

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Serial Nos.: 20-062
NRA/DEA: R0
Docket Nos.: 50-280/281
License Nos.: DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION (SPS) UNITS 1 AND 2
SUBSEQUENT LICENSE RENEWAL APPLICATION (SLRA)
SUPPLEMENT TO SUBSEQUENT LICENSE RENEWAL APPLICATION
CHANGE NOTICE 7
CHANGES TO ENVIRONMENTAL AUTHORIZATIONS

By letter dated October 15, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18291A842), Virginia Electric and Power Company (Dominion Energy Virginia or Dominion) submitted an application for the subsequent license renewal of Renewed Facility Operating License Nos. DPR-32 and DPR-37 for Surry Power Station (SPS) Units 1 and 2, respectively.

Dominion Energy has determined that Enhancement 15 to the PWR Vessel Internals program, as indicated in the initial October 15, 2018 Subsequent License Renewal Application (SLRA) Appendix A, Table A4.0-1, Item 7 and Appendix B, Section B2.1.7, did not correctly reflect MRP-227, Revision 1-A and the associated NRC Safety Evaluation (ADAMS Accession No. ML19081A001).

Change Notice 7, provided in Enclosure 1, contains the SLRA mark-ups to Enhancement 15 of the PWR Vessel Internals program required for consistency with MRP-227, Revision 1-A and the associated NRC Safety Evaluation.

Additionally, Table E9.1-1 in Appendix E of the October 15, 2018 SLRA provided a summary of authorizations for current plant operation that included permits, licenses, approvals, or other entitlements that would continue to be in place, as appropriate, throughout the period of extended operation. Since that time, one authorization has been superseded and three authorizations have been updated. Copies of these four authorizations are provided in Enclosures 2 through 5, respectively.

cc: (w/o Enclosures except *)

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Enclosure 1

SLRA MARK-UPS – CHANGE NOTICE 7

**Virginia Electric and Power Company
(Dominion Energy Virginia or Dominion)
Surry Power Station Units 1 and 2**

Table A4.0-1 Subsequent License Renewal Commitments

#	Program	Commitment	AMP	Implementation
7	PWR Vessel Internals program	<p>The <i>PWR Vessel Internals</i> program is an existing condition monitoring program that will be enhanced as follows:</p> <ol style="list-style-type: none"> 1. Procedures will be revised for each reload to summarize the average power density, the heat generation figure-of-merit, and the dimensional parameter for the distance between the active fuel and the upper core plate. 2. Procedures will be revised to require the visual inspection (EVT-1) of the control rod guide tube (CRGT) lower flange weld to require that the inspection include 100% of the outer CRGT lower flange weld surfaces and 0.25-inch of the adjacent base metal. 3. Procedures will be revised to require the visual inspection (VT-3) of the accessible surfaces for the control rod guide tube support pins and support pin nuts for Unit 1 only (plant-specific component). 4. Procedures will be revised to require the addition of a note indicating that a bolting inspection can be credited only if at least 75% of the total bolt population is examined. 5. Procedures will be revised to require visual inspection (VT-3) for 100% of the baffle-edge bolts that are accessible from the core side. 6. Procedures will be revised to require volumetric (UT) examinations for 100% of accessible baffle-former bolts (including corner bolts) at least every 10 years. MRP-2017-009 states that baseline volumetric (UT) examinations shall be performed no later than 30 EFPY for NSAL 16-1 Tier 2 plants, including the Surry units. The guidance further states that initial baseline UT exams performed prior to 1/1/2018 are acceptable. Examinations were performed in 2010 for Unit 1 and in 2011 for Unit 2. For the Surry units with the down-flow configuration that have <3% indications and no clustering, subsequent UT examinations are performed on a 10-year interval. 7. Procedures will be revised to address expansion criteria when degradation occurs for clusters of baffle-former bolts. MRP 2018-002 identifies expansion criteria as a Needed requirement (per NEI 03-08) to include one-time visual (VT-3) examination of barrel-former bolts if large clusters of baffle-former bolts are found during the initial volumetric (UT) examination. <u>(Revised - First Annual Amendment)</u> <u>Confirmation that one or more large clusters of baffle-former bolts with unacceptable indications are detected by the UT inspection of the baffle-former bolts shall require a visual (VT-3) inspection of the accessible barrel-former bolts adjacent to the large cluster of baffle-former bolt indications within three refueling cycles. A large cluster is defined (MRP 2018-002, Item 3.b) as any group of adjacent baffle-former bolts at least 3 rows high by at least 10 columns wide, or at least 4 rows high by at least 6 columns wide where 80% or greater of the baffle-former bolts have unacceptable UT indications or are visibly degraded.</u> <u>The barrel-former bolts adjacent to the cluster include:</u> <ul style="list-style-type: none"> • <u>Barrel-former bolts in the same area as the cluster of baffle-former bolts with indications if that area is projected radially onto the core barrel.</u> • <u>Barrel-former bolts on the two rows above and the two rows below the projected area.</u> • <u>Barrel-former bolts on each of the two columns of bolts that are circumferentially adjacent to the projected area.</u> <u>Confirmation that more than 5% of the lower support column bolts actually examined contain unacceptable UT indications shall require UT inspection of the accessible barrel-former bolts within three refueling cycles of identifying lower support column bolts with unacceptable UT indications.</u> 	B2.1.7	Program, accounting for the impacts of a gap analysis, will be implemented 6 months prior to the subsequent period of extended operation, or alternatively, a plant-specific program may be implemented 6 months prior to the subsequent period of extended operation.

Table A4.0-1 Subsequent License Renewal Commitments

#	Program	Commitment	AMP	Implementation
7	PWR Vessel Internals program	<p>8. Procedures will be revised to require visual examinations (EVT-1) for 100% of one side (ID or OD) of the circumference for the core barrel upper flange weld, and ¾" of adjacent base metal (minimum 50% examination coverage) (Primary component)</p> <p>9. Procedures will be revised to require visual examinations (EVT-1) for 100% of the OD surface of the core barrel lower flange weld and ¾" adjacent base metal (minimum 50% examination coverage) <u>Procedures will be revised to require visual examinations (EVT-1) for 100% of the OD surface of the core barrel lower flange weld and ¾" adjacent base metal (minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld).</u> (Expansion component) <u>(Revised - First Annual Amendment)</u></p> <p>10. Procedures will be revised to perform inspections of control rod guide tube (CRGT) thermal sleeves as indicated in MRP 2018-027. MRP 2018-027 refers to the Westinghouse NSAL 18-1 recommendation that, based on operating experience (OE) from international PWR plants related to wear of reactor vessel closure head control rod drive mechanism (CRDM) thermal sleeve flanges resulting in control rod stoppage during plant restart operations, a visual inspection should be performed during the next refueling outage after issuance of the NSAL, and during each subsequent refueling outage, for the tops of the CRGTs to determine whether any thermal sleeves have lowered significantly or are in a failed state. For the Surry plants, the guidance is to look for shiny marks on the top edge of the upper guide tube enclosure. Also, during the next under-head inspection, the guidance is to perform a visual inspection of the bottom of the thermal sleeve guide funnels to look for any shiny surfaces on the bottom surface of the guide funnel that would indicate that the thermal sleeve guide funnels have dropped to a point where they are in contact with the top of the guide tube. A visual inspection of thermal sleeve guide funnel elevations is recommended to identify whether any sleeves are noticeably lower than others (Primary component).</p> <p>11. Procedures will be revised to require visual examinations (VT-3) for the following:</p> <ol style="list-style-type: none"> Top and bottom edges of baffle plates to identify misalignment (Primary component). General condition of the baffle plates to identify warping or void swelling (Primary component). Surfaces of the upper internals fuel alignment pins to identify wear of the malcomized surface (Existing Programs component). Surfaces of the lower internals fuel alignment pins to identify wear of the malcomized surface (Existing Programs component). Clevis insert bolts and clevis insert dowels (Primary component). 	B2.1.7	Program, accounting for the impacts of a gap analysis, will be implemented 6 months prior to the subsequent period of extended operation, or alternatively, a plant-specific program may be implemented 6 months prior to the subsequent period of extended operation.

Table A4.0-1 Subsequent License Renewal Commitments

#	Program	Commitment	AMP	Implementation
7	PWR Vessel Internals program	<p>12. Procedures will be revised for contingency tasks to require inspection of the following expansion components if necessitated by relevant indications being found for associated primary components:</p> <ul style="list-style-type: none"> a. Remaining control rod guide tube lower flange welds not inspected as Primary component (EVT-1) b. <u>Control rod guide tube (CRGT) continuous section sheaths and C-tubes in accordance with the requirements of WCAP-17451-P, Revision 2. (Added - First Annual Amendment)</u> c. Bottom-mounted instrumentation column bodies (100% of BMI column bodies for which difficulty is detected during flux thimble insertion / withdrawal; VT-3) d. Lower support column bodies (25% of column bodies as visible from above the core plate; VT-3) e. Barrel-former bolts (100% of accessible bolts, minimum of 75% of the total population; UT) f. Lower support column bolts (100% of accessible bolts, minimum of 75% of the total population; UT) <p>13. Procedures will be revised to require that the inspections for the radial support keys and clevis inserts are to include the Stellite wear surfaces (Primary component, MRP 2018-022).</p> <p>14. Procedures will be revised to require visual inspections (VT-3) of the guide cards in at least 37 of the 48 control rod guide tubes, and will include associated acceptance criteria. Guidance from WCAP-17451-P, "Reactor Internals Guide Tube Wear – Westinghouse Domestic Fleet Operational Projections," and MRP 2018-07, "Transmittal of NEI 03-08 Needed Guidance to Address Accelerated Guide Card Wear Operating Experience (OE) Discussed in NSAL-17-1," will be included for the inspection of control rod guide cards.</p>	B2.1.7	<p>Program, accounting for the impacts of a gap analysis, will be implemented 6 months prior to the subsequent period of extended operation, or alternatively, a plant-specific program may be implemented 6 months prior to the subsequent period of extended operation.</p>

Table A4.0-1 Subsequent License Renewal Commitments

#	Program	Commitment	AMP	Implementation
7	PWR Vessel Internals program	<p>15. Procedures will be revised to require visual examinations (EVT-1), and will include associated acceptance criteria, for 100% of one side of the accessible surfaces of the core barrel lower girth weld <u>the accessible weld length of the OD of the LGW</u> and ¼" of adjacent base metal (minimum 50% examination coverage). (Primary component) <u>(Revised - Change Notice 7)</u></p> <p>16. Procedures will be revised for contingency tasks to inspect the following expansion components if necessitated by relevant indications being found for associated primary components, and will include associated acceptance criteria: <u>(Revised - First Annual Amendment)</u></p> <ul style="list-style-type: none"> a. Core barrel upper, middle, and lower axial welds (100% of weld length <u>and 3/4" of adjacent base metal - minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld</u> —50% examination coverage; EVT-1) <ul style="list-style-type: none"> • <u>A one-time enhanced visual (EVT-1) examination of the core barrel middle axial weld (MAW) and lower axial weld (LAW) will be performed during the sixth inservice inspection interval (i.e., a "50-year inspection") no later than six months prior to the subsequent period of extended operation. The examination will include coverage for 100% of the accessible weld lengths from the core barrel OD and ¾" of base metal on each side the weld AND a vertical zone on each side of the inaccessible portion of the barrel containing the known location of the axial weld. Each vertical zone shall be a minimum of 3/4" wide and cover the full distance parallel to the inaccessible height of the weld.</u> b. Core barrel upper girth weld (100% of weld length —50% examination coverage <u>and ¾" of adjacent base metal - minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld</u>; EVT-1) c. Core barrel lower flange weld (100% of weld length—50% examination coverage; EVT-1) d. Lower support forging (25% of bottom <u>(non-core side)</u> surface; VT-3) e. Upper core plate (25% of accessible <u>core-side</u> surfaces; VT-3) <p>17. A procedure for visual examinations will be revised to identify the examiner qualifications which are applicable for EVT-1 examinations.</p>	B2.1.7	<p>Program, accounting for the impacts of a gap analysis, will be implemented 6 months prior to the subsequent period of extended operation, or alternatively, a plant-specific program may be implemented 6 months prior to the subsequent period of extended operation.</p>

B2.1.7 PWR Vessel Internals

Program Description

The *PWR Vessel Internals* program is an existing condition monitoring program that manages cracking, loss of material, loss of fracture toughness, change in dimensions due to void swelling, and loss of preload for the reactor vessel internals (RVI). The aging effect of cracking includes stress corrosion cracking (SCC), primary water stress corrosion cracking (PWSCC), irradiation-assisted stress corrosion (IASCC), and cracking due to fatigue/cyclic loading. Degradation due to loss of material can be induced by wear, and loss of fracture toughness is the result of thermal aging and neutron irradiation embrittlement. Potential causes for the aging effect of changes in dimensions are void swelling or distortion, and loss of preload can result from thermal and irradiation-enhanced stress relaxation or creep.

The *PWR Vessel Internals* program relies on implementation of the inspection and evaluation guidelines in Electric Power Research Institute (EPRI) Technical Report 1022863, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines (MRP-227-A)," and EPRI Technical Report 1016609, "Materials Reliability Program: Inspection Standard for Pressurized Water Reactor Internals (MRP-228)," to manage the aging effects on the reactor vessel internal components, as supplemented by a gap analysis. The gap analysis includes integration of EPRI Technical Report 3002005349, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines," (MRP-227, Revision 1), which is implemented in accordance with Nuclear Energy Institute (NEI) 03-08, "Guideline for the Management of Materials Issues". MRP-227, Revision 1, includes one "mandatory" and four "needed" NEI 03-08 implementation requirements for the *PWR Vessel Internals* program. The guidelines listed in MRP-227, Revision 1, provide an appropriate aging management methodology for the RVI components. The gap analysis also integrates the interim guidance from MRP 2018-022, "Transmittal of MRP-191 Screening, Ranking, and Categorization Results and Interim Guidance in Support of Subsequent License Renewal at U.S. PWR Plants". The inspections of the RVI components are implemented in accordance with EPRI Report 3002005386, "Materials Reliability Program: Inspection Standard for Pressurized Water Reactor Internals – 2015 Update (MRP-228, Rev. 2)".

The Safety Evaluation Report that the NRC issued for the approved version (i.e., MRP-227-A) of MRP-227, Revision 0, dated December 16, 2011, included eight Applicant/Licensee Action Items (A/LAI) that required resolution. Six of those items are applicable for Westinghouse reactors. The six items that require resolution for SPS have been addressed such that no open items exist for the *PWR Vessel Internals* program in preparation for the subsequent period of extended operation.

The *PWR Vessel Internals* program applies the guidance in MRP-227, Revision 1 for inspecting, evaluating, and, if applicable, dispositioning non-conforming RVI components at Units 1 and 2. The selection of RVI components to be inspected is based on a four-step ranking process that includes the designations of “primary,” “expansion,” “existing programs” (such as American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Examination Category B-N-3, examinations of core support structures), and “no additional measures.” The program includes expanding examinations (i.e., “expansion” components) if the observed extent of degradation for the “primary” components exceeds acceptance criteria.

The following listing identifies the changes that are included in the PWR Vessel Internals program based on MRP 2018-022:

- The corner bolts (Baffle-former Assembly) were added to the population of baffle-former bolts for Primary component.
- Clevis insert bolts (Alignment and Interfacing Components) were elevated from Existing Programs component to Primary component. The scope of this item was expanded to include the clevis insert dowels.
- Thermal sleeves (Alignment and Interfacing Components) were added as a Primary component.
- Radial support keys Stellite wear surface (Radial Support Keys) was added as a Primary component.
- Clevis bearing Stellite wear surface (Alignment and Interfacing Components) was added as a Primary component.
- Fuel alignment pins (Malcomized) (Upper Internals Assembly) were added as an Existing programs component.
- Fuel alignment pins (Malcomized) (Lower Internals Assembly) were added as an Existing programs component.

The initial phase of inspections for RVI inspections began in 2010 for Unit 1 and in 2011 for Unit 2. In 2013 for Unit 1 and in 2014 for Unit 2, RVI inspections were completed for the 'primary' components identified for the initial license renewal period. The inspections included the following components:

- Control rod guide tube assembly guide cards
- Control rod guide tube assembly lower flange welds
- Core barrel assembly upper flange weld
- Core barrel assembly lower girth weld
- Baffle-former assembly baffle-edge bolts
- Baffle-former assembly baffle-former bolts
- Baffle-former assembly baffle plates, and indirect effects of void swelling
- Alignment and interfacing components internals hold down spring
- Clevis insert bolting
- Thermal shield flexures

NUREG-2191 Consistency

The *PWR Vessel Internals* program is an existing program that, following enhancement, will be consistent with NUREG-2191, Section XI.M16A, PWR Vessel Internals.

Exception Summary

None

Enhancements

Prior to the subsequent period of extended operation, the following enhancement(s) will be implemented in the following program element(s):

Parameters Monitored or Inspected (Element 3)

1. Procedures will be revised for each reload to summarize the average power density, the heat generation figure-of-merit, and the dimensional parameter for the distance between the active fuel and the upper core plate.

Detection of Aging Effects (Element 4)

2. Procedures will be revised to require the visual inspection (EVT-1) of the control rod guide tube (CRGT) lower flange weld to require that the inspection include 100% of the outer CRGT lower flange weld surfaces and 0.25-inch of the adjacent base metal.
3. Procedures will be revised to require the visual inspection (VT-3) of the accessible surfaces for the control rod guide tube support pins and support pin nuts for Unit 1 only (plant-specific component).

4. Procedures will be revised to require the addition of a note indicating that a bolting inspection can be credited only if at least 75% of the total bolt population is examined.
5. Procedures will be revised to require visual inspection (VT-3) for 100% of the baffle-edge bolts that are accessible from the core side.
6. Procedures will be revised to require volumetric (UT) examinations for 100% of accessible baffle-former bolts (including corner bolts) at least every 10 years. MRP-2017-009 states that baseline volumetric (UT) examinations shall be performed no later than 30 EFPY for NSAL 16-1 Tier 2 plants, including the Surry units. The guidance further states that initial baseline UT exams performed prior to 1/1/2018 are acceptable. Examinations were performed in 2010 for Unit 1 and in 2011 for Unit 2. For the Surry units with the down-flow configuration that have <3% indications and no clustering, subsequent UT examinations are performed on a 10-year interval.
7. Procedures will be revised to address expansion criteria when degradation occurs for clusters of baffle-former bolts. MRP 2018-002 identifies expansion criteria as a Needed requirement (per NEI 03-08) to include one-time visual (VT-3) examination of barrel-former bolts if large clusters of baffle-former bolts are found during the initial volumetric (UT) examination. (Revised - First Annual Amendment)

Confirmation that one or more large clusters of baffle-former bolts with unacceptable indications are detected by the UT inspection of the baffle-former bolts shall require a visual (VT-3) inspection of the accessible barrel-former bolts adjacent to the large cluster of baffle-former bolt indications within three refueling cycles. A large cluster is defined (MRP 2018-002, Item 3.b) as any group of adjacent baffle-former bolts at least 3 rows high by at least 10 columns wide, or at least 4 rows high by at least 6 columns wide where 80% or greater of the baffle-former bolts have unacceptable UT indications or are visibly degraded.

The barrel-former bolts adjacent to the cluster include:

- Barrel-former bolts in the same area as the cluster of baffle-former bolts with indications if that area is projected radially onto the core barrel.
- Barrel-former bolts on the two rows above and the two rows below the projected area.
- Barrel-former bolts on each of the two columns of bolts that are circumferentially adjacent to the projected area.

Confirmation that more than 5% of the lower support column bolts actually examined contain unacceptable UT indications shall require UT inspection of the accessible barrel-former bolts within three refueling cycles of identifying lower support column bolts with unacceptable UT indications.

8. Procedures will be revised to require visual examinations (EVT-1) for 100% of one side (ID or OD) of the circumference for the core barrel upper flange weld, and 0.75-inch of adjacent base metal (minimum 50% examination coverage) (Primary component)
9. Procedures will be revised to require visual examinations (EVT-1) for 100% of the OD surface of the core barrel lower flange weld and $\frac{3}{4}$ " adjacent base metal (minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld).(Expansion component) (Revised - First Annual Amendment)
10. Procedures will be revised to perform inspections of control rod guide tube (CRGT) thermal sleeves as indicated in MRP 2018-027. MRP 2018-027 refers to the Westinghouse NSAL 18-1 recommendation that, based on operating experience (OE) from international PWR plants related to wear of reactor vessel closure head control rod drive mechanism (CRDM) thermal sleeve flanges resulting in control rod stoppage during plant restart operations, a visual inspection should be performed during the next refueling outage after issuance of the NSAL, and during each subsequent refueling outage, for the tops of the CRGTs to determine whether any thermal sleeves have lowered significantly or are in a failed state. For the Surry plants, the guidance is to look for shiny marks on the top edge of the upper guide tube enclosure. Also, during the next under-head inspection, the guidance is to perform a visual inspection of the bottom of the thermal sleeve guide funnels to look for any shiny surfaces on the bottom surface of the guide funnel that would indicate that the thermal sleeve guide funnels have dropped to a point where they are in contact with the top of the guide tube. A visual inspection of thermal sleeve guide funnel elevations is recommended to identify whether any sleeves are noticeably lower than others (Primary component).
11. Procedures will be revised to require visual examinations (VT-3) for the following:
 - a. Top and bottom edges of baffle plates to identify misalignment (Primary component).
 - b. General condition of the baffle plates to identify warping or void swelling (Primary component).
 - c. Surfaces of the upper internals fuel alignment pins to identify wear of the malcomized surface (Existing Programs component).
 - d. Surfaces of the lower internals fuel alignment pins to identify wear of the malcomized surface (Existing Programs component).
 - e. Clevis insert bolts and clevis insert dowels (Primary component).
12. Procedures will be revised for contingency tasks to require inspection of the following expansion components if necessitated by relevant indications being found for associated primary components:
 - a. Remaining control rod guide tube lower flange welds not inspected as Primary component (EVT-1)

- b. Control rod guide tube (CRGT) continuous section sheaths and C-tubes in accordance with the requirements of WCAP-17451-P, Revision 2. (Added - First Annual Amendment)
 - c. Bottom-mounted instrumentation column bodies (100% of BMI column bodies for which difficulty is detected during flux thimble insertion / withdrawal; VT-3)
 - d. Lower support column bodies (25% of column bodies as visible from above the core plate; VT-3)
 - e. Barrel-former bolts (100% of accessible bolts, minimum of 75% of the total population; UT)
 - f. Lower support column bolts (100% of accessible bolts, minimum of 75% of the total population; UT)
13. Procedures will be revised to require that the inspections for the radial support keys and clevis inserts are to include the Stellite wear surfaces (Primary component, MRP 2018-022).
 14. Procedures will be revised to require visual inspections (VT-3) of the guide cards in at least 37 of the 48 control rod guide tubes, and will include associated acceptance criteria. Guidance from WCAP-17451-P, "Reactor Internals Guide Tube Wear – Westinghouse Domestic Fleet Operational Projections," and MRP 2018-07, "Transmittal of NEI 03-08 Needed Guidance to Address Accelerated Guide Card Wear Operating Experience (OE) Discussed in NSAL-17-1," will be included for the inspection of control rod guide cards.
 15. Procedures will be revised to require visual examinations (EVT-1), and will include associated acceptance criteria, for 100% of ~~one side of the accessible surfaces of the core barrel lower girth weld~~ the accessible weld length of the OD of the LGW and $\frac{3}{4}$ " of adjacent base metal (minimum 50% examination coverage). (Primary component) (Revised - Change Notice 7)
 16. Procedures will be revised for contingency tasks to inspect the following expansion components if necessitated by relevant indications being found for associated primary components, and will include associated acceptance criteria: (Revised - First Annual Amendment)
 - a. Core barrel upper, middle, and lower axial welds (100% of weld length and $\frac{3}{4}$ " of adjacent base metal – minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld; EVT-1)
 - A one-time enhanced visual (EVT-1) examination of the core barrel middle axial weld (MAW) and lower axial weld (LAW) will be performed during the sixth inservice inspection interval (i.e., a "50-year inspection") no later than six months prior to the subsequent period of extended operation. The examination will include coverage for 100% of the accessible weld lengths from the core barrel OD and $\frac{3}{4}$ " of base metal on each side the weld AND a vertical zone on each side of the inaccessible portion of the

barrel containing the known location of the axial weld. Each vertical zone shall be a minimum of 3/4" wide and cover the full distance parallel to the inaccessible height of the weld.

- b. Core barrel upper girth weld (100% of weld length and 3/4" of adjacent base metal – minimum 75% examination coverage unless access limitations prevent examination of more than 50% of the weld; EVT-1)
- c. Lower support forging (25% of bottom (non-core side) surface; VT-3)
- d. Upper core plate (25% of core side surfaces; VT-3)

Monitoring and Trending (Element 5)

17. A procedure for visual examinations will be revised to identify the examiner qualifications which are applicable for EVT-1 examinations.

Operating Experience Summary

The following examples of operating experience provide objective evidence that the *PWR Vessel Internals* program has been, and will be effective in managing the aging effects for SSCs within the scope of the program so that their intended functions will be maintained consistent with the current licensing basis during the subsequent period of extended operation.

1. In November 2010, VT-3 and UT examinations of baffle-former bolts were performed for Unit 1. The entire population of 1088 bolts was inspected. There were four findings. There were two bolts that were non-inspectable using UT due to deformation at the points on the hex heads that affected the back wall signal. However, reviews of the UT signals concluded there were no flaws and the VT-3 results showed no degradation. In general, the VT-3 examination results were satisfactory. One bolt had unacceptable VT-3 results due to a missing locking bar weld on one end, but that was evaluated to be an original fabrication condition, and no further action was recommended. The UT result for that bolt was satisfactory. One bolt was rejectable for UT results due to a flaw in the head-to-shank region, but had an acceptable VT-3 result.

Baffle-edge bolt VT-3 examinations also were performed in 2010 for Unit 1. 936 accessible edge bolts were inspected. The only degradation that was noted for baffle-edge bolts was a missing weld on one end of the locking bar on one bolt which was determined to be an original fabrication condition. No further action was recommended.

2. In May 2011, VT-3 and UT examinations of baffle-former bolts were performed for Unit 2. The entire population of 1088 bolts was inspected. The VT-3 examination results were acceptable, but there were two reportable indications from the UT examinations. The visual examination for those two non-adjacent bolts showed no structural damage to the bolt head, locking bar or locking bar welds. The two indications were bounded by existing analysis which confirmed structural integrity and safety function of the reactor internals assembly. Baffle-edge bolt VT-3

examinations also were performed in 2011 for Unit 2. 936 accessible edge bolts were inspected. No degradation of baffle edge bolts was noted.

3. During refueling outages in 2012, control rod guide tubes (CRGT) assembly guide card inspections were performed for Units 1 and 2. The CRGTs had been replaced in Unit 1 in the mid-1980s; the CRGTs in Unit 2 were the original components. The inspection results in 2012 confirmed acceptable results for guide card wear. The nominal guide card slot width for 15x15 fuel is 0.277-inch. The maximum measured value for the slot width for Unit 1 was 0.2851-inch; for Unit 2, the value was 0.2850-inch. The nominal value for the second monitored parameter of ligament length is 0.1859-inch. The minimum measured value of ligament length was 0.165-inch. These differences of no more than 11% indicate no concern for guide card wear.
4. In May 2014, an examination of the Unit 2 radial support keyway at 270 degrees identified an area of material deformation. By visual estimation, the groove-like indication reduced the surface area by less than 5%. Due to no indication of current wear, it was concluded that minimal wear had occurred over an extended period of operation. An engineering evaluation determined that this slight reduction in surface area was insignificant and acceptable.
5. In May 2014, three relevant indications were noted on the reactor pressure vessel cladding. The first indication involved an impression of a fastener nut, and the second indication was the subject nut which was still in the vessel, but was subsequently removed. The third indication was an impact point where a component or part had come into contact with the cladding. The indication did not appear to contain any cracks or flaws that would have the possibility to grow. There was no distortion or displacement of the surrounding structure. The observed condition was evaluated to be acceptable without further action.
6. In September 2014, Westinghouse issued Technical Bulletin TB-14-5, "Reactor Internals Lower Radial Support Clevis Insert Cap Screw Degradation". The bulletin recommended that during the next 10-year reactor vessel exam when the core barrel is removed, a VT-1 should be performed on the clevis bolts. The Augmented Inspection Plan was revised to include the recommended NDE examination.
7. In August 2016, Westinghouse provided a summary of industry operating experience regarding baffle-former bolts. NSAL-16-1, "Baffle-former Bolts," designated SPS as a Tier 2b plant. For such plants, NSAL-16-1 recommended that records of previous UT inspections of bolting be reviewed to identify any indication for the onset of clustering in the bolt failure patterns. Clustering is defined as three or more adjacent bolts or a total number of failures in a single baffle plate greater than 40% of the total number of bolts on that baffle plate. Unit 1 has a record of one UT bolting failure identified by UT examination, and Unit 2 has two. Therefore, a cluster failure concern (three or more adjacent failures) is not an issue for either unit.

-
8. In August 2016, Westinghouse issued Technical Bulletin TB-16-4, "Fuel Alignment Pin Malcomized Surface Degradation," after becoming aware of industry operating experience indicating degradation of lower core plate (LCP) and upper core plate (UCP) fuel alignment pins with a malcomized surface. As a result, those alignment pins have been added to the scope of inspections for the reactor vessel internals.
9. In December 2016, as part of oversight review activities, a review of procedures credited by initial license renewal AMAs was conducted to confirm the following:
- Procedures credited for license renewal were identified
 - Procedures were consistent with the licensing basis and bases documents
 - Procedures contained a reference to conduct an aging management review prior to revising
 - Procedures credited for license renewal were identified by an appropriate program indicator and contained a reference to a license renewal document

Procedure changes were completed as necessary to ensure the above items were satisfied.

10. In November 2017, as part of oversight review activities, the Reactor Vessel Internals Inspection Activity (UFSAR Section 18.2.15) AMA owner confirmed that AMA inspections had been performed and the inspections addressed the required SSCs consistent with the aging management activity commitments. No gaps were identified by the review.
11. In April 2018, MRP letter 2018-010 recommended that plants currently in a refueling outage or scheduled for an outage visually examine the general condition of the top of the Control Rod Guide Tubes (CRGTs) for any shiny rings which is indicative of a thermal sleeve guide funnel having dropped to a point of being in contact. Operating experience at a non-U.S. Westinghouse-designed plant indicated thermal sleeve wear due to contact with the CRGT. A degraded thermal sleeve has been shown to interfere with the movement of the control rod. Additional information regarding this operating experience was provided in Westinghouse Nuclear Safety Advisory Letter NSAL-18-1, "Thermal Sleeve Flange Wear Leads to Stuck Control Rod," in July 2018. During the refueling outage for Unit 1 in Spring 2018, visual inspections were performed for the top of the CRGTs and for the bottom of the thermal sleeve funnels to look for shiny surfaces which indicate wear. No indications were found.
12. In January 2018, an AMA effectiveness review was performed of the Reactor Vessel Internals Inspection Activity (UFSAR Section 18.2.15). Information from the summary of that effectiveness review is provided below:

The Reactor Vessel Internals Inspection Activity is meeting or exceeding the requirements of selected NEI 14-12, "Aging Management Program Effectiveness," elements. The Reactor Vessel Internals Inspection Activity includes visual inspections and non-destructive

examinations of components that comprise the reactor pressure vessel internals. Key elements of the activity that were reviewed included identification of reactor internals structural components to be inspected, inspection frequencies and techniques, evaluation and documentation of inspection results, repair/replacement tasks, industry initiatives, and program updates. The reviews were based on guidance from MRP-227-A per the requirements of NEI 03-08, and UFSAR Section 18.2.15 as well as license renewal commitment #14. Condition Reports (CRs) were reviewed for a 10-year period (July 2006-June 2016) to identify possible occurrences of age-related degradation for the reactor vessel internals.

The initial examinations performed for the Reactor Vessel Internals Inspection Activity found degradation only for a few of the baffle-to-former bolts. Those findings were evaluated to not jeopardize the integrity of the reactor internals. There were no findings of degradation for other structural components in the reactor internals.

Relevant industry documents that provide a basis for the Reactor Vessel Internals Inspection Activity include WCAP-17096, "Reactor Internals Acceptance Criteria Methodology and Data Requirements," WCAP-14577, "License Renewal Evaluation: Aging Management for Reactor Internals," WCAP-17451, "Reactor Internals Guide Tube Wear – Westinghouse Domestic Fleet Operational Projections," and NSAL-17-1, "Guide Tube Guide Card Wear Attributed to Ion Nitride Rod Cluster Control Assembly." The Fleet Lead for the Reactor Vessel Internals Inspection frequently participates in industry meetings and performs reviews of industry OE summaries to remain aware of potential needs to revise the scope, frequency, or techniques to be used for reactor internals examinations. There has been no need to make any such changes. Compliance with the guidance of MRP-227-A is maintained.

The above examples of operating experience provide objective evidence that the *PWR Vessel Internals* program includes activities to perform volumetric and visual inspections to identify cracking, loss of material, loss of fracture toughness, change in dimensions due to void swelling, and loss of preload for the reactor vessel internals within the scope of subsequent license renewal, and to initiate corrective actions. Occurrences identified under the *PWR Vessel Internals* program are evaluated to ensure there is no significant impact to the safe operation of the plant and corrective actions will be taken to prevent recurrence. Guidance or corrective actions for additional inspections, re-evaluation, repairs, or replacements is provided for locations where aging effects are found. The program is informed and enhanced when necessary through the systematic and ongoing review of both plant-specific and industry operating experience. There is reasonable assurance that the continued implementation of the *PWR Vessel Internals* program, following enhancement, will effectively manage aging prior to loss of intended function.

Conclusion

The continued implementation of the *PWR Vessel Internals* program, following enhancement, will provide reasonable assurance that aging effects will be managed such that the components within the scope of this program will continue to perform their intended functions consistent with the current licensing basis during the subsequent period of extended operation.

Enclosure 2

COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION
PERMIT NO. VMRC #19-1433

(Note: VMRC #19-1433 Supersedes VMRC #16-0710)

**Virginia Electric and Power Company
(Dominion Energy Virginia or Dominion)
Surry Power Station Units 1 and 2**



COMMONWEALTH of VIRGINIA

Marine Resources Commission

Building 96

380 Fenwick Road

Fort Monroe, VA 23651

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

December 10, 2019

Virginia Electric and Power Company
Attn: Mr. Mr. Fred Mladen
c/o Ms. Oula Shehab-Dandan
5000 Dominion Boulevard
Glen Allen, VA 23060

Re: VMRC #19-1433

Dear Mr. Mladen:

Enclosed is the Marine Resources Commission permit to hydraulically maintenance dredge up to 150,000 cubic yards of State-owned subaqueous land, on an as-needed basis, in the basin adjacent to the intake channel for the Surry Nuclear Power Plant within the James River in Surry County; and to temporarily install approximately four (4) miles of 22-inch to 30-inch diameter HDPE pipe secured to floats or secured to the bottom of Lawnes Creek, to transport dredged sediments from the power plant intake channel to a dredge material management upland area located along Lawnes Creek in Surry County.

A yellow placard is also enclosed. This placard reflects the authorized activities for inspection purposes and must be conspicuously displayed at the work site throughout the construction phase. Failure to properly post the placard in a prominent location will be considered a violation of your permit conditions.

YOU ARE REMINDED THAT ANY DEVIATION FROM THE PERMIT OR ATTACHED DRAWINGS REQUIRES PRIOR AUTHORIZATION FROM THE MARINE RESOURCES COMMISSION. FAILURE TO OBTAIN THE NECESSARY MODIFICATION WILL BE CONSIDERED A VIOLATION AND COULD SUBJECT YOU TO CIVIL CHARGES IN AMOUNTS NOT TO EXCEED \$10,000 PER VIOLATION.

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

Virginia Electric and Power Company
Page Two

December 10, 2019
VMRC #19-1433

The work authorized by this permit is to be completed by November 26, 2023. Please note that in conformance with Special Condition 17 of your permit you are to notify the Commission 15 days prior to commencement of your permitted project. The enclosed self-addressed, stamped, postcard is to be used for this purpose. All other conditions of the permit will remain in effect.

Please be advised that you may also require issuance of a U. S. Army Corps of Engineers permit before you begin work on this project. You may wish to contact them directly to verify any permitting requirements.

Sincerely,



Randal D. Owen
Deputy Chief, Habitat Management

RDO/jmw:cef
HM
Enclosure
cc: Applicant

**COMMONWEALTH OF VIRGINIA
MARINE RESOURCES COMMISSION
PERMIT**

The Commonwealth of Virginia, Marine Resources Commission, hereinafter referred to as the Commission, on this 26th day of November 2019 hereby grants unto:

**Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, VA 23060**

hereinafter referred to as the Permittee, permission to:

- Encroach in, on, or over State-owned subaqueous bottoms pursuant to Chapter 12, Subtitle III, of Title 28.2 of the Code of Virginia.
- Use or develop tidal wetlands pursuant to Chapter 13, Subtitle III, of Title 28.2 of the Code of Virginia.

Permittee is hereby authorized to hydraulically maintenance dredge up to 150,000 cubic yards of State-owned subaqueous land, on an as-needed basis, in the basin adjacent to the intake channel for the Surry Nuclear Power Plant within the James River in Surry County; and to temporarily install approximately four (4) miles of 22-inch to 30-inch diameter HDPE pipe secured to floats or secured to the bottom of Lawnes Creek, to transport dredged sediments from the power plant intake channel to a dredge material management upland area located along Lawnes Creek in Surry County. All activities authorized herein shall be accomplished in conformance with the plans and drawings dated received August 12, 2019, and revised drawings dated received September 26, 2019, which are attached and made a part of this permit.

This permit is granted subject to the following conditions:

- (1) The work authorized by this permit is to be completed by November 26th, 2023. The Permittee shall notify the Commission when the project is completed. The completion date may be extended by the Commission in its discretion. Any such application for extension of time shall be in writing prior to the above completion date and shall specify the reason for such extension and the expected date of completion of construction. All other conditions remain in effect until revoked by the Commission or the General Assembly.
- (2) This permit grants no authority to the Permittee to encroach upon the property rights, including riparian rights, of others.
- (3) The duly authorized agents of the Commission shall have the right to enter upon the premises at reasonable times, for the purpose of inspecting the work being done pursuant to this permit.
- (4) The Permittee shall comply with the water quality standards as established by the Department of Environmental Quality, Water Division, and all other applicable laws, ordinances, rules and regulations affecting the conduct of the project. The granting of this permit shall not relieve the Permittee of the responsibility of obtaining any and all other permits or authority for the projects.
- (5) This permit shall not be transferred without written consent of the Commissioner.
- (6) This permit shall not affect or interfere with the right vouchsafed to the people of Virginia concerning fishing, fowling and the catching of and taking of oysters and other shellfish in and from the bottom of acres and waters not included within the terms of this permit.
- (7) The Permittee shall, to the greatest extent practicable, minimize the adverse effects of the project upon adjacent properties and wetlands and upon the natural resources of the Commonwealth.
- (8) This permit may be revoked at any time by the Commission upon the failure of the Permittee to comply with any of the terms and conditions hereof or at the will of the General Assembly of Virginia.
- (9) There is expressly excluded from the permit any portion of the waters within the boundaries of the Baylor Survey.
- (10) This permit is subject to any lease of oyster planting ground in effect on the date of this permit. Nothing in this permit shall be construed as allowing the Permittee to encroach on any lease without the consent of the leaseholder. The Permittee shall be liable for any damages to such lease.
- (11) The issuance of this permit does not confer upon the Permittee any interest or title to the beds of the waters.
- (12) All structures authorized by this permit, which are not maintained in good repair, shall be completely removed from State-owned bottom within three (3) months after notification by the Commission.
- (13) The Permittee agrees to comply with all of the terms and conditions as set forth in this permit and that the project will be accomplished within the boundaries as outlined in the plans attached hereto. Any encroachment beyond the limits of this permit shall constitute a Class 1 misdemeanor.
- (14) This permit authorizes no claim to archaeological artifacts that may be encountered during the course of construction. If, however, archaeological remains are encountered, the Permittee agrees to notify the Commission, who will, in turn notify the Department of Historic Resources. The Permittee further agrees to cooperate with agencies of the Commonwealth in the recovery of archaeological remains if deemed necessary.
- (15) The Permittee agrees to indemnify and save harmless the Commonwealth of Virginia from any liability arising from the establishment, operation or maintenance of said project.

The following special conditions are imposed on this permit:

- (16) The yellow placard accompanying this permit document must be conspicuously displayed at the work site.
- (17) Permittee agrees to notify the Commission a minimum of 15 days prior to the start of the activities authorized by this permit.
- (18) The Permittee shall provide a post-dredging bathymetric survey of the dredged area within 30 days of the completion of the dredging. The survey shall be signed and dated as being accurate and true. The survey shall be referenced to mean low water.
- (19) The post-dredge survey depths shall vary uniformly around the permitted dredge depths (-11). Any areas dredged deeper than the permitted depth may be considered a violation of the permit and subject to enforcement action.
- (20) A pre-dredging conference shall be held on site prior to the commencement of the dredging. The meeting shall be attended by the Permittee, the dredging contractor and a member of the VMRC staff. The meeting shall be held prior to the commencement of dredging and shall include an inspection of the dredge material containment area, an inspection of the previously staked dredge area, and a discussion of the terms and conditions of the permit.
- (21) To the extent possible, while still providing navigational access along the creek, the Permittee shall deploy a silt curtain around the perimeter of the area actively being dredged.
- (22) No work may take place from February 15 through June 30 for the protection of anadromous fishes and June 30 through August 31 for the protection of spawning oysters.
- (23) The dredge pipe must routinely be monitored during dredge activities. If any leaks are identified, the dredge operation must halt until repairs are made.
- (24) The permittee agrees to deploy the dredge pipe no longer than 15 days prior to the start of dredge activity and remove the pipe no greater than 15 days after dredging is completed. The permittee also agrees to contact VMRC staff if additional time is needed to install or remove the pipe.
- (25) The dredge pipe and associated buoys shall be marked in a manner consistent with USCG Aids to Navigation Regulations.
- (26) In the event of an emergency situation where immediate dredging is required, the Commissioner, or his designee, upon request from the permittee, may grant relief from the Time of Year Restrictions to conduct emergency dredging.

Description of Fees	Amount	Unit of Measure	Rate	Total	Frequency	After-The-Fact
Permit Fee				\$100.00	One-Time	
Total Permit Fees				\$100.00		

This permit consists of 15 Pages

PERMITTEE

Permittee's signature is affixed hereto as evidence of acceptance of all of the terms and conditions herein.

In cases where the Permittee is a corporation, agency or political jurisdiction, please assure that the individual who signs for the Permittee has proper authorization to bind the organization to the financial and performance obligations which result from activity authorized by this permit.

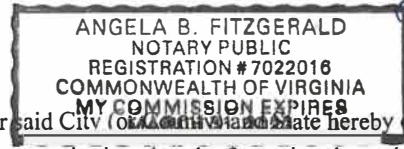
PERMITTEE

Accepted for

6th day of December, 2019

By Angela Tornabene VP and Chief
(Name) (Title) Environmental Officer

State of Virginia
City (or County) of Henrico, to-wit:



I, Angela B Fitzgerald a Notary Public in and for said City (or County) and State hereby certify that Amanda Tornabene, Permittee, whose name is signed to the foregoing, has acknowledged the same before me in my City (or County) and State aforesaid.

Given under my hand this 6th day of December, 2019

My Commission Expires: 3/31/2022

Notary Public Angela B Fitzgerald

COMMISSION

IN WITNESS WHEREOF, the Commonwealth of Virginia, Marine Resources Commission has caused these presents to be executed in its behalf by Randal D. Owen, Deputy Chief, Habitat Management
(Name) (Title) Marine Resources Commission

10th day of December, 2019

By R

State of Virginia
City of Hampton, to-wit:

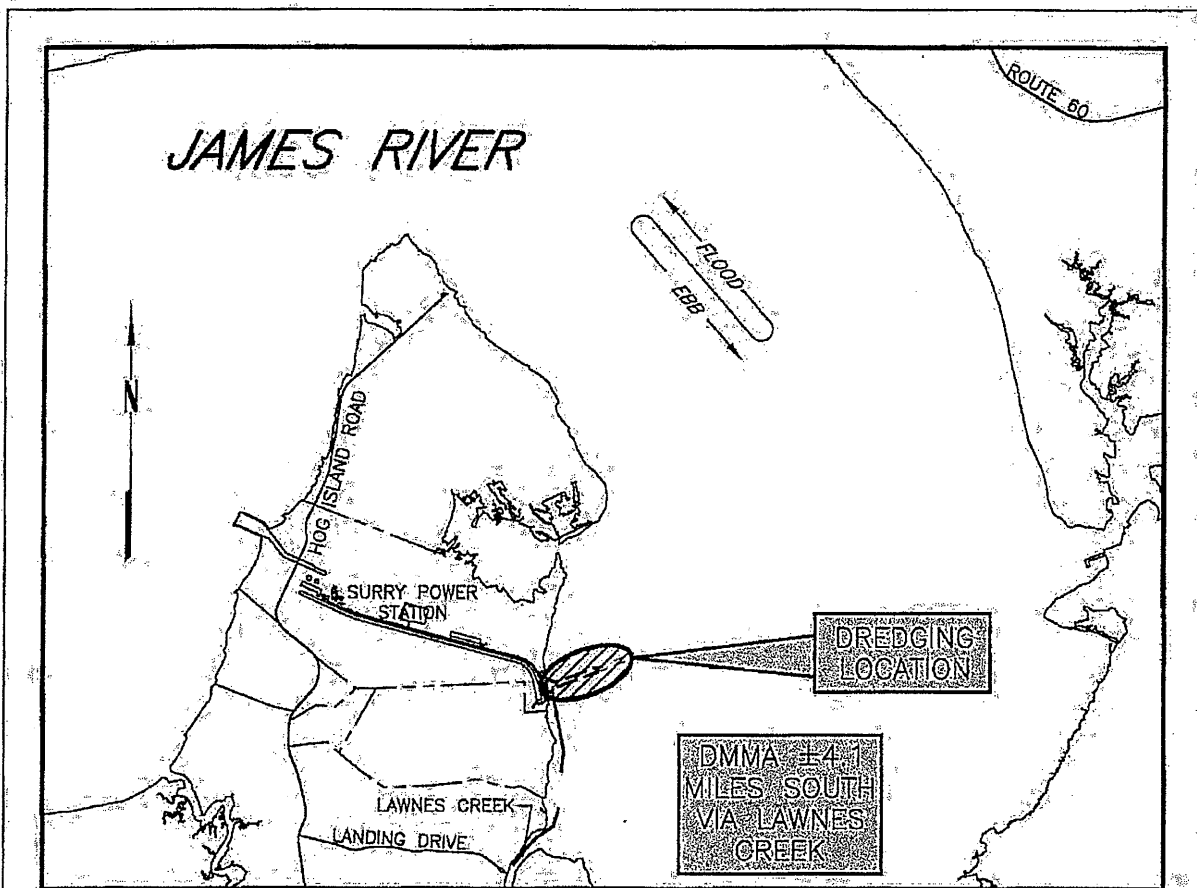
I, Christina E. Fox, a Notary Public within and for said City, State of Virginia, hereby certify that Randal D. Owen, whose name is signed to the foregoing, bearing the 26th day of November 2019, has acknowledged the same before me in City aforesaid.

Given under my hand this 10th day of December 2019

My Commission Expires: August 31, 2023

Notary Public Christina E. Fox





NOTES:

1. SOUNDINGS WERE TAKEN USING A RECORDING FATHOMETER OPERATING AT 208KHz.
2. SOUNDINGS ARE IN FEET REFERRED TO NOS MEAN LOWER LOW WATER (MLLW) AND WERE TAKEN ON JANUARY 11, 2016.
3. BENCHMARK IS A CHISELED SQUARE ON NORTHEAST CORNER OF CONCRETE RETAINING WALL AT THE START OF THE SHEET PILE BULKHEAD. ELEVATION = 11.42' ABOVE NOS MLLW. TIDAL EPOCH 1983-2001.
4. COORDINATES ARE IN FEET REFERRED TO VIRGINIA STATE GRID (SOUTH ZONE) BASED ON NAD83.
5. LOCATIONS OF COLUMBIA GAS PIPELINE PROVIDED BY CROFTON DIVING.
6. PROPERTY LINES TAKEN OF SURREY COUNTY IMAGE AND ARE APPROXIMATE.


APO:

SEE SHEET 2.

Waterway
 Surveys & Engineering, Ltd.
 Virginia Beach, Virginia

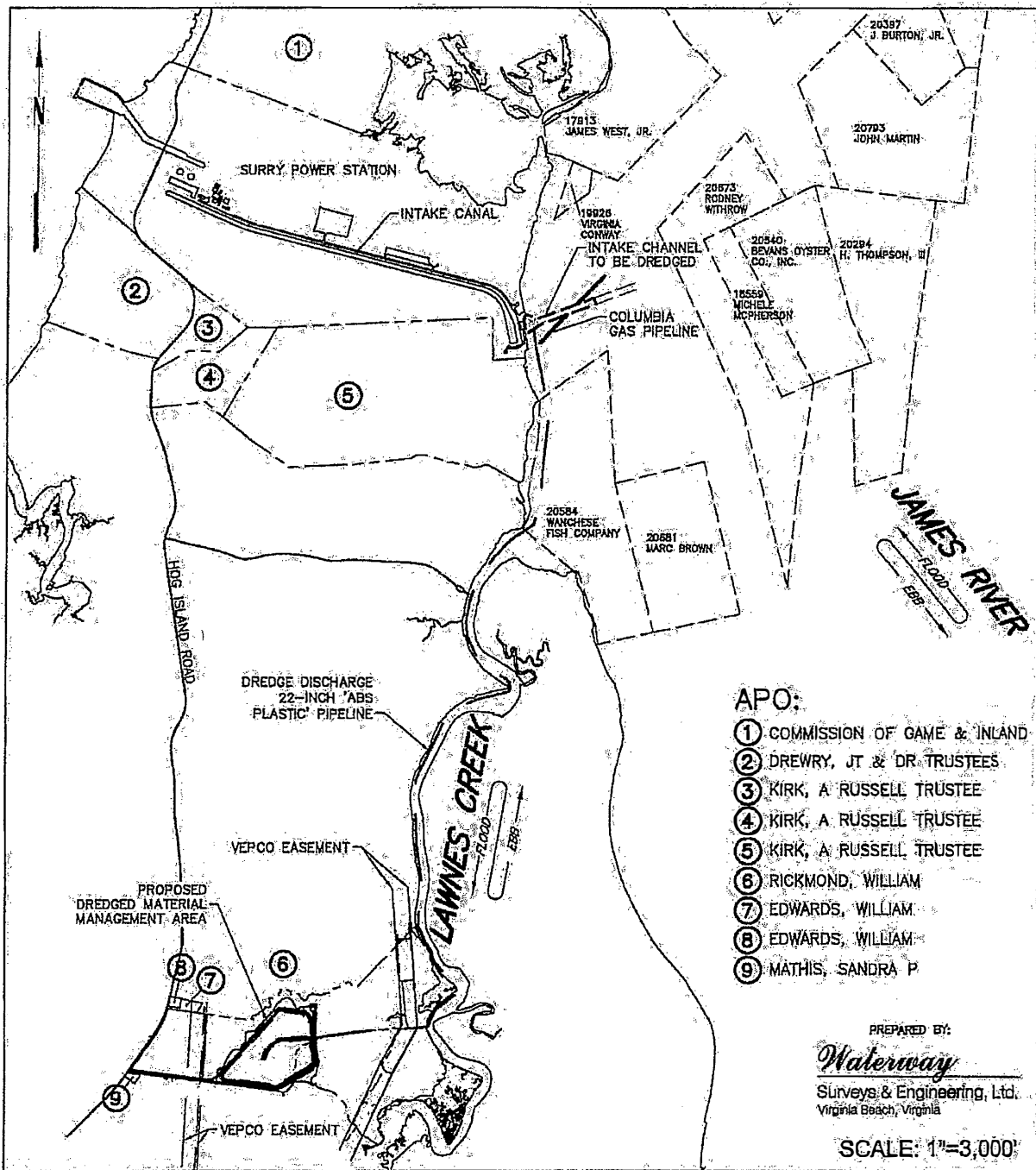
PREPARED BY:

SCALE: 1"=5,000'

REVISION DESCRIPTION	 Dominion	NUCLEAR ENGINEERING RICHMOND, VIRGINIA
LOCATION MAP SURREY POWER STATION JOINT PERMIT APPLICATION		

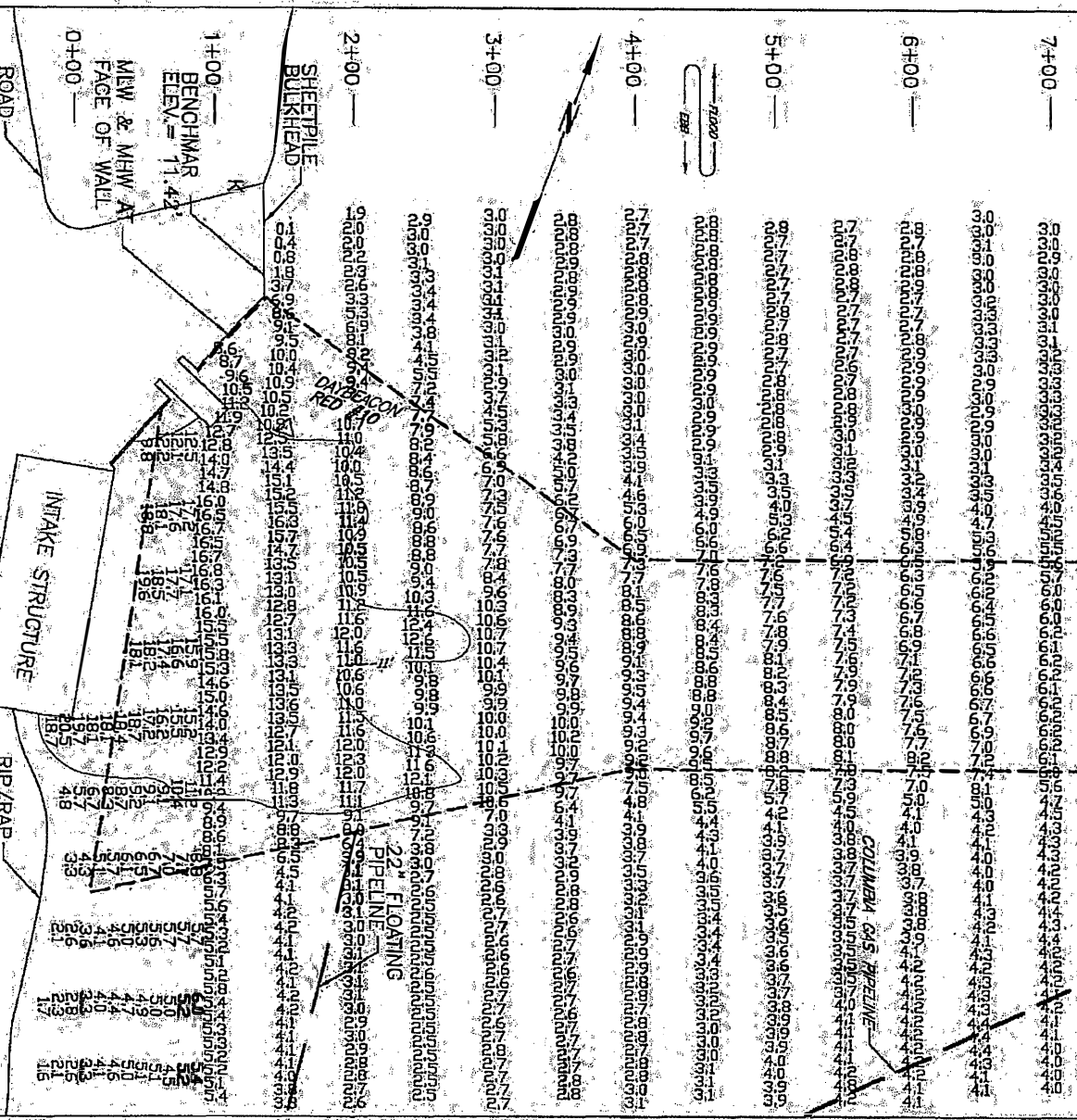
LSSGN	CAD NO: (A1) USERNAME: K.T.D. DGN SPEC. FOR FILE VERIFICATION	DRAWING NO: 5267-00-22-01	SH 1 OF 6 REV
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Received by VMRC
 August 12, 2019 /Ira





REVISION DESCRIPTION			NUCLEAR ENGINEERING RICHMOND, VIRGINIA		
			PROJECT OVERVIEW WITH OYSTER LEASES & IMPACTS SURRY POWER STATION JOINT PERMIT APPLICATION		
DSGN	CAD NO: (A2) DGN SPEC FOR FILE VERIFICATION	USERNAME: K.T.D.	DRAWING NO: 5267-00-22-02	SH 2 OF 6	REV

MATCHLINE STATION 7+25



NOTE:
 SOUNDINGS ARE IN FEET REFERRED TO NOS MEAN LOWER
 LOW WATER (MLLW) AND WERE TAKEN ON JANUARY 11, 2016.
 SCALE: 1"=100'

REVISION DESCRIPTION

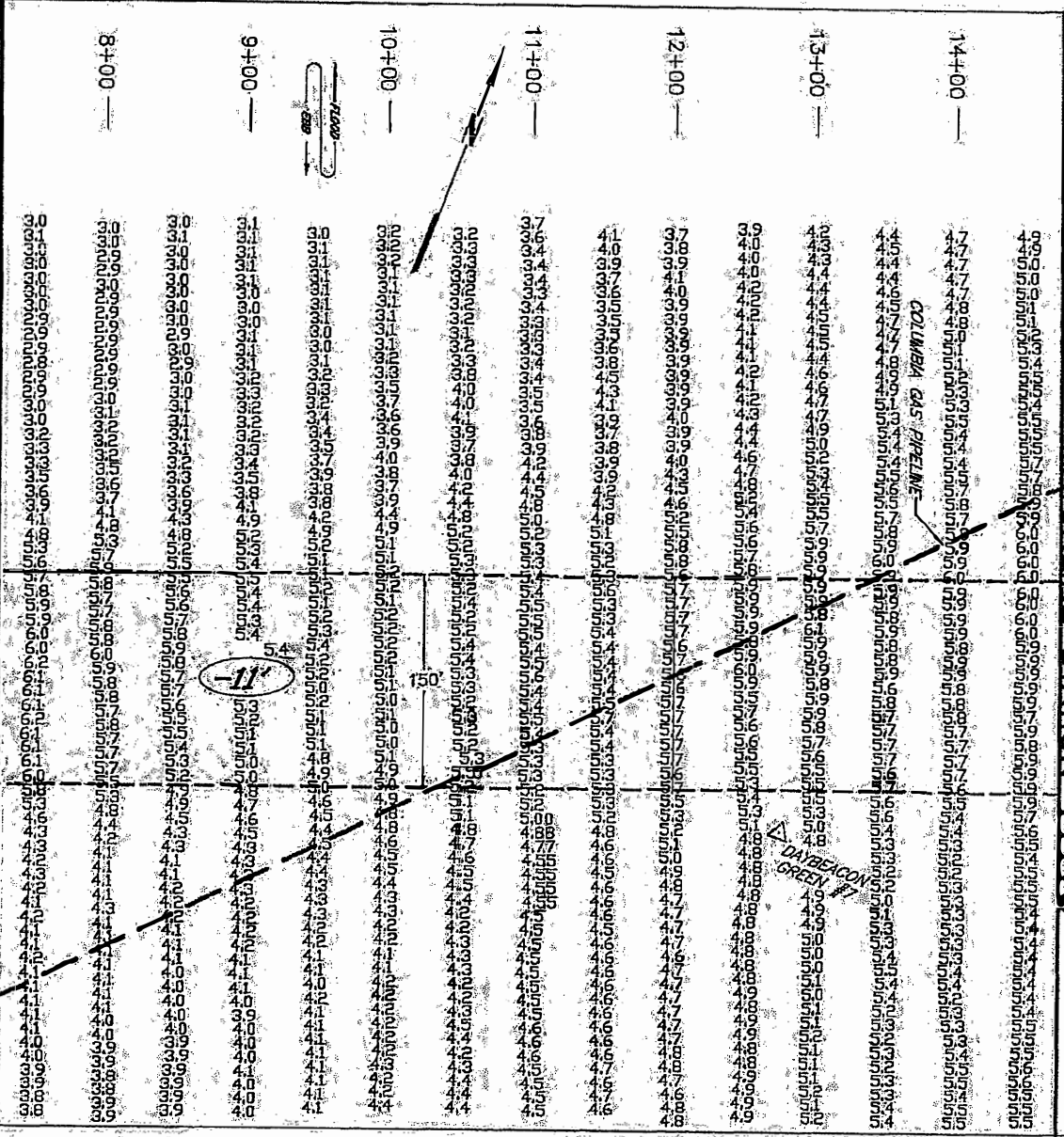
 Dominion	 NUCLEAR ENGINEERING RICHMOND, VIRGINIA
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PLANNED BY:
McLewey
 Surveys & Engineering, Ltd.
 Virginia Beach, Virginia

PLAN VIEW - SHEET 1
 SURRY POWER STATION
 JOINT PERMIT APPLICATION

DSGN	CAD NO: (A3) USER:AMEK:TD.	DRAWING NO: 5267-00-22-03	SH 3 OF 6	REV
	DENSPREC FOR FILE VERIFICATION			

MATCHLINE STATION 14+25



NOTE:
 SOUNDINGS ARE IN FEET REFERRED TO NOS. MEAN LOWER
 LOW WATER (MLW) AND WERE TAKEN ON JANUARY 11, 2016.

PREPARED BY:
Walter Murray
 Murray & Engineering, Ltd.
 Virginia Beach, Virginia

SCALE: 1"=100'

REVISION DESCRIPTION

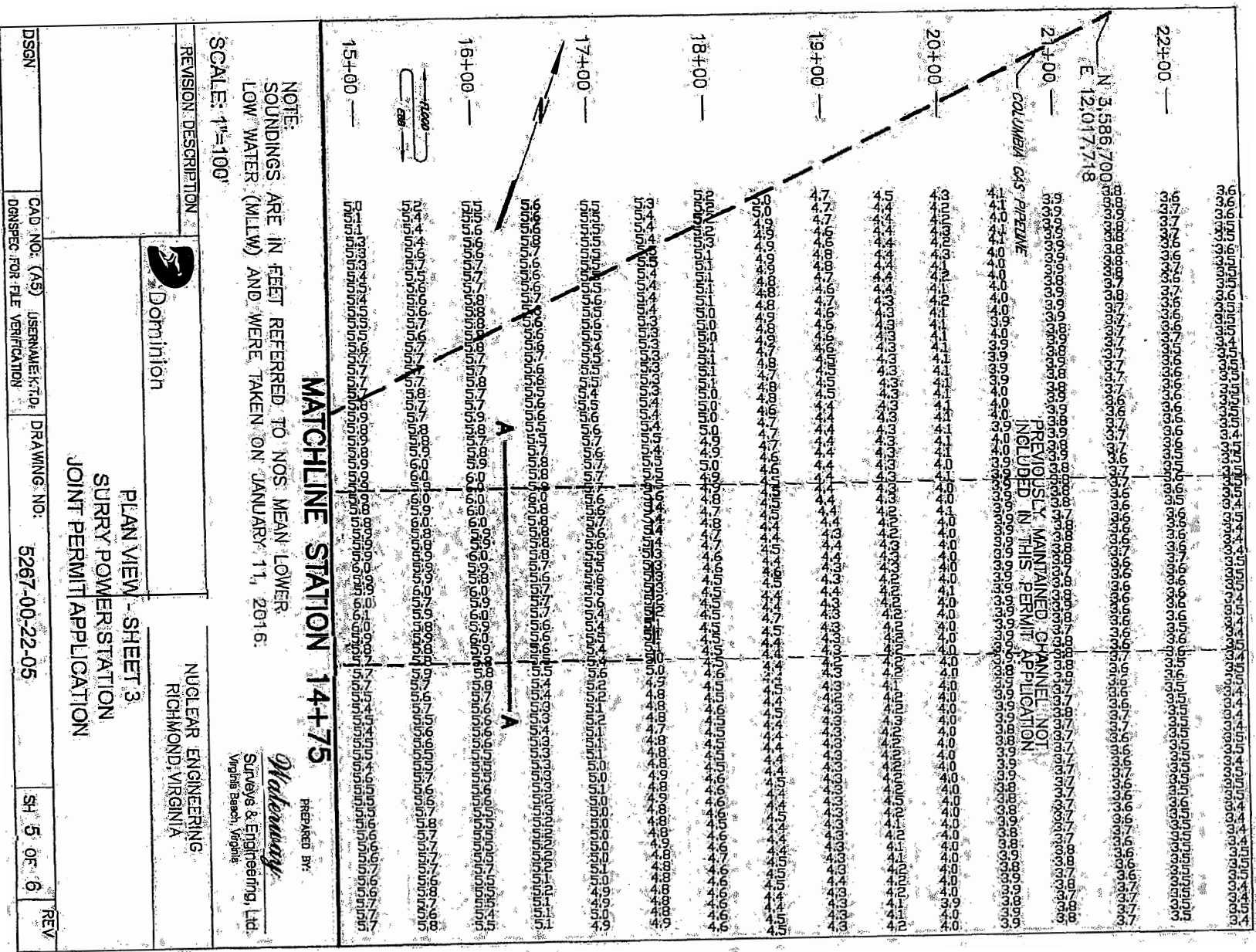


Dominion

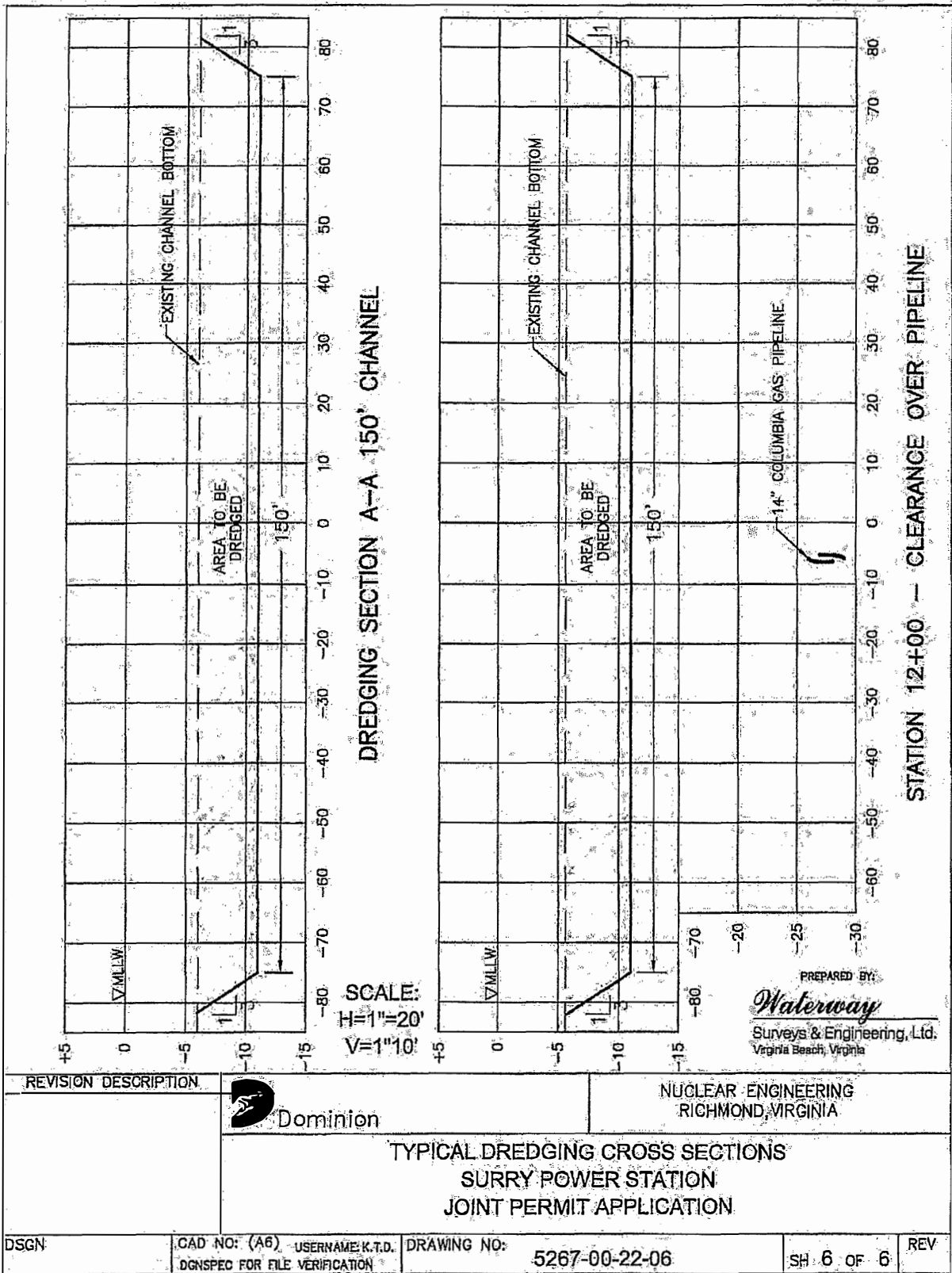
NUCLEAR ENGINEERING
 RICHMOND, VIRGINIA


PLAN VIEW - SHEET 2
 SUPPLY POWER STATION
 JOINT PERMIT APPLICATION

DSGN	CAD NO: (A4)	USERNAME:K.T.D.	DRAWING NO:	5267-00-22-04	SH 4	OF 6	REV
	DANSEP FOR FILE VERIFICATION						

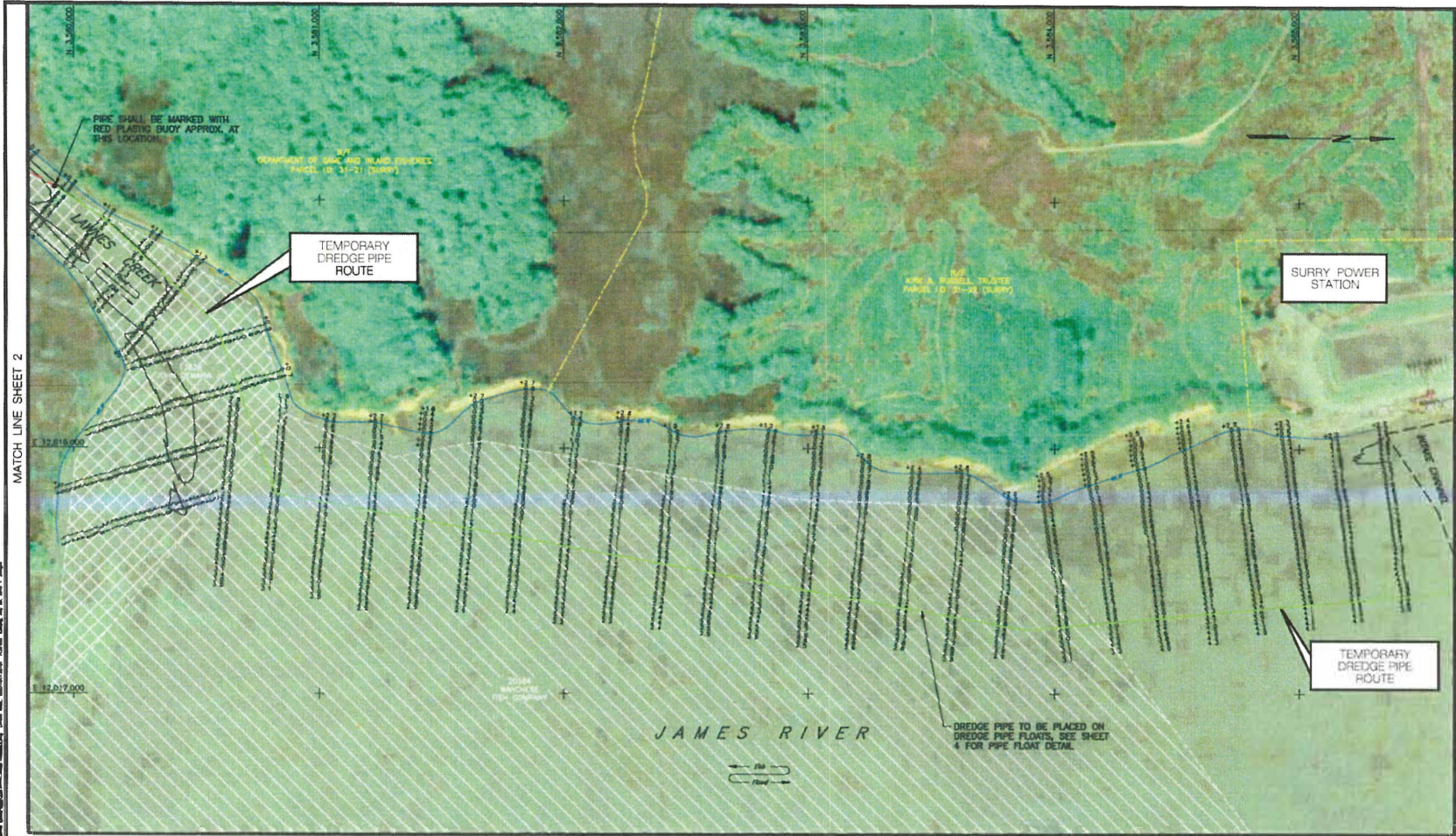


Received by VMRC
 August 12, 2019 /lra



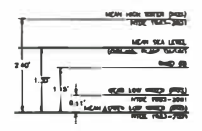
REVISION DESCRIPTION	 Dominion	NUCLEAR ENGINEERING RICHMOND, VIRGINIA	
TYPICAL DREDGING CROSS SECTIONS SURRY POWER STATION JOINT PERMIT APPLICATION			
DSGN	CAD NO: (A6) - USERNAME: K.T.D. DGN SPEC FOR FILE VERIFICATION	DRAWING NO: 5267-00-22-06	SH 6 OF 6 REV

Received by VMRC
 August 12, 2019 /Ira



MATCH LINE SHEET 2

DIAGRAM OF DATUM PLANE



NOTES:

1. SOUNDINGS WERE TAKEN USING A RECORDING FATHOMETER OPERATING AT 2000% ON AUGUST 2016.
2. SOUNDINGS ARE IN FEET REFERRED TO MGS MEAN LOWER LOW WATER (MLLW).
3. BENCHMARK IS A CHISELED SQUARE ON NORTHEAST CORNER OF CONCRETE RETAINING WALL AT THE START OF THE SHEET PILE BRIDGE. ELEVATION = 11.42' ABOVE MGS MEAN LOW WATER (2002).
4. COORDINATES ARE IN FEET REFERRED TO VIRGINIA STATE PLANE (SOUTH ZONE) BASED ON NAD83.
5. PIPELINE LOCATION SHALL BE MARKED AND LIGHTED IN ACCORDANCE WITH APPLICABLE SECTIONS OF 30.1 OF 83.27 AND USAGE OF 2014-1-1-2017 AND HEALTH REQUIREMENTS MANUAL (20 NOVEMBER 2014).
6. PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT CONSTITUTE A BOUNDARY SURVEY.

LEGEND:

- TEMPORARY DREDGE PIPE (FLOATED) ---
- TEMPORARY DREDGE PIPE (ANCHORED) ---
- PROPERTY LINE ---
- MEAN LOW WATER (MGS) ---
- PRIVATE OPEN GROUND (LEASE LIMITS)



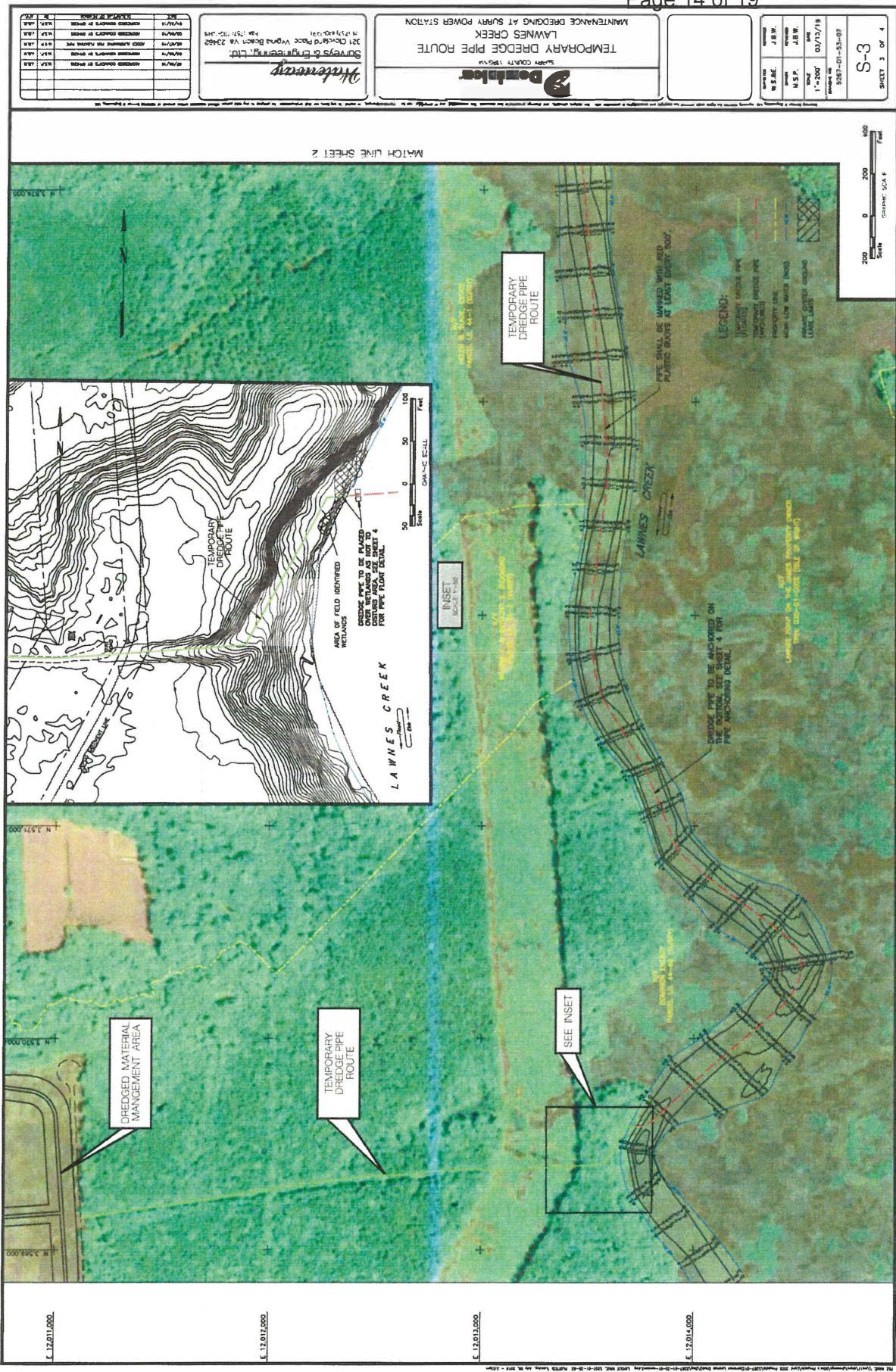
NO.	DATE	DESCRIPTION	BY	CHECKED

Waterway
 Surveys & Engineering, Ltd.
 321 Occochee Place, Virginia Beach, Va. 23462
 Tel: (757) 457-5457
 Fax: (757) 457-5458
 www.waterwaysurvey.com

Donalson
 SURRY COUNTY, VIRGINIA
TEMPORARY DREDGE PIPE ROUTE
 LAWNES CREEK
 MAINTENANCE DREDGING AT SURRY POWER STATION

DESIGNED BY S.A.E.	REVIEWED BY J.B.W.
DRAWN BY M.S.P.	CHECKED BY J.B.W.
SHEET NO. 1	DATE 03/15/19
PROJECT NO. 5267-01-03-05	
S-1	
SHEET 1 OF 4	

Additional Info/Revision
 Received by VMRC September 26, 2019 /rs



NO.	DATE	DESCRIPTION
1	01/12/18	ISSUED FOR PERMIT
2	01/12/18	ISSUED FOR PERMIT
3	01/12/18	ISSUED FOR PERMIT
4	01/12/18	ISSUED FOR PERMIT
5	01/12/18	ISSUED FOR PERMIT
6	01/12/18	ISSUED FOR PERMIT
7	01/12/18	ISSUED FOR PERMIT
8	01/12/18	ISSUED FOR PERMIT
9	01/12/18	ISSUED FOR PERMIT
10	01/12/18	ISSUED FOR PERMIT

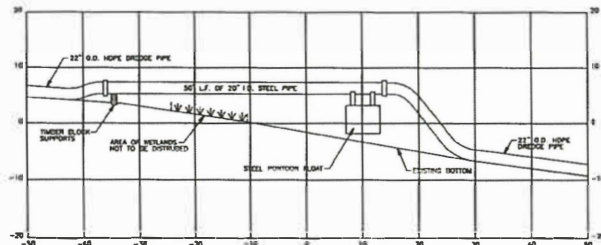
Shelton
 Surveys & Engineering, Ltd.
 321 Ocean Drive, Virginia Beach, VA 23462
 Tel: (757) 707-1414
 Fax: (757) 707-1414

DeWitt
 LARSEN COUNTY 198011A
 TEMPORARY DREDGE PIPE ROUTE
 LAWNES CREEK
 MAINTENANCE DREDGING AT SURRY POWER STATION

DATE PLOTTED	01/12/18
SCALE	1" = 200'
PROJECT	198011A
DRAWN BY	J.B.H.
CHECKED BY	M.S.P.
DATE	01/12/18
PROJECT NO.	198011A
PROJECT NAME	MAINTENANCE DREDGING AT SURRY POWER STATION
SHEET NO.	3 OF 4

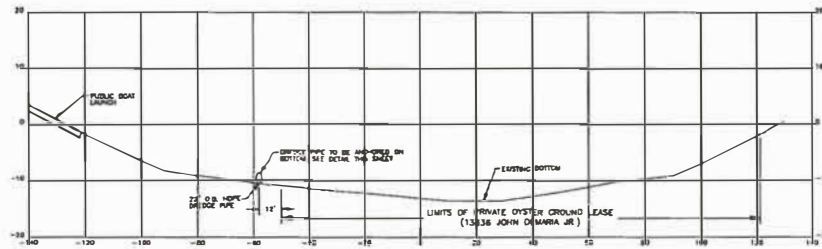
E. 12.011.000.0
 E. 12.013.000.0
 E. 12.014.000.0

Additional Info/Revision
 Received by MURC September 26, 2019. R/s



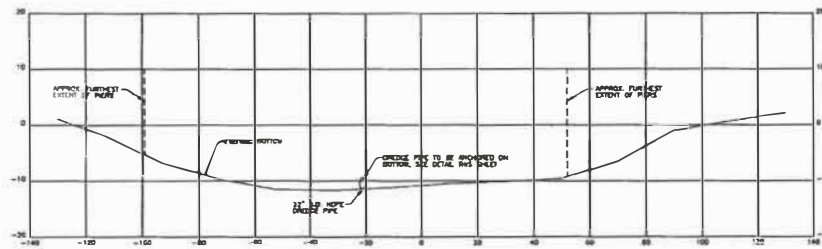
DREDGE PIPE DETAIL FOR WETLAND CROSSING

SCALE: HORIZ.: 1"=10'
VERT.: 1"=10'



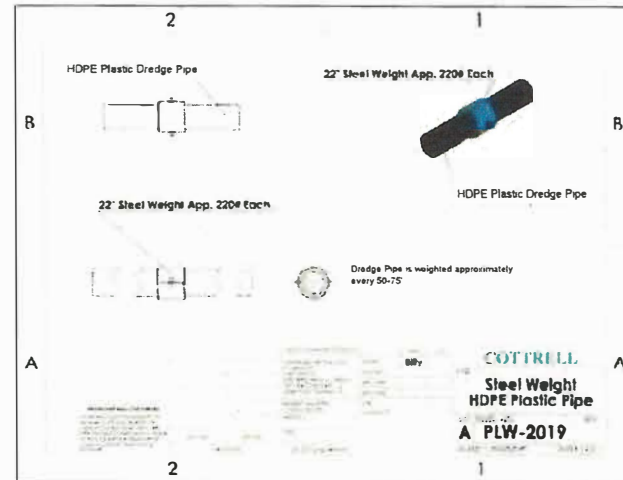
BOAT RAMP SECTION

SCALE: HORIZ.: 1"=20'
VERT.: 1"=10'



TYPICAL PIER SECTION

SCALE: HORIZ.: 1"=20'
VERT.: 1"=10'



DREDGE PIPE ANCHORING DETAIL

(NOT TO SCALE)



TYPICAL DREDGE PIPE FLOAT DETAIL

(NOT TO SCALE)



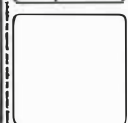
TYPICAL PLASTIC RED MARKER BUOY

(NOT TO SCALE)

NO.	DATE	BY	CHKD.	DESCRIPTION
1	03/12/19	J.B.W.	J.B.W.	ISSUED FOR PERMITTING
2	03/12/19	J.B.W.	J.B.W.	ISSUED FOR PERMITTING
3	03/12/19	J.B.W.	J.B.W.	ISSUED FOR PERMITTING
4	03/12/19	J.B.W.	J.B.W.	ISSUED FOR PERMITTING
5	03/12/19	J.B.W.	J.B.W.	ISSUED FOR PERMITTING

Waterway
Surveys & Engineering, Ltd.
221 Chesapeake Place, Virginia Beach, Va. 23462
Tel: 757-484-1900
Fax: 757-484-1901

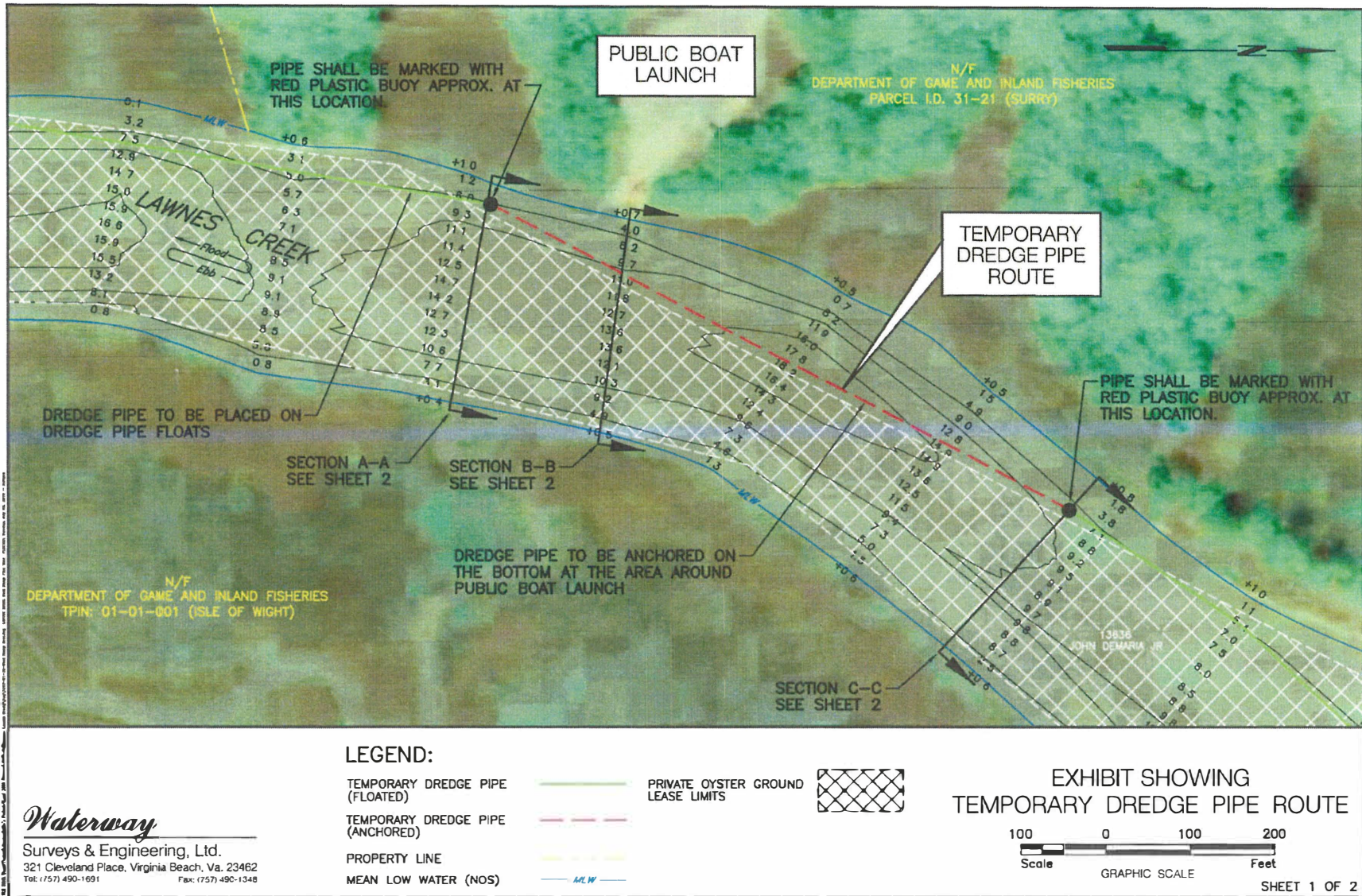
Donahoe
SURVEYING ENGINEERS
TEMPORARY DREDGE PIPE ROUTE
DETAILS
MAINTENANCE DREDGING AT SURRY POWER STATION



DESIGNED BY	CHECKED BY
M.S.P.	J.B.W.
SCALE AS SHOWN	DATE 03/12/19
SHEET 4 OF 4	

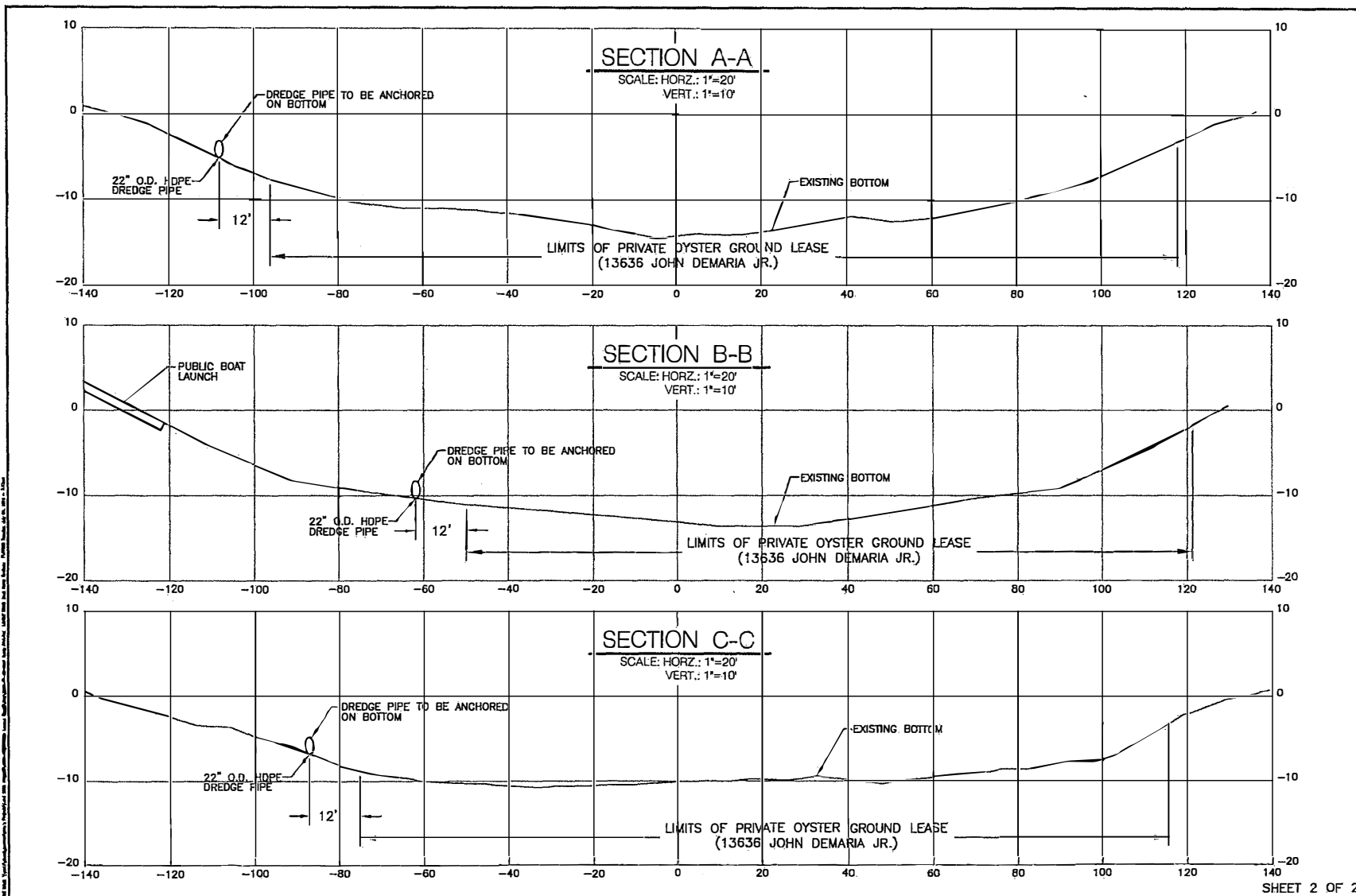
Serial No.: 20-062
Enclosure 2
Page 15 of 19

Additional Info/Revision
Revised by VMRC September 26, 2019 file



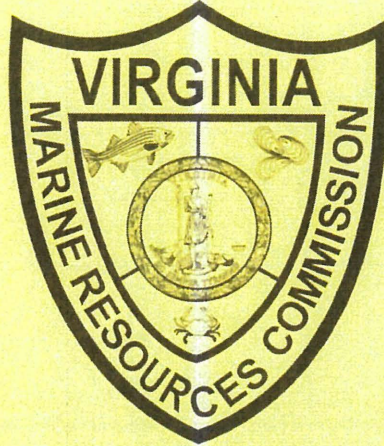
Additional Info/Revision
 Received by VMRC September 26, 2019 /lra

Waterway
 Surveys & Engineering, Ltd.
 321 Cleveland Place, Virginia Beach, Va. 23462
 Tel: (757) 490-1691 Fax: (757) 490-1348



Additional Info/Revision
Received by VMRC September 26, 2019 /Ira

Permit # 19-1433



Commonwealth of Virginia
Marine Resources Commission
Authorization

A Permit has been issued to:

Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, VA 23060

The Permittee is hereby authorized to:

hydraulically maintenance dredge up to 150,000 cubic yards of State-owned subaqueous land, on an as-needed basis, in the basin adjacent to the intake channel for the Surry Nuclear Power Plant within the James River in Surry County; and to temporarily install approximately four (4) miles of 22- to 30-inch diameter HDPE pipe secured to floats or secured to the bottom of Lawnes Creek, to transport dredged sediments from the power plant intake channel to a dredge material management upland area located along Lawnes Creek in Surry County.

Issuance Date: November 26, 2019

Expiration Date: November 26, 2023

Commissioner or Designee

This Notice Must Be Conspicuously Displayed At Site Of Work

U.S. POSTAGE PITNEY BOWES
 ZIP 23651 \$ 000.35⁰
 02 47 0000342941

OFFICE OF THE
MARINE RESOURCES COMMISSION
 380 FENWICK ROAD, BUILDING 96
 FORT MONROE, VA 23651

Habitat Department

Sir/Madam:

Please be advised that I will commence work on 19-1433 on
(Permit Number)

 in Lawnes Creek, Surry County
(Date) (Waterway) (City/County)

I expect the work to be completed no later than

Virginia Electric and Power Company
(Name of Permittee)

Attention: Rachael L. Peabody
(Environmental Engineer)

Enclosure 3

U.S. ARMY CORPS OF ENGINEERS PERMIT NO.
NAO-2008-01451 AND NAO2016-01202 / VMRC #19-V1433

**Virginia Electric and Power Company
(Dominion Energy Virginia or Dominion)
Surry Power Station Units 1 and 2**



U.S. Army Corps
Of Engineers
Norfolk District

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

DEPARTMENT OF THE ARMY PERMIT

Permittee: Virginia Electric and Power Company
Permit No.: NAO-2008-01451 and NAO-2016-01202 / VMRC# 19-V1433
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:

You are hereby authorized to perform reoccurring maintenance dredging within an existing intake channel in the James River at the Surry Nuclear Power Station, including transport of the dredged material via temporary pipeline in the James River and Lawnes Creek, and the discharge of return water from the upland disposal site. In addition, this permit authorized the after-the-fact clearing and grading of 0.16 acres of non-tidal forested wetlands which resulted from the installation of the return water pipeline.

Maintenance Dredging: Approximately 150,000 cubic yards of material is proposed to be hydraulically dredged to a depth of -12 feet (MLLW) within a 2,000 foot long by 150-foot wide channel with each maintenance dredging event. The dredged material will be placed at a new 54-acre upland Dredged Material Management Area (DMMA) located approximately 4 miles south of the power station off Hog Island Road. The new DMMA will have a final capacity for approximately 1,500,000 cubic yards of dredged material.

Dredged Material Transport and Discharge: Dredged material from the intake channel will be transported to the DMMA via a temporary dredge pipe submerged in the James River and Lawnes Creek. The temporary pipe will be made of flexible High Density

Polyethylene (HDPE) material and sized from 22 to 30-inch diameter. The pipe will run from the intake channel to the DMMA site for approximately 4.0 miles (21,120 feet). The pipeline will float for most of the distance, within the James River and in portions of Lawnes Creek with oyster beds. However, the pipeline will be anchored to the bottom of Lawnes Creek in certain locations to ensure clearance for watercrafts. The pipeline will also be marked with red plastic buoys in certain places to identify its location. At the point of intersection with land, the pipeline will be installed above the wetlands to minimize impacts to the wetland vegetation. Details regarding the pipeline route, placement and buoys are depicted on the project drawings. The pipe, anchors and buoys will typically be in place for less than a month during each dredging cycle (approximately once every three to four years, usually in the months of November to January) and will be removed when the dredging is complete.

DMMA Return Water Pipeline: The DMMA requires a dredged return water pipeline which will be used during active dredging. Work on the DMMA disposal site and return water pipeline was primarily within uplands, and the proposed design of the pipeline was a construction method without land clearing or fill. However, actual construction of the pipeline resulted in 0.16 acres of non-tidal forested wetland impacts from clearing and grading of forested wetlands. The work included 0.014 acres of impact from the concrete discharge pipe supports, 0.082 acres of permanent conversion of forested wetlands to emergent wetlands and 0.065 acres of temporary conversion impacts outside the corridor. A corrective action plan was submitted which will restore the cleared forested wetlands within the 0.065 acre are outside the pipeline corridor.

Project Drawings: The authorized dredging is depicted on the attached drawings titled, "Surry Power Station Joint Permit Application", Sheets 1-6 by Waterway Surveys and Engineering, Ltd. The dredged material management area is depicted on the attached drawings titled, "Surry Power Station Dredge Material Management Area (DMMA), by Schnabel Engineering, LLC dated October 2017. The pipeline route is depicted on the attached drawings titled, "Dominion Temporary Dredge Pipeline Route, Lawnes Creek, Maintenance Dredging at Surry Power Station" by Waterway Surveys & Engineering, Ltd., with a final revision dated July 9, 2019. The return water pipeline drawings are entitled, "Surry Power Station Wetland Impact Exhibit, Figure 1" by Schnabel Engineering, LLC, provided by Dominion Energy in a submittal dated October 8, 2019. The corrective action plan drawings are entitled, "Surry Power Station Dredge Material Management Area (DMMA)" by res, provided by Dominion Energy in a submittal dated October 8, 2019.

Project Location: The project is located in both the James River and Lawnes Creek at the Surry Nuclear Power Station at 5570 Hog Island Road and at the Dredged Material Management Area (DMMA) at 1652 Hog Island Road in Surry County, Virginia.

Project Specific Special Conditions:

1. Notification: Prior to the commencement of any work authorized by this permit, you shall advise the Norfolk District Regulatory Branch, Corps of Engineers, via email

(CENAO.REG_ROD@usace.army.mil), in advance of starting maintenance dredging authorized by this permit. This notification should be provided at least 30 days prior to the start of dredging, unless the 30-day timeframe is waived in writing by the Corps. The notice must include the permit application number (NAO-2008-01451), the anticipated start date of the authorized activity, and the name and telephone numbers of all contractors or other persons performing the work. A copy of this permit and drawings must be provided to the contractor and kept on site at all times, available to any regulatory representative during an inspection of the project site.

2. Time Limit: The time limit for completing the work authorized ends on **November 30, 2029**. If you desire to continue maintenance dredging beyond the expiration date, you must request a new permit. We advise applying for a new permit six months prior to the time you wish to do the maintenance dredging.
3. Compliance Certification: 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.
4. Mitigation: You have indicated that mitigation for the completed impacts for the return water pipeline will be accomplished by purchasing credits from the Chesapeake Wetland Bank. As compensation for permanent impacts (0.096 acres, 2:1 ratio) and temporary impacts (0.065 acres, 1:1 ratio) to forested wetlands, a total of 0.24 credits will be debited from the Chesapeake Wetland Bank. A letter from the bank sponsor documenting purchase of these credits must be provided to the Corps within 30 days of receipt of this permit.
5. Corrective Action Plan: The corrective action plan will restore the cleared forested wetlands within the 0.065 acre area outside the pipeline corridor. The corrective action plan must be implemented and completed in accordance with the drawings entitled, "Surry Power Station Dredge Material Management Area (DMMA) by res, and as described by Dominion Energy in the letter and package dated October 8, 2019.
6. Time of Year Restriction: No dredging between February 15 and June 30, of any year, in order to minimize impacts on anadromous fish and federally managed species.
7. Dredging
 - a) The work authorized herein includes periodic maintenance dredging, which may be performed under this permit for **ten (10)** years from the date of issuance of this permit. You must advise this office in writing before you start maintenance dredging activities under the authority of this permit (see special condition number 1).

- b) This permit does not authorize any double handling of dredged material in waters and/or wetlands.
 - c) During active dredging, visual inspections will be routinely conducted at the dredge site, along the dredge pipe and at the disposal site by experienced personnel to ensure the integrity of the dredging and pipeline transport of the dredged material. The pipeline will be monitored with radio communication in place. The dredge operator will monitor differential pressure on the pump at all times. If any issues are identified, the dredge operator will shut down the dredge operation until repairs are made.
 - d) Within 30 days of completion of the dredging, an after-dredge hydrographic survey, prepared by a state-certified engineer or surveyor, must be provided to the Corps. Within 30 days of completion of the dredging, an after-dredge hydrographic survey, prepared by a state-certified engineer or surveyor, must be provided to the Corps. The hydrographic survey should reference a local tidal or geodetic datum.
8. Historic Properties: The enclosed document titled, "Memorandum of Agreement Among Whitley Manor, LLC, and the Virginia Department of Historic Resources, and the Norfolk District, Army Corps of Engineers" (MOA) has been executed, with the final signatory, VDHR, dated January 10, 2018. Implementation of all MOA stipulations is a condition of your permit.
9. Permit Modifications: If project plans change, or a project specific condition of this permit cannot be met, then you must apply for a permit modification. Any proposed permit modification may require coordination with other agencies to comply with laws and regulations.

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. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
5. 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.
6. No discharge of dredged or fill material may consist of unsuitable material (e.g.: trash, debris, car bodies, asphalt etc.) and material discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.
8. Appropriate erosion and siltation controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date.
9. 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.
10. Any heavy equipment working in wetlands other than those permitted for permanent impact must be placed on mats or other measures must be taken to minimize soil disturbance.
11. Failure to comply with the terms and conditions of this permit can result in enforcement actions against the permittee and/or contractor.
12. 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.
13. All dredging and/or filling will be done so as to minimize disturbance of the bottom or turbidity increases in the water which tend to degrade water quality and damage aquatic life.

14. 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.
15. 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 or 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.
16. You must install and maintain, at your expense, any safety lights and signals prescribed by the United States Coast Guard (USCG), through regulations or otherwise. The USCG may be reached at the following address and telephone number: 4000 Coast Guard Boulevard, Coast Guard Sector Hampton Roads, Portsmouth, VA 23703 or (757) 686-4002.

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.

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




(Permittee)

12/19/19

(Date)

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



Patrick V. Kinsman, PE
Colonel, U.S. Army
Commanding

1/3/2020

(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)

Enclosure 4

U.S. FISH AND WILDLIFE SERVICE PERMIT NO. MB705136-0

**Virginia Electric and Power Company
(Dominion Energy Virginia or Dominion)
Surry Power Station Units 1 and 2**



Permit Number: MB705136-0
Effective: 04/01/2019 Expires: 03/31/2020

Issuing Office:

Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Migratory Bird Permit Office
300 Westgate Center Drive
Hadley, MA 01035-0779
Tel: 413-253-8643 Fax: 413-253-8424

Acting *Randy Dettmers*
CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 5

Permittee:

DOMINION RESOURCES SERVICES, INC.
dba ENVIRONMENTAL SERVICES
ENVIRONMENTAL SERVICES
5000 DOMINION BLVD.
GLEN ALLEN, VA 23060
U.S.A.

Name and Title of Principal Officer:

PAMELA F. FAGGERT - VICE PRES. - CHIEF ENVIRONMENTAL OFFICER

Authority: Statutes and Regulations: 16 USC 703-712; 50 CFR Part 13, 50 CFR 21.41.

Location where authorized activity may be conducted:

Dominion-owned and/or operated properties in VA, WV, MD, and NC

Reporting requirements:

ANNUAL REPORT DUE WITH NEXT RENEWAL or IF NOT RENEWING 30 days after permit expiration even if you had no activity. Forms at: <http://www.fws.gov/forms/3-202-9.pdf>

MD CO-SIGNATURE: *Helen J. Thence* DATE: 7/29/19

Authorizations and Conditions:

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

C. Valid for use by permittee named above

D. You are authorized to take using shotgun with non-toxic shot, and air rifles, at all locations combined, up to:

- (a) SEVENTY (70) Black vultures, authorized to suspend carcasses as a visual deterrent, away from public view, until they have decomposed, then destroy all carcasses;
- (b) TWENTY (20) Turkey vultures authorized to suspend carcasses as a visual deterrent, away from public view, until they have decomposed, then destroy all carcasses;
- (c) FORTY (40) Canada geese;
- (d) TWENTY-FIVE (25) Herring gulls;
- (e) FIVE (5) Brown pelican (only to be taken in the State of Maryland).

You **MUST** destroy carcasses. Lethal take is not to be the primary means of control. Active hazing, harassment or other non-lethal techniques must continue in conjunction with any lethal take of migratory birds.

E. You are also authorized to destroy nests and eggs therein for the following species, up to :

- (a) TEN (10) Herring Gull nests;
- (b) FIVE (5) Osprey nests.

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Enclosure 4
Page 1 of 6



Permit Number: MB705136-0
Effective: 04/01/2019 Expires: 03/31/2020

Nests should be proactively destroyed during the inactive phase (no eggs present in the nest) to prevent nesting and eliminate the need to handle active nests. Any nest containing eggs or chicks, including those associated with successful re-nest attempts, are considered active nests. Addling eggs or intentional destruction of any active nests is considered take and should be included on the annual report. Inactive nests are those that do not contain viable eggs or chicks. Destroyed inactive nests should not be included on your annual report. Nests with chicks may not be destroyed or relocated, unless otherwise stated on this permit. You may treat the eggs by oiling (using Egg Oil, 100% food grade corn oil, ADC Tech Note-June 1996), freezing, shaking, puncturing and immediately replacing the eggs for subsequent incubation, OR remove and destroy these nests and any eggs contained therein.

State restrictions: Peregrine Falcons are listed as Endangered by Virginia State law and therefore may not be taken.

State restrictions: Peregrine Falcons and other bird species are listed as Endangered or Threatened by Maryland State law and therefore may not be taken, unless otherwise authorized by the Maryland Department of Natural Resources.

E. Your permit encompasses two calendar years. You are required to report the take associated with each calendar year on separate annual reports. Annual reports can be found at <https://www.fws.gov/forms/3-202-9.pdf>.

F. The following subpermittees are authorized: Employees of Dominion Resources Services, Inc. In addition, any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing to the Federal permit issuing office, may exercise the authority of this permit.

G. H. You and any subpermittees must comply with the attached Standard Conditions for Migratory Bird Depredation Permits. **These standard conditions are a continuation of your permit conditions and must remain with your permit.**

H. A "No Feeding Policy" must be in place.

For Canada Geese Egg Addling or Nest Destruction you **MUST** register each year between January 1 and June 30 at: <https://epermits.fws.gov/eRCGR>. You must return to website and report your take before October 31 each year unless your state does not participate in this depredation, under 50 CFR 21.50.

For suspected illegal activity, immediately contact USFWS Law Enforcement at: Richmond, VA 804-771-2883, Cambridge, MD 410-228-2475, or Elkins, WV 304-636-6586



Standard Conditions Migratory Bird Depredation Permits 50 CFR 21.41

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. The standard conditions below are a continuation of your permit conditions and must remain with your permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.
[Note: Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at www.atf.gov/explosives/how-to/become-an-fel.htm.]
2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.
4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: <http://www.fws.gov/endangered>.

5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND (2263) or <http://www.reportband.gov>.
6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency, or on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
7. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
 - (a) turned over to the U.S. Department of Agriculture for official purposes, or
 - (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
 - (c) completely destroyed by burial or incineration, or
 - (d) with prior approval from the permit issuing office, donated to persons authorized by permit or regulation to possess them.

(page 1 of 2)

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8. A subpermittee is an individual to whom you have provided written authorization to conduct some or all of the permitted activities in your absence. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of designation letters you have provided.
9. You and any subpermittees must carry a legible copy of this permit, *including these Standard Conditions*, and display it upon request whenever you are exercising its authority.
10. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
11. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.
12. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 12/3/2011)

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U.S. FISH & WILDLIFE SERVICE - MIGRATORY BIRD PERMIT OFFICE

Return to: U.S. Fish and Wildlife Service (USFWS)

[Click here for Return Addresses](#)

[Click here to Apply Online](#)

Office Use Only
Date Completed Report rec'd in Regional Office
____/____/____
Initials: _____

DEPREDAATION - ANNUAL REPORT

PERMITTEE: _____

PERMIT NUMBER: _____

ADDRESS: _____

REPORT FOR CALENDAR YEAR: _____

REPORT DUE DATE: _____

City State Zip Code

Check here if reporting a change of name, address, or contact information

PHONE: _____

Email: _____

INSTRUCTIONS: Type or print the information requested below for all birds taken or held under your permit during the year covered by this report and return the completed report to the above address by the due date. Use of this form is not mandatory, but the same information must be submitted, including a signed certification statement. A supplemental sheet is available if needed. Filing an annual report is a condition of your permit. Failure to file a timely report can result in permit suspension. If you had no activity under your permit during the report year, state "No activity" on the form. (50 CFR parts 13, 21, & 22)

MAKE SURE YOU SIGN & DATE THE CERTIFICATION STATEMENT BELOW BEFORE YOU SUBMIT YOUR REPORT.

► Please group your entries first by Species, then by State, County, and Month. Provide a subtotal for each species collected by State. See example below.

Species (Common Name)	When & Where Taken			Quantity			Final Disposition (What you did with the birds, eggs, carcasses: buried, incinerated, transferred (specify to whom), released, or other (specify))
	State (required)	County (or equivalent) (required)	Month Taken	Birds Killed	Birds Relocated *	Active Nests Destroyed **	
Example: Ring-billed Gull	VA	Fairfax	Mar	10	0	0	buried
Ring-billed Gull	VA	Chester	Apr	5	0	20	buried
Species Total	VA	-	-	15	0	20	-

* Relocated in the wild ** Refers to nests with eggs that are destroyed, addled (oiled, shaken), or removed from wild. Do not enter individual eggs & do not include inactive nests (nests without eggs) destroyed.

CERTIFICATION: I certify that the information in this report is true and correct to the best of my knowledge. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

Signature of permittee/Principal Officer. (No stamped signatures. Electronic signatures accepted.)

Date of signature (mm/dd/yyyy)

NOTICES

PRIVACY ACT STATEMENT

Authority: The information requested is authorized by the following: the Bald and Golden Eagle Protection Act (16 U.S.C. 668), 50 CFR 22; the Endangered Species Act (16 U.S.C. 1531-1544), 50 CFR 17; the Migratory Bird Treaty Act (16 U.S.C. 703-712), 50 CFR 21; the Wild Bird Conservation Act (16 U.S.C. 4901-4916), 50 CFR 15; the Lacey Act: Injurious Wildlife (18 U.S.C. 42), 50 CFR 16; Convention on International Trade in Endangered Species of Wild Fauna and Flora (TIAS 8249), 50 CFR 23; General Provisions, 50 CFR 10; General Permit Procedures, 50 CFR 13; and Wildlife Provisions (Import/export/transport), 50 CFR 14.

Purpose: The collection of contact information is to verify the individual has an eligible permit to conduct activities which affect protected species. The information the individual provides helps the FWS monitor and report on protected species and assesses the impact of permitted activities on the conservation and management of species and their habitats.

Routine Uses: The collected information may be used to verify an applicant's eligibility for a permit to conduct activities with protected wildlife; to provide the public and the permittees with permit related information; to monitor activities under a permit; to analyze data and produce reports to monitor the use of protected wildlife; to assess the impact of permitted activities on the conservation and management of protected species and their habitats; and to evaluate the effectiveness of the permit programs. More information about routine uses can be found in the System of Records Notice, Permits System, FWS-21.

Disclosure: The information requested in this form is voluntary. However, submission of requested information is required to process applications for permits authorized under the listed authorities. Failure to provide the requested information may be sufficient cause for the U.S. Fish & Wildlife Service to deny the request.

PAPERWORK REDUCTION ACT STATEMENT

In accordance with the Paperwork Reduction Act (44 U.S.C. 3501), the U.S. Fish and Wildlife Service collects information necessary to monitor take and disposition of migratory birds, under the applicable laws governing the requested activity, for which a permit is requested, and to respond to requests made under the Freedom of Information Act and the Privacy Act of 1974. Information requested in this form is purely voluntary. However, submission of requested information is required in order to process applications for permits authorized under the above laws. Failure to provide all requested information may be sufficient cause for the U.S. Fish and Wildlife Service to deny the request. According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved this collection of information and assigned Control No. 1018-0022.

ESTIMATED BURDEN STATEMENT

We estimate public reporting for this collection of information to average 1 hour, including time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, Fish and Wildlife Service, U.S. Department of the Interior, 5275 Leesburg Pike, MS: BPHC, Falls Church, VA 22041-3803, or via email at Info_Coll@fws.gov. Please do not send your completed form to this address.

FREEDOM OF INFORMATION ACT

For organizations, businesses, or individuals operating as a business (i.e., permittees not covered by the Privacy Act), we request that you identify any information that should be considered privileged and confidential business information to allow the Service to meet its responsibilities under FOIA. Confidential business information must be clearly marked "Business Confidential" at the top of the letter or page and each succeeding page and must be accompanied by a non-confidential summary of the confidential information. The non-confidential summary and remaining documents may be made available to the public under FOIA [43 CFR 2.26 – 2.33].

Enclosure 5

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT NO. VAR106343

**Virginia Electric and Power Company
(Dominion Energy Virginia or Dominion)
Surry Power Station Units 1 and 2**



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

October 17, 2019

Virginia Electric and Power Co
5000 Dominion Blvd
Glen Allen, VA 23060

RE: Coverage under the 2019 VPDES Construction General Permit (VAR10) Reissuance
General Permit Number **VAR106343**
Surry Power Station - Spoils Yard Closure - Industrial
Industrial-Utility
Surry

Dear Permittee:

DEQ has reviewed your Registration Statement received complete on October 09, 2019 and determined that the proposed 4.90 acre land-disturbing activity is covered under the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10). The effective date of your coverage is July 1, 2019 or the date of this letter, whichever is later. You may obtain a copy of the general permit from <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/CGP2019.pdf>.

The general permit contains the conditions of coverage and Stormwater Pollution Prevention Plan (SWPPP) requirements. Please print the general permit and read it carefully as you will be responsible for compliance with all permit conditions. Coverage under this construction general permit does not relieve the operator of complying with all other federal, state, or local laws and regulations.

The general permit requires that you update your SWPPP no later than sixty (60) days from the date of this letter to incorporate changes made by the Department for this permit reissuance.

Our records indicate that your site may discharge to waters identified as impaired or exceptional. Please see below for additional requirements:

1. Does this proposed land-disturbing activity discharge to a surface water identified as impaired or for which a TMDL wasteload allocation has been established and approved prior to the term of the general permit for (i) sediment or a sediment-related parameter or (ii) nutrients? **Yes.** If **YES**, then the following general permit (Part I B 4 a) and SWPPP requirements (Part II B 5) must be implemented for the land-disturbing activity:
 - Permanent or temporary soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the site;
 - Nutrients (e.g., fertilizers) shall be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events;
 - Inspections shall be conducted at a frequency of (i) at least once every four (4) business days or (ii) at least once every (5) business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day; and
 - Representative inspections used by utility line installation, pipeline construction, or other similar linear construction activities shall inspect all outfalls.

October 17, 2019
General Permit Number **VAR106343**
Page 2

2. Does this proposed land-disturbing activity discharge to a surface water identified as impaired or for which a TMDL wasteload allocation has been established and approved prior to the term of the general permit for polychlorinated biphenyl (PCB)? **Yes**. If **YES**, then the following general permit (Part I B 4 b) and SWPPP requirements (Part II B 6) must be implemented for the land-disturbing activity **if** the construction activity involves the demolition of structures (i) equal to or greater than 10,000 square feet and (ii) built or renovated on or before January 1, 1980:
- Implement an approved erosion and sediment control plan;
 - Dispose of PCB-contaminated materials in compliance with applicable state, federal, and local requirements to minimize the exposure of PCB-containing building materials;
 - Inspections shall be conducted at a frequency of (i) at least once every four (4) business days or (ii) at least once every (5) business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day; and
 - Representative inspections used by utility line installation, pipeline construction, or other similar linear construction activities shall inspect all outfalls.
3. Does this proposed land-disturbing activity discharge to an exceptional water as identified in Section 30 of the Water Quality Standards, 9VAC 25-260? **No**. If **YES**, then the following general permit (Part I B 5) and SWPPP requirements (Part II B 7) must be implemented for the land-disturbing activity:
- Permanent or temporary soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the site;
 - Nutrients (e.g., fertilizers) shall be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events;
 - Inspections shall be conducted at a frequency of (i) at least once every four (4) business days or (ii) at least once every (5) business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day; and
 - Representative inspections used by utility line installation, pipeline construction, or other similar linear construction activities shall inspect all outfalls.

The general permit requires that you submit a complete Notice of Termination packet no later than 30 days after meeting one or more of the termination conditions set forth in the general permit (Part I F). In accordance with the Virginia Stormwater Management Program State Permit Fee Regulation (9VAC 25-870-830), you may be required to pay an annual permit maintenance fee until coverage under this general permit has been terminated. If you are required to pay an annual permit maintenance fee, you will receive an invoice from the VSMP Authority.

The general permit will expire on June 30, 2024. The conditions of the general permit require that you submit a new registration statement at least 60 days prior to that date if you wish to continue coverage under the general permit, unless permission for a later date has been granted by the Board. Permission cannot be granted to submit the registration statement after the expiration date of the general permit.

If you have any questions about this permit, please contact the DEQ Office of Stormwater Management at ConstructionGP@deq.virginia.gov.

Sincerely,



Andrew J. Hammond II, Acting Manager
Office of Stormwater Management