



## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

TDD (804) 698-4021

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4000  
1-800-592-5482

December 14, 2011

Division of Spent Fuel Storage and Transportation  
U. S. Nuclear Regulatory Commission  
Attn: Jennie Rankin  
11555 Rockville Pike  
Mail Stop EBB 3D-02M  
Rockville, MD 20852

RE: Environmental Assessment for the Exemption Request to 10 CFR Part 72 Requirements at the Independent Spent Fuel Storage Installations at the North Anna Power Station in Louisa County and Surry Power Station in Surry County, Nuclear Regulatory Commission, (DEQ 11-195F).

Dear Ms. Rankin:

The Commonwealth of Virginia has completed its review of the two Environmental Assessments (EAs) dated November 14, 2011 (received November 18, 2011) for the above referenced exemption requests. The Department of Environmental Quality is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. The following agencies participated in the review of this proposal:

Department of Environmental Quality  
Department of Conservation and Recreation  
Department of Health  
Department of Game and Inland Fisheries  
Virginia Marine Resources Commission  
Department of Historic Resources  
Department of State Police

The Department of Mines, Minerals and Energy, Department of Emergency Management, Louisa County and Surry County were also invited to comment on the proposed action.

## PROJECT DESCRIPTION

The Nuclear Regulatory Commission (NRC) is considering issuance of an exemption to Virginia Electric and Power Company (Dominion) pursuant to 10 CFR 72.7 from specific provisions of 10 CFR 72.212(b)(3), 72.212(b)(11), and 72.214 at two of Dominion's nuclear power stations:

- 1) North Anna Power Station Units 1 and 2, located in Louisa County; and
- 2) Surry Power Station Units 1 and 2, located in Surry County.

Dominion has loaded spent nuclear fuel into dry storage casks, under the Certificate of Compliance (CoC) No. 1030, Amendment No. 0. It was later discovered that the decay heat limit for twelve of the loaded fuel assemblies at North Anna and five of the loaded fuel assemblies at Surry exceeded the limits of the CoC. The twelve fuel assemblies at North Anna are distributed in seven dry storage canisters (DSC) and the five fuel assemblies at Surry are distributed in four DSCs.

Dominion has provided an evaluation and thermal analysis to the NRC which shows that the affected DSCs remain bounded by the system's design basis limits and that the continued storage of the fuel in the as-loaded configuration is safe. Dominion is requesting an exemption to the 10 CFR Part 72 requirements to continue storage of the affected DSCs in their current condition at the Independent Spent Fuel Storage Installations (ISFSIs) associated with North Anna and Surry.

The alternative would be to correct the condition by reloading the affected DSCs. This involves retrieving each of the DSCs from their Horizontal Storage Modules (HSM), unloading the spent fuel assemblies from the DSC, performing inspections of various DSC components, reloading the spent fuel assemblies into a new DSC in accordance with CoC 1030, performing the DSC closing procedures, and transferring the DSC back to the ISFSI for re-insertion into the HSM.

The alternative to the proposed action described above would introduce additional opportunities for design basis accidents. This includes fuel handling accidents or cask drop events which can potentially release radioactive material to the environment. In addition, the alternative to the proposed action would generate radioactive contaminated material and waste during loading and unloading operations and disposal of the used DSCs. Dominion estimates the loading and unloading operations also increase personnel exposures by 250 mRem per affected DSC. Dominion would also incur a significant cost estimated at approximately \$1.5 million for each affected DSC which would include the cost to unload and reload the DSC, purchase a new DSC, and dispose of the used DSC.

According to the EAs for North Anna and Surry Power Stations (page 5), the NRC has completed its evaluation of the proposed action, and concludes that there will be no

significant environmental impact if the exemption is granted. The NRC has determined that the proposed action would not endanger life or property.

## CONCLUSION

Based on the responses from reviewing agencies, this proposal is unlikely to have significant effects on ambient air quality, historic resources, surface waters and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

The agencies that responded to DEQ's review request did not indicate that the proposed action would adversely impact resources or programs under their jurisdictions. According to the Virginia Department of Health, the alternative to require Dominion to reload the casks presents several risks, namely additional radiation exposure to the workers making the transfers, and potential accidents that may lead to damaged fuel rods and dispersal of radiation to the environment. Based on the foregoing, the Virginia Department of Health states that it supports the exemption without reservation.

## ENVIRONMENTAL IMPACTS AND MITIGATION

**1. Radiological Impacts.** The EAs (page 5) state that proposed exemption would not result in changes in the types or amounts of any radiological effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure as a result of the proposed activities. The proposed action only affects the requirements associated with the fuel assemblies already loaded into the casks and does not affect non-radiological plant effluents, or any other aspects of the environment. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

**1(a) Agency Jurisdiction.** The Virginia Department of Health (VDH), Division of Radiological Health (DRH) is responsible for protecting the public health and safety from unnecessary radiation from a diversity of sources that spans a wide spectrum of applications in the healing arts, research and educational institutions, and industry. VDH-DRH administers a licensing and inspection program for radioactive materials that are naturally-occurring or accelerator produced; registers, inspects and certifies X-ray machines in the Commonwealth; provides educational and technical assistance for indoor radon; coordinates with the Department of Emergency Management for training activities and response to radiological emergencies; and collects environmental samples for radiological analysis near various fixed nuclear facilities.

**1(b) Agency Findings.** VDH-DRH finds that in order for Dominion Power to remain in compliance with the regulatory requirement that the spent fuel's decay temperature does not exceed the certified limit of the cask, Dominion is seeking an exemption.

Dominion's proposed action is to allow Dominion to continue the existing storage since the decay heat temperature now meets the certified value for the cask.

The alternative is to require Dominion Power to reload the casks so that the decay heat temperature of the spent fuel at the time of removal from the spent fuel pool does not exceed the certified temperature limit of the cask. The alternative presents several risks, namely additional radiation exposure to the workers making the transfers, and potential accidents that may lead to damaged fuel rods and dispersal of radiation to the environment.

**1(c) Agency Conclusion.** The VDH-DRH supports the NRC's position to exempt Dominion from the regulatory requirement that the spent fuel decay heat meet the certified limit. The alternative to reload the affected DSCs may create unnecessary risk to workers and the environment. VDH-DRH supports the proposed exemption without reservation.

For additional information, contact VDH-DRH, Les Foldesi at (804) 864-8151.

## **2. Water Supply.**

**2(a) Agency Jurisdiction.** The Virginia Department of Health, Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells and surface water intakes).

### **2(b) Agency Findings.**

#### ***(i) North Anna Power Station***

VDH-ODW finds that there are four groundwater wells within a one-mile radius and on the property of the power station. These wells are owned by Dominion. There are no surface water intakes within a five-mile radius of the power station.

The site does not fall within Zone 1 (up to 5 miles into the watershed) or Zone 2 (greater than 5 miles into the watershed) of any public surface water sources.

#### ***(ii) Surry Power Station***

VDH-ODW finds that there are four groundwater wells within a one-mile radius and on the property of the power station. These wells are owned by Dominion. There are no surface water intakes within a five-mile radius of the power station.

The site does not fall within Zone 1 (up to 5 miles into the watershed) or Zone 2 (greater than 5 miles into the watershed) of any public surface water sources.

Contact VDH-ODW, Barry Matthews at (804) 864-7515 for additional information.

### 3. Subaqueous Lands.

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

VMRC serves as the clearinghouse for the Joint Permit Application (JPA) used by:

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

**3(b) Agency Findings.** VMRC finds that no action is required from the agency to the exemption proposal.

For additional information, contact VMRC, Ben Stagg at (757) 247-2009.

### 4. Surface Waters and Wetlands.

**4(a) Agency Jurisdiction.** The State Water Control Board (SWCB) promulgates Virginia's water regulations, covering a variety of permits to include Virginia Pollutant Discharge Elimination System Permit, Virginia Pollution Abatement Permit, Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection Permit (VWPP). The VWPP is a State permit which governs wetlands, surface water, and surface water withdrawals/impoundments. It also serves as § 401 certification of the federal Clean Water Act § 404 permits for dredge and fill activities in waters of the U.S. Permit.

DEQ issues individual VPDES permits to both municipal and industrial facilities. Permit requirements, special conditions, effluent limitations and monitoring requirements are determined for each facility on a site specific basis in order to meet applicable water quality standards. General permits are permits written for a general class of dischargers including Discharges of Storm Water Associated with Industrial Activity (9 VAC 25-151 (VAR 05)).

The six DEQ regional offices perform permit application reviews and issue permits for the covered activities.

**4(b) Agency Comments.** The DEQ VWPP and VPDES programs have no comments on the proposed exemption.

For additional information on the VWPP program, contact the DEQ Office of Wetlands and Water Protection, Dave Davis at (804) 698-4105. For additional information on the VPDES program, contact the DEQ Office of Water Permit Programs, Fred Cunningham at (804) 698-4285 or Northern Regional Office, Trisha Beasley at (703) 583-3940.

## **5. Air Pollution Control.**

**5(a) Agency Jurisdiction.** DEQ's Air Quality Division, on behalf of the State Air Pollution Control Board, is responsible to develop regulations that become *Virginia's Air Pollution Control Law*. DEQ is charged to carry out mandates of the state law and related regulations as well as Virginia's federal obligations under the *Clean Air Act* as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate regional office is directly responsible for the issue of necessary permits to construct and operate all stationary sources in the region as well as to monitor emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

**5(b) Agency Comments.** The DEQ Air Division did not indicate that the proposed exemption would impact air resources under its jurisdiction.

For additional information, contact the DEQ-Air Division, Kotur Narasimhan at (804) 698-4415.

## **6. Solid and Hazardous Wastes and Hazardous Materials.**

**6(a) Agency Jurisdiction.** Solid and hazardous wastes in Virginia are regulated by the Virginia Department of Environmental Quality, the Virginia Waste Management Board (VWMB) and the U.S. Environmental Protection Agency. They administer programs created by the federal *Resource Conservation and Recovery Act*, *Comprehensive Environmental Response Compensation and Liability Act*, commonly called Superfund, and the *Virginia Waste Management Act*. DEQ administers regulations established by the VWMB and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

**6(b) Agency Comments.** The DEQ Division of Land Protection and Revitalization (DLPR) has no comments, as solid and hazardous waste issues under its jurisdiction are not applicable to the proposed exemption.

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

## **7. Natural Heritage Resources and Chesapeake Bay Preservation Areas.**

**7(a) Agency Jurisdiction** The mission of the Virginia Department of Conservation and Recreation (DCR) is to conserve Virginia's natural and recreational resources. DCR supports a variety of environmental programs organized within six divisions including the Division of Natural Heritage and Division of Stormwater Management.

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

DCR's Division of Stormwater Management (DSM), Local Implementation (LI) administers the *Chesapeake Bay Preservation Act (Bay Act)* (Virginia Code §10.1-2100-10.1-2114) and *Chesapeake Bay Preservation Area Designation and Management Regulations (Regulations)* (9 VAC 10-20 *et seq.*).

**7(b) Agency Comments.** DCR has no comments on the proposed exemption.

Contact DCR-DNH, Rene Hypes at (804) 371-2708 for additional information on natural heritage resources, and DCR-DSM-LI, Joan Salvati at (804) 225-3444 for information on the *Bay Act* and *Regulations*.

## **8. Wildlife Resources and Protected Species.**

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

compensate for those impacts. Furthermore, DGIF and the Virginia Marine Resources Commission administer the fisheries management enforceable policy of the VCP.

**8(b) Agency Findings.** DGIF has not identified any reason to object to the NRC granting the proposed exemption to Dominion.

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

## **9. Historic Structures and Archaeological Resources.**

**9(a) Agency Jurisdiction.** The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State's Historic Preservation Office, ensures that federal actions comply with Section 106 of the National Historic Preservation Act of 1962 (NHPA), as amended, and its implementing regulation at 36 CFR Part 800. The NHPA requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding.

**9(b) Agency Findings.** According to DHR, this exemption is unlikely to affect historic properties.

**9(c) Requirement.** If applicable, the NRC should consult directly with DHR pursuant to Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations codified at 36 CFR Part 800.

For additional information and coordination, contact DHR, Roger Kirchen at (804) 482-6091.

## **10. Public Safety.**

**10(a) Agency Jurisdiction.** The Virginia State Police (VSP) is the Commonwealth's public safety and law enforcement agency. The VSP coordinates with the Virginia Department of Emergency Management (VDEM) and Virginia Department of Health (VDH) to ensure public safety in response to manmade and natural disasters.

**10(b) Agency Comments.** VSP has no comment on the proposed exemption.

For additional information, contact VSP, Steven Flaherty at (804) 674-2000.

## **FEDERAL CONSISTENCY**

Pursuant to the *Coastal Zone Management Act of 1972*, as amended, federal licensing and permitting activities affecting coastal uses or resources must be conducted in a



manner consistent with the federally approved Virginia Coastal Zone Management Program (VCP) (see § 307(c)(3)(A) of the *Act* and 15 CFR Part 930, Subpart D, § 930.50 *et seq.*). This involves an analysis of the activity in light of the enforceable policies of the VCP (see Attachment 1), and submission of a Federal Consistency Certification (FCC) reflecting that analysis and committing Dominion to comply with the enforceable policies.

Although, Dominion did not provide a consistency certification, based on the scope and nature of the proposal and comments submitted by agencies administering the enforceable policies of the VCP, DEQ concludes that this proposal is consistent with the VCP.

Thank you for the opportunity to review the Environmental Assessments for the exemption request to 10 CFR Part 72 requirements at the ISFS installations at the North Anna Power Station in Louisa County and Surry Power Station in Surry County. Detailed comments of reviewing agencies are attached for your review. Contact me at (804) 698-4325 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,



Ellie Irons, Program Manager  
Environmental Impact Review

Enclosures

Ec: Dave Davis, DEQ-OWWP  
Fred Cunningham, DEQ-OWPP  
Scott Kudlas, DEQ-OSGSP  
David Hartshorn, DEQ NRO  
Cindy Keltner, DEQ-TRO  
Steven Coe, DEQ-DLPR  
Kotur Narasimhan, DEQ-Air  
Amy Ewing, DGIF  
Tony Watkinson, VMRC  
Robbie Rhur, DCR  
Barry Matthews, VDH  
David Spears, DMME  
Roger Kirchen, DHR  
Michael Cline, VDEM  
Steve Flaherty, VDSP  
Robert Dube, Louisa County  
Tyrone Franklin, Surry County



## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF ENVIRONMENTAL QUALITY

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Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

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### Attachment 1

### **Enforceable Regulatory Programs comprising Virginia's Coastal Zone Management Program (VCP)**

- a. **Fisheries Management** - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code 28.2-200 to 28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code 29.1-100 to 29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities; Virginia Code 3.1-249.59 to 3.1-249.62.

- b. **Subaqueous Lands Management** - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Marine Resources Commission; Virginia Code 28.2-1200 to 28.2-1213.
- c. **Wetlands Management** - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.
- (1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code 28.2-1301 through 28.2-1320.
  - (2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands --both tidal and non-tidal; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

- d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code 28.2-1400 through 28.2-1420.
  
- e. Non-point Source Pollution Control – (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Conservation and Recreation; Virginia Code 10.1-560 et seq.)  
  
(2) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater (see i) Virginia; Virginia Code §10.1-2100 –10.1-2114 and 9 VAC10-20 et seq.
  
- f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code 62.1-44.15. Point source pollution control is accomplished through the implementation of:
  - (1) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.
  - (2) The Virginia Water Protection Permit (VWPP) program administered by DEQ; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.
  
- g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code 32.1-164 through 32.1-165).
  
- h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code 10-1.1300 through §10.1-1320).
  
- (i) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code §10.1-2100 –10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC10-20 et seq.

## Fisher, John (DEQ)

---

**From:** Matthews, Barry (VDH)  
**Sent:** Friday, December 02, 2011 1:02 PM  
**To:** Fisher, John (DEQ)  
**Cc:** Forsgren, Diedre (VDH)  
**Subject:** Independent Spent Fuel Storage Installations at North Anna and Surry Power Stations

**DEQ Project #:** 11-195F  
**Name:** Exemption Request to 10 CFR Part 72 Requirements at the Independent Spent Fuel Storage Installations at North Anna and Surry Power Stations  
**Sponsor:** Nuclear Regulatory Commission  
**Location:** Louisa and Surry Counties

The Department of Health has reviewed the above captioned project and the information provided.

The Office of Epidemiology - Division of Radiological Health provided their response in the attached pdf file.

The proximity to public drinking water sources (groundwater wells, springs and surface water intakes) are as follows; four groundwater wells are within a 1 mile radius and on the property of the North Anna/Louisa County site, four groundwater wells are within a 1 mile radius and on the property of the Surry/Surry County site. These wells are owned by Dominion Virginia Power. No surface water intakes are located within a 5 mile radius of the project site. Project does not fall within Zone 1 (up to 5 miles into the watershed) or Zone 2 (greater than 5 miles into the watershed) of any public surface water sources.

The Department of Health has no other comments, and provides "support without reservation".



(11-195F)  
endments to React

**Barry E. Matthews, P.G.**  
Department of Health  
James Madison Building  
Office of Drinking Water, Room 621  
Construction Assistance, Planning and Policy  
109 Governor Street  
Richmond, VA 23219  
804 864-7515 (w)  
804 864-7520 (fax)  
[barry.matthews@vdh.virginia.gov](mailto:barry.matthews@vdh.virginia.gov)

*Office of Epidemiology - Division of Radiological Health  
Amendments to Reactor Licenses*

|  |  |  |
|--|--|--|
| Accession #: Pre-decisional- not available to public |  | Date Sent: November 21, 2011             |
| Source of Information:                               | Department of Environmental Quality and VDH Office of Drinking Water   |  |
| Response Required:                                   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |  |
| Background:  | <p>Spent nuclear fuel at commercial nuclear power plants are stored in a pool of water to dissipate heat that continues to be generated by radioactive decay of the used fuel. Given that there is no disposal method until a high level waste site is opened and there is limited storage capacity in the spent fuel pools, Dominion Power pioneered the development of dry cask storage at Surry Nuclear Power Station. The technology is now used throughout the country.</p> <p>Dominion Power had incorrectly loaded spent fuel into several casks where the spent fuel's decay heat exceeded the certified limits, but did not exceed the design limits. Dominion identified the non compliance after the fuel had been load 1.3 years and 2.5 years for North Anna and Surry, respectively. Dominion Power has requested from the U.S. Nuclear Regulatory Commission (NRC) an exemption from the regulations that require compliance with the certified decay heat limits at the time of loading the spent fuel.</p>                            |  |
| Issue:   | <p>In order for Dominion Power to remain in compliance with the regulatory requirement that the spent fuel's decay temperature does not exceed the certified limit of the cask, Dominion will need to seek an exemption. Dominion's proposed action is to allow Dominion to continue the existing storage since the decay heat temperature now meets the certified value for the cask.</p> <p>The alternative is to require Dominion Power to reload the casks so that the decay heat temperature of the spent fuel at the time of removal from the spent fuel pool does not exceed the certified temperature limit of the cask. The alternative presents several risks, namely additional radiation exposure to the workers making the transfers, and potential accidents that may lead to damaged fuel rods and dispersal of radiation to the environment.</p> <p>The NRC has requested comment from the commonwealth regarding the Environmental Assessment. Such requests are normally coordinated by the Department of Environmental Quality.</p> |  |
| Recommendations:                                     | Suggest VDH support NRC's position to exempt Dominion from the regulatory requirement that the spent fuel decay heat met the certified limit and the alternative may create unnecessary risk to workers and the environment.   |  |
| Conclusion:  | <input type="checkbox"/>   | Routine – no action required             |
|  | <input checked="" type="checkbox"/>  | Support without reservation              |
|  | <input type="checkbox"/>   | Further analysis or discussion necessary |
|  | <input type="checkbox"/>   | Intervention required                    |

If you cannot meet the deadline, please notify JOHN FISHER at 804/698-4339 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

REVIEW INSTRUCTIONS:

- A. Please review the document carefully. If the proposal has been reviewed earlier (i.e. if the document is a federal Final EIS or a state supplement), please consider whether your earlier comments have been adequately addressed.
- B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- C. Use your agency stationery or the space below for your comments. **IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.**

Please return your comments to:

MR. JOHN E. FISHER  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL IMPACT REVIEW  
629 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
FAX #804/698-4319  
John.Fisher@deq.virginia.gov



JOHN E. FISHER  
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

Review of the Exemption request related to spent fuel storage installations at Surry and North Anna Power Stations has been completed and it appears no action is required from VMRC. There are no additional comments at this time.

(signed) Ben S. [Signature] (date) 12-5-11  
Environmental Engineer  
(title) \_\_\_\_\_  
VMRC  
(agency) \_\_\_\_\_

**Fisher, John (DEQ)**

---

**From:** Rhur, Robbie (DCR)  
**Sent:** Monday, November 28, 2011 2:30 PM  
**To:** Fisher, John (DEQ)  
**Subject:** DCR comments

John :

Regarding  
NRC Exemption request for DEQ 11-195F Louisa & Surry  
Storage at Surry & North Anna

We have no comments

Robbie Rhur  
Environmental Review Coordinator  
804-371-2594

DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF AIR PROGRAM COORDINATION

RECEIVED

DEC 02 2011

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY Office of Environmental  
Impact Review

TO: John E. Fisher

DEQ - OEIA PROJECT NUMBER: 11 - 195F

PROJECT TYPE:  STATE EA / EIR  FEDERAL EA / EIS  SCC  
 CONSISTENCY DETERMINATION

PROJECT TITLE: EXEMPTION REQUEST TO 10 CFR PART 72 REQUIREMENTS AT THE  
INDEPENDENCE SPENT FUEL STORAGE INSTALLATIONS AT NORTH  
ANNA AND SURRY POWER STATIONS

PROJECT SPONSOR: NUCLEAR REGULATORY COMMISSION

PROJECT LOCATION:  OZONE ATTAINMENT AREA

REGULATORY REQUIREMENTS MAY BE APPLICABLE TO:  CONSTRUCTION  
 EXEMPTION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1.  9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E - STAGE I
2.  9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F - STAGE II Vapor Recovery
3.  9 VAC 5-40-5490 et seq. - Asphalt Paving operations
4.  9 VAC 5-130 et seq. - Open Burning
5.  9 VAC 5-50-60 et seq. Fugitive Dust Emissions
6.  9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to \_\_\_\_\_
7.  9 VAC 5-50-160 et seq. - Standards of Performance for Toxic Pollutants
8.  9 VAC 5-50-400 Subpart \_\_\_\_\_, Standards of Performance for New Stationary Sources, designates standards of performance for the \_\_\_\_\_
9.  9 VAC 5-80-10 et seq. of the regulations - Permits for Stationary Sources
10.  9 VAC 5-80-1700 et seq. Of the regulations - Major or Modified Sources located in PSD areas. This rule may be applicable to the \_\_\_\_\_
11.  9 VAC 5-80-2000 et seq. of the regulations - New and modified sources located in non-attainment areas
12.  9 VAC 5-80-800 et seq. Of the regulations - Operating Permits and exemptions. This rule may be applicable to \_\_\_\_\_

COMMENTS SPECIFIC TO THE PROJECT:

*K. S. Narasimhan*

(Kotur S. Narasimhan)  
Office of Air Data Analysis

DATE: December 2, 2011





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**MEMORANDUM**

**TO:** John Fisher, Environmental Program Planner

**FROM:** Angela Alonso, DLPR Review Alt. Coordinator *Alonso*

**DATE:** December 2, 2011

**COPIES:** Leslie A. Romanchik, Hazardous Waste Program Manager  
Richard J. Criqui, Jr., CPSS, DLPR Review Coordinator  
EIR File

**SUBJECT:** Environmental Assessment – Exemption Request to 10 CFR Part 72 Requirements at the Independent Spent Fuel Storage Installations at North Anna and Surry Power Stations – Nuclear Regulatory Commission – DEQ Project No. 11-195F – Review

Staff from the Division of Land Protection and Revitalization (DLPR) (former Waste Division) has completed its review of the *Virginia Electric and Power Company (Dominion), North Anna Power Station and Surry Power Station Units 1 & 2; Independent Spent Fuel Storage Installation; Environmental Assessment (EA) and Finding of No Significant Impact* under the Nuclear Regulatory Commission (NRC).

Dominion is requesting an exemption to the 10 CFR Part 72 requirements to continue storage of the affected dry storage canisters (DSCs) in their current condition at the Independent Spent Fuel Storage Installation (ISFSI) associated with the operation of Dominion's nuclear power reactors, at North Anna Power Station Units 1 and 2, located in Louisa County, Virginia under zip code 23117 and at Surry Power Station Units 1 and 2, located in Surry County, Virginia, under zip code 23883. The NRC is considering issuance of an exemption to Dominion pursuant to 10 CFR 72.7 from specific provisions of 10 CFR 72.212(b)(3), 72.212(b)(11), and 72.214.

We have no comments concerning the EAs as solid/hazardous waste issues are not applicable for these projects.

If you have any questions or need further information, please contact Angela Alonso at (804) 698-4328.

**Fisher, John (DEQ)**

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**From:** Ewing, Amy (DGIF)  
**Sent:** Friday, December 09, 2011 4:06 PM  
**To:** Fisher, John (DEQ)  
**Subject:** ESSLog# 32484\_11-195F\_Lake Ann and Surry spent fuel storage

We have reviewed the subject NRC project that proposes to provide Dominion an exemption from adherence to standard spent fuel storage requirements.

We have not identified any reason to object to NRC providing Dominion the proposed exemption.

Thanks, Amy

Amy Ewing  
Environmental Services Biologist  
VA Dept. of Game and Inland Fisheries  
4010 W. Broad Street  
Richmond, VA 23230  
804-367-2211  
[amy.ewing@dgif.virginia.gov](mailto:amy.ewing@dgif.virginia.gov)

**Fisher, John (DEQ)**

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**From:** Kirchen, Roger (DHR)  
**Sent:** Friday, December 02, 2011 3:26 PM  
**To:** Fisher, John (DEQ)  
**Subject:** Spent Fuel Storage Installations at North Anna and Surry - NRC (DEQ #11-195F; DHR File No. 2011-1892)

**This exemption is unlikely to affect historic properties. However, if applicable, the NRC should consult directly with DHR pursuant to Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations codified at 36 CFR Part 800.**

**Roger**

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

If you cannot meet the deadline, please notify JOHN FISHER at 804/698-4339 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

REVIEW INSTRUCTIONS:

- A. Please review the document carefully. If the proposal has been reviewed earlier (i.e. if the document is a federal Final EIS or a state supplement), please consider whether your earlier comments have been adequately addressed.
- B. Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- C. Use your agency stationery or the space below for your comments. **IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.**


Please return your comments to:

MR. JOHN E. FISHER  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL IMPACT REVIEW  
629 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
FAX #804/698-4319  
John.Fisher@deq.virginia.gov

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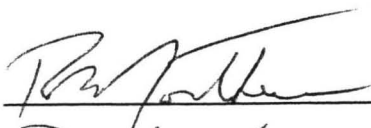
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\_\_\_\_\_  
JOHN E. FISHER  
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

No Comment.

(signed)



(date) 11-23-11

(title)

Deputy Superintendent

(agency)

Virginia State Police

PROJECT # 11-195F

10/10