank you for your participation: :
http://survey.constantcontact.com/survey/a07e97lruhjhua54md2/start

HAMPTON ROADS PDC
PLANNING DISTRICT COMMISSION

KENNETH WRIGHT CHAIRMAN • CLYDE HAULMAN VICE-CHAIR • JAMES O. McREYNOLDS TREASURER
RANDY KEATON INTERIM EXECUTIVE DIRECTOR

July 9, 2014

Mr. John E. Fisher
Virginia Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, 6th Floor
Richmond, VA 23219

RE: DEQ#14-090F, Virginia Offshore Wind Technology Advancement Project
(ENV:GEN)

Dear Mr. Fisher,

Pursuant to your request, the staff of the Hampton Roads Planning District Commission has reviewed the Federal Consistency Determination for the following project, Virginia Offshore Wind Technology Advancement Project, which is located near the City of Virginia Beach. We have consulted with City staff regarding this project.

Based on this review, the proposal appears to be consistent with local and regional plans and policies.

We appreciate the opportunity to review this project. If you have any questions, please do not hesitate to call.

Sincerely,

Randy R. Keaton
Interim Executive Director

BJM/jc

Copy: Clay Bernick, VB