PART 4 - PROGRAMS AND PLANS
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Chapter 1 Site Redress

This chapter describes early site preparation (ESP) site preparation activities that might occur after U.S. Nuclear Regulatory Commission (NRC) issuance of an early site permit. The chapter also describes the site redress plan that would be implemented if those site preparation activities were performed, but the ESP then expired before it is referenced in a combined license (COL) application.

1.1 Description of Site Preparation Activities

The Site Redress Plan in Section 1.2 is submitted by Dominion Nuclear North Anna, LLC (Dominion) pursuant to 10 CFR 52.17(c) to allow Dominion to perform, after being granted the ESP, the site preparation activities for new nuclear units at the ESP site allowed by 10 CFR 50.10(e)(1). The site preparation activities that Dominion may perform include:

- Preparation of the site for construction of the facility (including such activities as clearing, grading, construction of temporary access roads, and preparation of borrow areas);
- Installation of temporary construction support facilities (including items such as warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction support buildings);
- Excavation for facility structures;
- Construction of service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, switchyard interconnects, and sanitary sewage treatment facilities);
- Construction of structures, systems and components which do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public, including but not limited to:
  - Cooling towers,
  - Intake and discharge structures,
  - Circulating water lines,
  - Fire protection equipment,
  - Switchyard and on-site interconnections,
  - Microwave towers,
  - Underground utilities.

Before commencing any of these activities, after the ESP is granted, Dominion would:

1. Create a record of the existing site conditions within the proposed ESP site by way of photographs, surveys, listings of existing facilities and structures, or other documentation. This record would serve as the baseline for redressing the site in the event ESP site preparation activities are terminated as a result of project cancellation or expiration of the ESP.

2. Obtain any state and local permits and authorizations necessary to perform the site preparation activities.

3. Obtain the appropriate regulatory approvals of an agreement between Virginia Power and Dominion. This agreement would authorize Dominion to conduct the pre-construction activities subject to Dominion's obligation to perform such site redress as may be required to comply with the Site Redress Plan approved by the NRC.

4. Provide to the NRC a guaranty by Dominion Resources, Inc. (DRI) of $10 million as financial assurance for Dominion's obligation to comply with the Site Redress Plan. Dominion is an indirect, wholly-owned subsidiary of DRI. DRI is the largest fully-integrated natural gas and electric provider in the United States with over $37 billion in assets, over $10 billion in annual revenue, and over $2 billion in annual operating cash flow.

1.2 Site Redress Plan

This section constitutes Dominion's plan for redress of the North Anna site in the event that activities allowed by 10 CFR 50.10(e)(1) are performed but the ESP then expires before it is referenced in an application for a combined license under 10 CFR 52, Subpart C. This Site Redress Plan provides reasonable assurance that redress carried out under the plan would achieve an environmentally stable and aesthetically acceptable site condition suitable for whatever non-nuclear use may conform with local zoning laws.

The following sections describe the objective of the Site Redress Plan and activities that would be considered to redress the site; a general description of proposed redress activities; and the procedure for NRC notification and final acceptance of the redressed site.

1.2.1 Site Redress Plan Objective and Considerations

The objective of the Site Redress Plan is to ensure that the site, should it not be fully developed for the intended purpose of new nuclear power generation, would be returned to an unattended, environmentally stable and aesthetically acceptable condition suitable for such non-nuclear use as is consistent with local zoning laws.

Site redress activities would be commensurate with the level of site modification created by the proposed site preparation activities. Redress activities would reflect applicable land use and/or zoning requirements of local, state and federal agencies. Redress activities would consider the following:

- Recontouring, revegetation, and replanting of cleared areas
- Restoration of sensitive water resource features disturbed for intake and/or discharge structures
- Habitat replacement
- Use of constructed facilities for alternative purposes, or their removal
- Remediation of contamination resulting from site preparation or site redress activities

In planning for site redress, two general categories of conceptual options would be considered:

1. Topographic approaches that accomplish the objective stated above as well as preserve the potential of the site for future industrial use

2. Completion or addition of site development features that enhance the value of the site for potential future industrial use.

Redress activities would begin (in concert with local and/or state land use agencies and industrial development authorities) either when the ESP has expired or reactor construction plans have been abandoned. The redress activities would include those actions necessary to terminate or transfer local and state permits and would identify site features or improvements that would remain and those that must be removed. A detailed redress scope and schedule consistent with this plan would

be implemented at that time. The schedule would include adequate preparation time to secure additional input from regulators and local municipalities. The redress activities would comply with applicable environmental requirements. If, prior to commencement of the redress activities, industrial or other acceptable uses for the site are identified that are consistent with its development, the redress would be performed in a manner that accommodates and is consistent with the alternative use. Dominion would carry out the Site Redress Plan to the greatest extent possible consistent with the alternative use.

Prior to the commencement of site redress activities, environmental control of local water quality, air quality, stormwater runoff, solid waste, and the protection of critical ecological elements, if any, would be maintained in compliance with approved permits and regulatory requirements.

1.2.2 **Description of Site Redress**

This section describes the site redress actions that would be taken should pre-construction work not proceed to full construction. The overall objective of site redress is to provide an environmentally stable, self-draining, self-maintaining, esthetically acceptable site that can be left unattended. The methods by which this would be accomplished are presented in the following subsections.

1.2.2.1 **Future Use of Constructed Facilities**

Any facilities or structures constructed as part of the site preparation activity that could have applicability to a future use of the site may be left in place to the extent that they are consistent with local zoning and provided that they pose no hazard to safety or the environment. Such facilities or structures would be evaluated at the time of site redress to assess their usefulness for potential or proposed site utilization. Should the facilities or structures be deemed to have a potential for future use, they would be preserved in a manner that would pose no threat to the environment or to activities on the site. However, should the facilities or structures be considered to be of no value to final disposition of the property, they would be removed as part of the overall site redress activities.

1.2.2.2 **Physical Restoration**

Changes to the site would be evaluated to assess their potential for future impact on the site and future site use. Any changes that are deemed to have no future value to the site and could not be dispositioned to a stable configuration would be redressed. No additional areas outside those already cleared would be disturbed. Final site redress would include regrading the area to conform with the surrounding land surface and to mitigate stormwater runoff and erosion potential. Revegetation and replanting would be performed to achieve the objective of environmental and

aesthetic site stabilization. Some or all of the following activities would be performed to redress the site to a suitable condition:

- Structures and facilities, unless deemed useful to the existing plant or for future industrial development, would be demolished and the resulting debris would be properly disposed of at the site or an approved disposal facility.
- Existing excavations would be backfilled and the areas regraded to conform with the surrounding land surface and to mitigate stormwater runoff and erosion potential. Backfill placement would be performed in accordance with specified procedures. Borrow materials to be used in the backfilling and contouring operations would be obtained from locations on the site that are within the existing cleared areas. The backfilled areas would be revegetated and/or replanted, or otherwise mitigated for erosion control.
- Perimeter fencing would be removed, unless it is considered necessary for liability and security purposes.
- Fire protection systems would be evaluated for removal or abandonment in place.
- Underground utilities and overhead lighting would be evaluated for removal or abandonment in place.
- All unneeded construction equipment would be removed from the site and dispositioned accordingly.
- If intake and discharge structures are removed, the shoreline would be restored to an acceptable long-term condition.
- If not needed, onsite transmission interconnects (towers, lines, etc.) would be deactivated at the switchyard and evaluated for removal or abandonment in place.
- Asphalt roadways would be evaluated for removal or abandonment in place. If removed, the materials would be disposed of at an approved disposal facility.
- Roadbeds would be evaluated for removal or abandonment in place. If removed, the roadbed areas would be recontoured to conform with the surrounding land surface and revegetated.
- Borrow areas would be regraded to conform with the surrounding land surface and to mitigate stormwater runoff and erosion potential, and the areas would be revegetated.
- Railroad spurs would be evaluated for removal or abandonment in place. If removed, the railbed areas would be recontoured to conform with the surrounding land surface, and the areas would be revegetated.

1.2.2.3 Restoration of Sensitive Water Resource Features

1.2.2.3.1 Lake Anna

Construction of the cooling water intake structure for the new units at the ESP site would not significantly affect the open water habitat of Lake Anna. The intake structure would be constructed in the vicinity of the existing units cooling water intake structure. The modification to open water habitat resulting from construction of the intake structure would not be considered significant in comparison to the amount of open water habitat found on Lake Anna. If the intake structure is removed as part of site redress activities, the shoreline would be redressed by grading and revegetation to control erosion. Any significant sediment deposition in the vicinity of the intake structure would be removed.

During site redress activities, erosion and sediment control best management practices would be used to contain eroded soil on the site and remove sediment from stormwater runoff prior to its leaving the site. Measures would be taken to avoid concentrated flows with a high potential to transport sediment. Visual inspections of erosion control measures would be performed to monitor the effectiveness of the control measures and to aid in determining if other mitigation measures are necessary. Where necessary, special erosion control measures would be implemented to further minimize impacts to the lake, lake users, and existing units operations. Site redress activities would include the use of appropriate stabilization methods to mitigate the long-term delivery of sediment into the lake.

1.2.2.3.2 Freshwater Streams

Portions of two small ephemeral streams that discharge to Lake Anna, designated Streams A and B on Figure 1.2-1, may be filled to level the area should the construction of cooling towers in that area become a part of the final plant design. It is estimated that about 1500 feet of stream channel would require filling. The site drainage system would be designed to incorporate the flow currently conveyed by these streams to the lake. By providing alternate drainage facilities to convey the stream flows, no short-term or long-term adverse hydrologic impacts on site drainage would result. Therefore, the need to redress the streams to their original condition, should construction be terminated, would be evaluated at that time to determine the best way to ensure long-term stability of the site. If considered necessary, the stream channels would be re-excavated and stabilized by vegetation and/or riprap to return the area to an acceptable long-term condition.

New onsite pipelines that cross freshwater streams would be constructed so that no permanent alteration to the streams occurs. Should site preparation activities be terminated, an evaluation would be made at that time regarding removal of these facilities as part of the site redress activities. Should removal be considered necessary, it would be accomplished in such a manner as to minimize disruption to the streams, and the streams would be redressed to an acceptable long-term condition.

1.2.2.3.3 **Groundwater**

Impacts to groundwater during site preparation activities may occur due to temporary dewatering of foundation areas or general lowering of the groundwater table in localized areas due to topographic alterations. Once the dewatering activities are terminated, the groundwater levels are expected to return to their previous levels. Groundwater levels that are altered due to topographic changes would be minor and of no significance to the overall flow of groundwater to Lake Anna. Should the topographic alterations be redressed to their original configuration, the groundwater would also likely return to its previous levels and flow direction in these areas. Therefore, no redress of groundwater levels is anticipated to be necessary.

1.2.2.4 **Habitat Replacement**

Site preparation activities would occur within the boundaries of the existing NAPS site, which has been designated an industrial zone. Areas outside the site would be generally unaffected with respect to habitat disturbance. The site contains no critical habitat areas that would require replacement as a result of ESP site preparation activities. Therefore, no habitat replacement would be necessary as part of the site redress activities. Some habitats would recover naturally when the site is redressed.

1.2.2.5 **Contamination**

Any areas on the ESP site that become contaminated as a result of site preparation or redress activities would be remediated in compliance with applicable local, state and federal regulations.

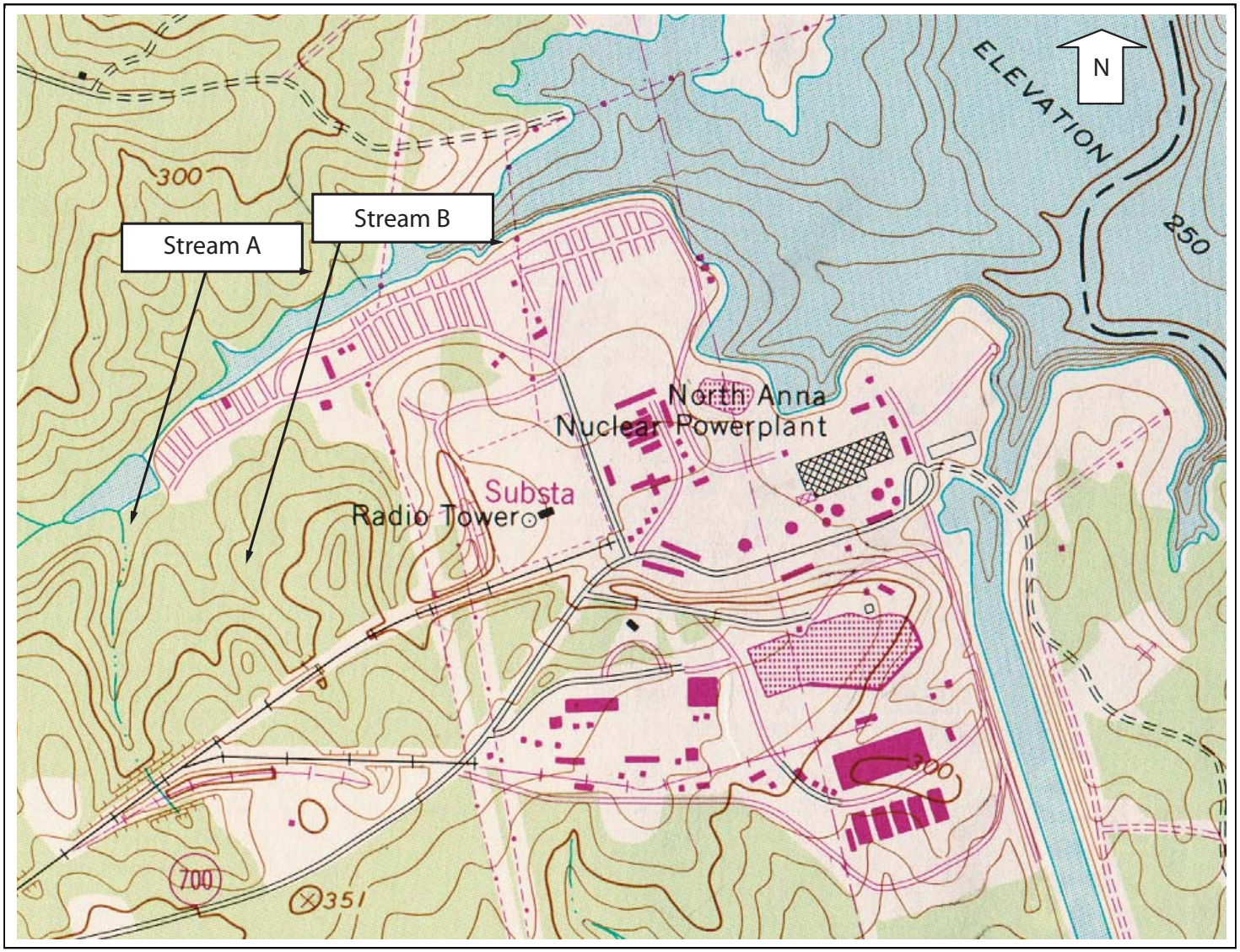

Figure 1.2-1 Ephemeral Steam Locations

Source: *Lake Anna West, VA*, USGS 7.5 Minute Topographic Map, 1983.

1.2.3 **NRC Notification Upon Completion**

Dominion Nuclear North Anna, LLC would notify the NRC upon completion of activities addressed by this Site Redress Plan. The site would be made available for inspection and any documentation that the NRC may require would be provided to confirm the satisfactory completion of the redress activities.