

JOINT PERMIT APPLICATION OVERVIEW

Introduction

Virginia Electric and Power Company, doing business as Dominion Virginia Power (Dominion), is proposing to design, construct, operate and maintain a 585-megawatt coal-fired electric generation facility and an associated Solid Waste Management Facility (SWMF) in Southwest Virginia. Together these facilities are known as the Virginia City Hybrid Energy Center Project (Project). The Project will consist of the new Power Plant and the requisite material handling areas, road and utility infrastructure systems, and a SWMF. The SWMF qualifies as an "industrial waste landfill" by definition outlined in Virginia Administrative Code (VAC), Chapter 80, Solid Waste Management regulations (9VAC20-80-10), and Dominion is concurrently proceeding to seek approval to construct, operate and maintain this facility under these regulations. Under this Joint Permit Application (JPA), Dominion is seeking approval to work in waters and wetlands within the Commonwealth of Virginia that are impacted by the SWMF. The proposed site location is in Wise County, Virginia, approximately 1.7 miles west of the Town of Saint (St.) Paul along U.S. Alternate Highway 58.

Joint Permit Application

Dominion has prepared this JPA for submittal to participating Federal, State, and Local regulatory agencies as an application for permits to work in waters and wetlands within the Commonwealth of Virginia. These agencies include the United States Army Corps of Engineers (USACE) – Norfolk District, the Virginia Marine Resources Commission (VMRC), and the Virginia Department of Environmental Quality (VDEQ). There are no known Local Wetlands Boards (LWB). Impacts to waters will occur in streams below a five cubic feet per second (cfs) flow and a five square-mile drainage area; therefore, it is not anticipated that a VMRC permit will be required.

Dominion completed pre-application/scoping consultation with relevant regulatory agencies in March, April and May 2007. Specifically, these are detailed below:

- March 27, 2007 – Dominion meeting with USACE and VDEQ,
- April 26, 2007 – Dominion meeting with relevant regulatory agencies including:
 - VDEQ (Solid Waste, Water Quality, and Air Divisions),
 - Virginia Department of Conservation and Recreation (VDCR) – Natural Heritage Resources,
 - Virginia Department of Game and Inland Fisheries,
 - Virginia Department of Historic Resources,
 - Virginia Department of Mines, Minerals and Energy – Division of Mined Land Reclamation,
 - USACE, and
 - United States Fish and Wildlife Service.
- May 23, 2007 – Dominion and USACE Jurisdictional Review Site Visit.

The application herein focuses on topics identified during the March, April and May meetings.

Dominion is seeking approval under this JPA for work in waters and wetlands within the Commonwealth of Virginia that are impacted by the SWMF. Information relative to the site location, site layout, ground water monitoring and SWMF description is provided below. General information related to other on-site project activities for the Power Plant will be discussed, as applicable, in this JPA only to provide context for the SWMF. A JPA will not be submitted for the proposed Power Plant, because there will be no impacts to jurisdictional wetlands and waters associated with the Power Plant. Dominion will file for all other necessary related permits for the Power Plant and SWMF separately. Under this JPA, Dominion is seeking authorization and approval for the SWMF from the USACE and VDEQ.

The following sections of this application describe the SWMF and other aspects of the Project, as necessary. This application includes all applicable portions of Sections 1 through 24 of the JPA (including attachments, where necessary, for complete explanation).

Attachments provided herein include:

- Alternatives Analysis,
- Cumulative Effects Analysis,
- Phase I Cultural Resources Survey,
- Threatened and Endangered Species Correspondence,
- Endangered Species Assessment,
- Endangered Bat Survey,
- Biological Assessment,
- USACE Confirmed Waters and Wetland Review,
- Preliminary Compensatory Mitigation Plan,
- A copy of the Federal Emergency Management Agency (FEMA) flood insurance rate map for the SWMF site,
- Fill Information, and
- A Description of Stormwater Management Facilities.

A key component in the selection of a site and combustion technology was the ability to minimize overall environmental impacts. This site was chosen and the Power Plant and SWMF were conceptually designed to avoid impacts to the land, water, and air resources of the area and surrounding region, to the greatest extent practicable. The goal of reducing the overall environmental impact of the facilities has been given a high priority in major and minor aspects of the preliminary design. As detailed design of the facilities continues, minimizing environmental impact will continue to be a prime focus.

Circulating Fluidized Bed (CFB) combustion technology was selected as the most appropriate technology for the Power Plant. Key in this decision was the strong environmental performance, record of dependable, cost-effective service, and the ability of CFB boilers to make use of the wide range of solid fuels available in the region. These fuels include run-of-mine coal, waste coal (including coal of lower heat content or coal refuse from processing operations), and wood waste. The Power Plant is being permitted to consume up to 20% wood waste as an alternative fuel. Unlike a CFB, other combustion technologies do not offer this combination of demonstrated reliability, cost-effectiveness, and fuel flexibility.

Consequently, environmental impacts of the Power Plant are expected to be minimal, and impacts on scenic assets, historic districts, and the environment will not occur or will be reasonably minimized.

Curley Hollow Solid Waste Management Facility

Site Location and Description

Dominion is proposing a site location in Wise County, Virginia, approximately 1.7 miles west of the Town of St. Paul, along U.S. Alternate Highway 58, for a new coal-fired electric generating facility and associated SWMF. The proposed SWMF site is located in Curley Hollow, adjacent to the proposed Power Plant location. The SWMF site is approximately 378 acres, which is part of a larger collection of land, about 1,700 acres in size, currently owned or under option by Dominion.

General Site Layout and Design

The proposed Curley Hollow SWMF will be a captive industrial solid waste disposal site, which means that it will be designed for the exclusive disposal of coal combustion by-products (CCB) associated with power generation from the proposed Power Plant. The CCB materials to be disposed of in the SWMF will be in the form of ash from burning coal and wood waste. The disposal area will be within the 188-acre Waste Management Unit Boundary, which is within the total 378-acre SWMF site. The facility will meet regulatory requirements set forth by Virginia Administrative Code, Chapter 80, Solid Waste Management Regulations.

The facility is designed to utilize the entire area of Curley Hollow, ridge-to-ridge, once final development is complete. The final grade of the peak of the disposal area will be approximate elevation 2,350 feet, a maximum of 500 feet above the lowest existing elevation of Curley Hollow, at this location. The peak of the disposal area's final grade will extend approximately 200 feet above the existing ridge line.

The SWMF will use a single geosynthetic liner system consisting of a prepared subgrade, 30-mil polyvinyl chloride liner geomembrane, leachate collection layer (including piping), and protective cover. These layers are constructed to contain the waste and collect leachate that may accumulate, while protecting the ground water down gradient of the site.

The facility will utilize a 24-inch vegetated soil cap system placed over the final waste grades to close the site. The cap system is comprised of an 18-inch infiltration layer (low permeable soil) and a 6-inch erosion layer (earthen material) capable of sustaining vegetation. The infiltration layer is designed to create a barrier between the waste material and precipitation, to reduce leachate generation. The erosion layer, with vegetation, is designed to shed stormwater runoff and reduce erosion. The final capped surface will have maximum slopes of 3H:1V with benches constructed approximately every 20 vertical feet, for stability and drainage.

Additional infrastructure for the facility will include a paved haul road from the station to the disposal area, lined drainage channels, lined sedimentation/stormwater management ponds, a lined leachate management pond, a ground water monitoring system, material stockpile and processing areas, maintenance and repair facilities, and other access roads for operations and maintenance.

Single Valley Design Scenario

As stated previously, the SWMF is designed to utilize the entire area of Curley Hollow, ridge-to-ridge, once final development is complete. The SWMF must be able to contain CCB materials for an approximate 25- to 30-year timeframe with an expected CCB generation rate

of approximately 2,000,000 tons from the Power Plant. Given these parameters and for construction consideration, a single contiguous location has been identified for CCB storage. Because of the area required for the Waste Management Unit Boundary of approximately 188 acres and the topographic region of the site, the only usable space for effective design and construction is a valley. In this region of Southwest Virginia, most valleys have first order and second order waterbodies in the center of the valley. A design to avoid impact to the center of the valley would require a significant reduction in the storage life of the SWMF and would require Dominion to utilize additional valleys in the area. This would result in additional land cover impacts and potentially more impacts to wetlands and waterbodies.

Ground Water Monitoring

A series of ground water monitoring wells will be installed around the perimeter of the site. These wells will be used to monitor flow rate, flow direction, and water quality of the ground water that passes beneath the site. The site is designed to meet regulations using a single layer system and ground water monitoring system, which will prevent discharge from entering the local ground water and reaching the Clinch River. If any problems are detected, then they will be addressed immediately. Ground water monitoring will be conducted for the SWMF in accordance with § 9VAC20-80-300 of the Virginia Solid Waste Management Regulations.

Dominion is currently collecting data at the observation wells shown on the plan view boring and test pit locations, Notice of Intent/Part A, Drawing 5, in Attachment 18.2 to identify the ground water flow paths and rates within the uppermost aquifer at the site. This information will be used to determine the locations of the permanent monitoring wells. In order to monitor the potential impacts to ground water from the proposed SWMF, six permanent monitoring wells will be installed. There will be three downgradient and three upgradient monitoring wells. Each well will be installed so that the screened interval will span first water encountered at each of the well locations. Monitoring of the first zone of saturation will provide for early detection.

Additionally, during construction of the SWMF, all seeps, springs, and other intrusions will be collected using an underdrain conveyance system and removed from the site area.

Solid Waste Management Facility Construction

The SWMF site will be developed in stages using small disposal cells, to limit the amount of disturbed area at one time. An initial cell and the necessary supporting infrastructure will be constructed first. When the initial cell is open for waste disposal, construction of the next cell will begin. Once the initial cell reaches its disposal capacity, the second cell will be open for waste placement. Portions of the first cell that reach final grade will be capped (closed), and construction of the next cell will begin. This process will continue over the life of the SWMF until the site reaches its final development grade. The expected life of the SWMF is approximately 27 years.

The initial site development will consist of installing the ground water monitoring system, construction of sediment and leachate ponds, construction of haul/access roads, installation of stormwater collection and diversion channels, and development of the liner system for the first SWMF cell.

The remaining cells and infrastructure will be constructed according to a phased development and operation plan, based on disposal needs.

Power Plant

There will be no impacts to jurisdictional wetlands and waters associated with the Power Plant, since impacts to jurisdictional waters in this area are avoided and all wetlands within the Power Plant area are non-jurisdictional wetlands. Site Plan drawings which show this have been included in Attachment 21.2. One isolated wetland (W-7) was identified within the proposed Power Plant site during the May 2007 jurisdictional determination site visit with the USACE. Dominion is in the process of requesting an exemption from the VDEQ for this wetland. It is anticipated that VDEQ will determine that it is an Isolated Wetland of Minimal Ecological Value, which is exempt from VDEQ's Virginia Water Protection permitting requirements, per The State Water Control Law and Regulation 9VAC25-210-220A. Once the VDEQ determines that the wetland meets all the criteria in Regulation 9VAC25-210-10, the VDEQ will issue a "No Permit Required" letter to Dominion for Wetland W-7. All other non-jurisdictional wetlands within the proposed Power Plant area are previous stormwater features covered under an existing mine permit. In addition, Dominion will maintain a 25-foot setback from streams where possible to avoid secondary impacts.

Water Resources Regulation

Water Source

The Power Plant is estimated to require up to one million gallons of water per day for operating activities. In order to reduce water consumption by the Power Plant down to one million gallons per day, a dry-cooling process was selected for use with the CFB boilers. This dry-cooling process, also referred to as air-cooling, substantially reduces the amount of water that will be used by the Power Plant, minimizing impact to aquatic resources in the area. A standard power generating plant of similar size and design without a dry-cooling process could require up to 12 million gallons of water per day for operating activities.

In order to further minimize impacts to sensitive habitats, water for the Power Plant will be purchased from the Wise County Public Service Authority (WCPSA), eliminating the need for a new water intake structure and piping. Dominion and the WCPSA entered into a water purchase option agreement on January 10, 2006. Wise County will install new supply piping along the ROW of U.S. Alternate Highway 58 from the WCPSA Carfax water plant to the Power Plant. Supply water provided from the WCPSA will be stored in an on-site tank that would also serve as the water source for the Power Plant fire protection system.

Water Discharge

The discharge of Power Plant and SWMF process water will be collected on-site, treated as needed, and discharged to the Town of St. Paul's Wastewater Treatment Plant (WWTP). Wise County will install new discharge piping infrastructure along the ROW of U.S. Alternate Highway 58 from the WWTP to the Power Plant. Dominion will not discharge water to the WWTP until the WWTP's infrastructure is adequate to receive and treat the wastewater from the Power Plant and SWMF. The discharges from the facilities will not prevent the WWTP from maintaining compliance with its existing Virginia Pollutant Discharge Elimination System (VPDES) permit requirements. There will be no releases into public streams or waterways, other than stormwater runoff permitted by the VDEQ under a VPDES stormwater discharge permit.

Wetlands and Streams

Representatives from Dominion and the USACE completed a jurisdictional determination site visit for the property on May 23, 2007. The USACE issued a letter (dated October 11, 2007)

verifying the results of the jurisdictional determination. Based on the jurisdictional determination, the wetlands associated with the Power Plant area are either isolated or associated with active mining operations and, therefore, are non-jurisdictional. Russell Creek, which flows through the Power Plant, will not be impacted as a result of avoidance efforts by Dominion [e.g., installation of construction buffers, bridges for crossings, proper erosion and sediment (E&S) control practices, and Best Management Practices (BMPs)]. Dominion will prepare and implement a VDCR approved E&S control plan and a stormwater pollution prevention plan (SWPPP) during construction activities at the Power Plant and the SWMF to minimize impacts to adjacent surface waters.

Approximately 0.42-acre of wetlands and 3,880 linear feet of perennial and intermittent streams associated with the area where the SWMF will be constructed were determined to be jurisdictional by the USACE. This JPA is being prepared to provide information necessary to obtain an individual permit to permanently impact the jurisdictional wetlands and waters associated with SWMF activities.

As required, a compensatory mitigation plan for wetland and stream impacts is being submitted as Attachment 8.4 to the JPA. The goal of compensatory mitigation is to achieve no-net-loss of Commonwealth Waters through replacement and/or enhancement of function and quality. Dominion will use a combination of mitigation options (e.g., restoration, preservation, etc.) to offset impacts and meet or exceed regulatory mitigation requirements.

Dominion will submit a construction stormwater general permit application to the VDCR for review, along with a site-specific E&S control plan and SWPPP for the Power Plant and the SWMF. The E&S control plans will be prepared in accordance with VDCR and Wise County requirements, and the SWPPPs will be prepared in accordance with VDEQ and VDCR requirements. These specifications will be given to Dominion's contractors and will be in place prior to the start of construction. Dominion will complete the required inspections and post-construction reporting. Additionally, Dominion will prepare and submit to the Wise County Building and Zoning Department appropriate applications for a Land Disturbance Permit and Building, Electrical, Mechanical, and Plumbing Permits for the Power Plant and the SWMF prior to construction.

Preparedness, Prevention and Contingency Measures

Dominion will comply with the requirements of VDEQ's oil regulations and prepare facility Spill Prevention, Control and Countermeasure (SPCC) Plans and a Facility Response Plan, as necessary, and implement those plans. The SPCC Plans for the Power Plant and the SWMF will protect surface water and groundwater by utilizing appropriate industry BMPs to contain spills on-site. These BMPs include appropriate containment, such as double-walled aboveground tanks with secondary containment. Dominion will report spills to the appropriate Federal, State and Local authorities, as required by Environmental Protection Agency and VDEQ regulations. Waste materials created during construction or maintenance will be collected and disposed of in a proper manner and recycled, where appropriate.

Runoff resulting from equipment washing operations will not be permitted to directly enter any waterbody or wetland area.

A stormwater collection system for the SWMF will be designed for the 25-year, 24-hour storm event. The stormwater collection system will collect water runoff from both active CCB placement areas and from stabilized final surfaces. Stormwater will be treated and discharged as permitted by VDEQ under a VPDES stormwater discharge permit. Also, a separate pond will collect leachate from the leachate collection system. Leachate will be

treated or reused. Leachate may be used for ash conditioning at the Power Plant, dust control on active landfill areas, or may be conveyed to the Power Plant treatment system, and subsequently sent to the Town of St. Paul's WWTP for additional treatment, as required.

The stormwater and leachate collection and discharge systems for the SWMF will operate as intended, without causing adverse environmental impacts.