

Vogtie ESP Application Supplement 2-S1

Part 4

(Pages 1-1 through 1-14)

Southern Nuclear Operating Company

Early Site Permit Application

for the

Vogtle Electric Generating Plant

Part 4 Site Redress Plan

Revision 2-S1

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Acronyms and Abbreviations

| | |
|------|---------------------------------------|
| COL | Combined license |
| CFR | Code of Federal Regulations |
| ESP | Early Site Permit |
| GPC | Georgia Power Company |
| NRC | [U. S.] Nuclear Regulatory Commission |
| SNC | Southern Nuclear Company |
| SSC | Systems, structures and components |
| VEGP | Vogtle Electric Generating Plant |

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PART 4: SITE REDRESS PLAN

Chapter 1 Site Redress Plan

An Early Site Permit (ESP) allows the holder to perform certain activities defined in 10 CFR 50.10(e) prior to receiving a combined operating license (COL) (i.e., permission to initiate construction). However, in order to perform these activities, the ESP application must include a plan for site redress that provides for restoration if the project is cancelled, or the ESP expires before it is referenced in a COL application.

This chapter describes site preparation activities that may occur after the U.S. Nuclear Regulatory Commission (NRC) issues an ESP, but before they issue a COL, to Southern Nuclear Operating Company (SNC) for the Vogtle Electric Generating Plant (VEGP) site. This chapter also describes the VEGP site redress plan required by 10 CFR 52.17(c). This Redress Plan has been developed to provide reasonable assurance that redress carried out under the plan would achieve an environmentally stable and aesthetically acceptable site.

1.1 Site Description

The site selected for two new nuclear units, designated VEGP Units 3 and 4, is the existing 3,169-acre VEGP site in Burke County, in east-central Georgia, on the Savannah River. The site is approximately 100 miles northwest of Savannah, Georgia, and 26 miles southeast of Augusta, Georgia, directly across the river from the U.S. Department of Energy's Savannah River Site (Barnwell County, South Carolina). Southern Nuclear Company (SNC) proposes to construct VEGP Units 3 and 4 adjacent to, and west of, existing VEGP Units 1 and 2.

1.2 Plant Ownership

Currently the land selected for new VEGP Units 3 and 4 is jointly owned (i.e., co-owned) by Georgia Power Company (Georgia Power or GPC), Oglethorpe Power Corporation, Municipal Electric Authority of Georgia and the City of Dalton, an incorporated municipality in the State of Georgia acting by and through its Board of Water, Light and Sinking Fund Commissioners. SNC is the exclusive operating licensee of the existing VEGP nuclear units, and has been authorized by GPC, acting as agent for the co-owners, to apply for an ESP for the VEGP site. SNC has no ownership interest in the existing or proposed units at VEGP.

GPC and SNC are subsidiaries of Southern Company, Inc., and SNC is the licensed operator for all Southern Company nuclear generating facilities. SNC's business purpose is management and operation of nuclear generating facilities owned or co-owned by Southern Company subsidiaries. ESP Application, Part 1, Chapter 3 provides additional information about Southern Company, GPC, VEGP co-owners and SNC.

Prior to any site preparation activities, the co-owners would grant sufficient rights to SNC for SNC to perform the activities described in this plan.

1.3 Site Preparation Activities

This Site Redress Plan, submitted by SNC pursuant to 10 CFR 52.17(c), would allow SNC, after receiving an ESP, to perform the site preparation activities for new VEGP Units 3 and 4 as allowed by 10 CFR 50.10(e).

Before beginning any site preparation activities, SNC would have to perform several preliminary activities. Preliminary activities include, but are not limited to the following:

- Execute an agreement between the site's co-owners and SNC. This agreement would authorize SNC to conduct the site preparation activities.
- Document existing site conditions within the new plant footprint through photographs, surveys, and an inventory of existing facilities and structures. This record would serve as the baseline for redressing the site in the event site preparation activities were terminated as a result of project cancellation or expiration of the ESP.
- Move, demolish, or transfer ownership of existing VEGP buildings and structures, as required. Relocation of any VEGP facilities would be consistent with the existing VEGP Units 1 and 2 licensing basis and all applicable regulations.
- Obtain Federal, state and local permits necessary to perform site preparation activities.

Once SNC has completed the preliminary activities, site preparation activities could proceed. Site preparation activities may include some or all of the following:

- Prepare the site for construction (including such activities as clearing, grading, construction of temporary access roads, laydown areas, and preparation of borrow areas) as allowed by 10 CFR 50.10(e)(1)(i);
- Install temporary construction support facilities (including items such as warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction support buildings) as allowed by 10 CFR 50.10(e)(1)(ii);
- Excavate for facility structures as allowed by 10 CFR 50.10(e)(1)(iii);
- Construct service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, transmission lines, and sanitary sewage treatment facilities) as allowed by 10 CFR 50.10(e)(1)(iv);
- Construct or expand non-safety related structures, systems or components (SSCs) as allowed by 10 CFR 50.10(e)(1)(v), including but not limited to:
 - Cooling tower structures

- Intake and discharge structures
 - Circulating water lines
 - Fire detection and protection equipment
 - Switchyard and on-site interconnections
 - Barge slip modification
 - Any additional SSCs which do not prevent or mitigate consequences of postulated accidents that could cause undue risk to the health and safety of the public.
- Installation of structural foundations, including any necessary subsurface preparation, for structures, systems and components which prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. by 10 CFR 50.10(e)(3)(i) including but not limited to:
 - Engineered backfill
 - Retaining walls (mechanically stabilized earth walls)
 - Lean concrete backfill
 - Mudmats
 - Waterproof membrane
 - Formwork for Nuclear Island (NI) base slab
 - Reinforcing steel and embedments for NI base slab

1.4 Site Redress Plan

1.4.1 Site Redress Plan Objective and Considerations

The purpose of site redress is to reverse, mitigate, or stabilize environmental impacts incurred during site preparation activities. The objective of the Site Redress Plan is to ensure that, in the event the VEGP Units 3 and 4 site is not fully developed to provide new nuclear power generation, it would be returned to an unattended, environmentally stable and aesthetically acceptable condition.

Site redress activities will be implemented commensurate with the degree of site modification resulting from site preparation activities. Redress activities will reflect applicable land use and/or zoning requirements of local, state and federal agencies, and possible future use scenarios. In scoping the redress plan, SNC will consider certain variables including, but not limited to:

- future ownership of the site
- potential environmental contamination that either pre-dates, or is a result of, site preparation activities
- potential liabilities associated with any facility or structure remaining following completion of the redress activities

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

- Topographic approaches that accomplish the objective and preserve the potential of the site for future industrial use
- Completion or addition of site development features that enhance the value of the site for potential future industrial use.

Decisions by SNC, the co-owners, and state or local land use authorities and industrial development authorities on potential future uses would inform specific redress activities. Redress activities, if necessary, would begin when the ESP expired or when new reactor plant construction plans are formally abandoned, whichever occurs first. Redress activities would include actions to terminate or transfer local and state permits, and designate site features or improvements that would remain and those that must be removed. A detailed scope and schedule will be prepared prior to initiating redress activities. Redress activities will comply with applicable environmental requirements and necessary permits will be obtained prior to beginning redress activities. If, prior to the commencement of redress activities, acceptable uses consistent with the current state of the site's development were identified, SNC would tailor

the site redress plan as much as possible to support the alternative uses. In the event that ownership of structures developed for VEGP Units 3 and 4 were transferred to the existing VEGP Units 1 and 2, the new structures would be included in the existing units decommissioning plan.

Between expiration of the ESP or the decision to abandon plant construction, and commencement of site redress activities, water quality, air quality, stormwater runoff, solid waste, and the protection of any critical ecological elements will be maintained in compliance with approved permits and regulatory requirements.

1.4.2 Description of Site Redress

This section describes the site redress actions that will be taken should site preparation work not proceed to full construction. The overall objective of site redress is to provide an environmentally stable, self-maintaining, aesthetically acceptable site that does not require oversight management. The methods by which this would be accomplished are presented in the following sections.

1.4.2.1 Future Use of Constructed Facilities

Any facilities or structures constructed as part of the site preparation activities that could be utilized for a future use may be left in place, provided they meet local zoning and pose no safety or environmental hazard. However, if the facilities or structures have no future use or are unsafe, they will be removed as part of redress activities. Facilities or structures constructed onsite will be evaluated just prior to implementing redress to confirm disposition.

1.4.2.2 Physical Restoration

Physical changes to the site will be evaluated to assess their potential for impact on future use of the site. Any changes, deemed to have no future value and that could not be dispositioned to a stable configuration, would be redressed. Final site redress will include regrading the area to conform with the surrounding land surface and to mitigate stormwater runoff and erosion.

Disturbed areas will be revegetated to ensure environmental stabilization and to leave an aesthetically pleasing landscape.

Some or all of the following activities will be performed at redress to return the site to an environmentally stable and aesthetically acceptable condition suitable for future use:

- Structures and facilities with no future use will be demolished and the resulting debris properly disposed of.

- Excavations will be backfilled with suitable material and regraded to conform to the surrounding land surface to mitigate stormwater runoff and erosion concerns. Backfill placement will be in accordance with good engineering practice. Borrow materials used in the backfilling and contouring may be obtained from existing cleared areas on the site if available. Disturbed areas will be revegetated to ensure stabilization and an aesthetically pleasing landscape.
- Perimeter fencing will be removed, unless needed for liability or security purposes.
- Fire protection systems will be evaluated for removal.
- Underground utilities and overhead lighting will be evaluated for removal.
- Underground piping will be evaluated for removal. If piping and underground utilities are removed, the excavations will be backfilled to grade, recontoured and planted.
- All unneeded construction equipment will be removed from the site.
- If intake and discharge structures are removed, the shoreline will be restored to an environmentally stable and aesthetically pleasing condition.
- Onsite transmission interconnects (towers, lines, etc.) will be evaluated for removal. If towers and lines are removed, the tower foundations will be removed, the excavations filled and graded and revegetated.
- Asphalt roadways will be evaluated for removal or abandonment in place. If removed, the materials would be disposed of at an approved disposal facility.
- Roadbeds will be evaluated for removal or abandonment in place. If removed, the roadbed areas will be recontoured to conform to the surrounding land surface and revegetated.
- Borrow areas will be regraded to conform to the surrounding land surface and to mitigate stormwater runoff and erosion potential, and the areas will be revegetated.
- The railroad spur will be evaluated for removal or abandonment in place. It is unlikely the railbed will be removed until decommissioning of the existing units, however, if removed, the railbed area will be recontoured to conform to the surrounding land surface, and the areas would be revegetated.

1.4.2.3 Restoration of Sensitive Water Resource Features

The intake and discharge structures may be constructed during site preparation activities. If these structures are removed as part of site redress, the shoreline will be restored by filling, grading and revegetation to achieve an environmentally stable and aesthetically acceptable state. Any significant sediment deposition in the vicinity of the intake structure would be

removed.

Any upgrades to the existing barge facility, bulkheads and dock will remain unless the designated use of the property necessitates their removal. If facilities are removed, the shoreline will be restored by filling, grading, and revegetation to achieve an environmentally stable and aesthetically acceptable state.

1.4.2.4 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 should be minor and of no significance to the overall flow of groundwater. If the topographic alterations are redressed to their original configuration, the groundwater is expected to return to its previous level and flow direction in these areas. Therefore, no redress of groundwater levels is anticipated.

Sampling or monitoring wells and boreholes are regulated by the Georgia Department of Natural Resources Environmental Protection Division and will be abandoned in place in accordance with applicable state regulations.

1.4.2.5 Habitat Replacement

Site preparation activities will occur within the boundaries of the existing VEGP site. Habitats outside the site will not be disturbed. The VEGP site has no critical habitats. Therefore, no habitat replacement is necessary as part of the site redress activities.

1.4.2.6 Contamination

Any area on the VEGP site that becomes contaminated as a result of site preparation preliminary construction or redress activities will be remediated in compliance with applicable local, state and federal regulations.

1.4.3 Controls to Mitigate Impacts During Redress Activities

Methods used to ensure environmental protection and regulatory compliance during site redress would include noise control, traffic control, sediment and erosion control, air quality control, control of potential pollutant sources, stockpile management, and spill prevention, control and response.

1.4.3.1 Noise Control

During redress activities, ambient noise levels would be similar to those during site preparation activities. Noise would be controlled to maintain compliance with all federal regulations. Neither Georgia nor Burke County have noise ordinances. Procedures and a hearing conservation program would be developed for redress activities.

The heavy equipment needed for demolition, clearing, excavating, grading, trash disposal, and land filling operations would be the major source of noise pollution. Standard noise dampening devices on equipment are expected to be sufficient to keep off-site noise levels at acceptable levels or lower. In addition, major redress activities would be constrained to weekdays and other activities would be limited on weekends.

1.4.3.2 Traffic Control

The highway access to VEGP would experience increased traffic during redress activities, similar to traffic increases during site preparation activities. SNC has assumed that redress activities would involve 1,000 workers or less. Based on the analysis of construction impacts, River Road has the capacity for an additional 1,200 cars per hour. Workers would access the site via the construction access road.

Traffic control on and off site would adhere to the applicable local, state, and federal requirements.

1.4.3.3 Erosion and Sediment Controls

SNC anticipates that most of the area within the new plant footprint would be cleared, paved, or graveled during site preparation activities. The runoff from the footprint would be controlled by a stormwater management system. During redress activities, disturbances to the existing ground surface could potentially increase the runoff sediment load. Measures would be taken to avoid concentrated flows with a high potential to transport sediment. Visual inspections of erosion controls would monitor the effectiveness of the controls and aid in determining if other mitigation measures are necessary. Where necessary, special erosion control measures would be implemented to further minimize impacts to the Savannah River, onsite streams or ponds, and existing units' operations. Site redress activities would include the use of appropriate stabilization methods to mitigate the long-term erosion of sediment into the river. Site grading and drainage during redress would be designed to avoid erosion during the redress period and beyond, and would be in compliance with an approved Erosion and Sedimentation Control Plan, which is required by the Georgia Department of Natural Resources and the federal Clean Water Act.

Sediment and erosion control would conform to the following best management practices:

- If periodic inspections or other information indicate that a control measure is ineffective, the control measure would be modified or replaced as necessary.
- In the event that sediment escapes the site during redress activities, off-site accumulations of sediment would be removed to minimize off-site impacts, to the extent practical.
- Sediment would be removed from sediment traps or sedimentation ponds as needed.
- Good housekeeping practices would be implemented to prevent litter, demolition debris, and chemicals from becoming pollutant sources for stormwater discharges.
- Erosion and sediment runoff would be controlled through the use of accepted structural and stabilization practices.
- Where practical, disturbed soil areas would be reseeded with maintenance seed (if activities are temporary) or permanent seed mix (for permanent or final cover) as soon as possible after redress activities are completed.
- Where practical, excelsior blankets would be mulched or installed, and slopes greater than 3H:1V would be reseeded. Mulch would be applied as soon as possible after seeding to reduce runoff and promote vegetation.
- Sidehill slopes would be furrow-contoured as practical. Otherwise, the final grading would be performed in a manner that would result in tracks and depressions contoured across the slope instead of down .
- The time that bare soil is exposed before being stabilized would be minimized.
- The disturbance to existing vegetation would be minimized.
- No solid materials, including demolition materials, would be discharged to waters of the United States, unless authorized under an approved permit.

1.4.3.4 Air Quality Controls

Dust, smoke, and engine exhaust are sources of air pollution. During redress activities, controls would be imposed to mitigate air emissions from such sources. The most traveled roads would be paved or sprinkled periodically if not paved, to reduce dust. Bare areas would be seeded to provide ground cover. Air pollution control regulations related to open burning or the operation of fuel-burning equipment would be followed. Permits and operating certificates would be secured where required. Fuel-burning equipment would be maintained in good mechanical order to reduce excessive emissions. Water sprinkling of laydown, storage, and parking areas, unpaved roads, and other areas of the site would suppress dust.

1.4.3.5 Potential Pollutant Sources (Effluents, Wastes, Spills, and Material Handling)

During redress activities, there would be many possible pollutant sources. Best management practices would be followed to ensure protection of soils, groundwater and surface water from accidental spills or releases of pollutants.

1.4.4 Potential Contamination

Any spills during site preparation or redress activities would be remediated in compliance with the requirements of this plan. The area would be returned to its baseline state post-redress.

1.4.5 Potential Liabilities

If ownership of the site is transferred, neither SNC nor the co-owners would have further liability with regard to site redress.

1.5 Impacts on Existing Redress and Decommissioning Plans

In the event that ownership of structures developed for VEGP Units 3 and 4 were transferred to the existing VEGP Units 1 and 2, the new structures would be included in the existing units decommissioning plan.

1.6 Financial Responsibility

It is the financial responsibility of the co-owners to provide the funding to redress the new plant footprint on the VEGP site in the event that site preparation activities are performed and new plant construction plans are abandoned, or if the site permit expires before it is referenced in an application for a construction permit or a COL.

1.7 NRC Notification Upon Completion

SNC 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.