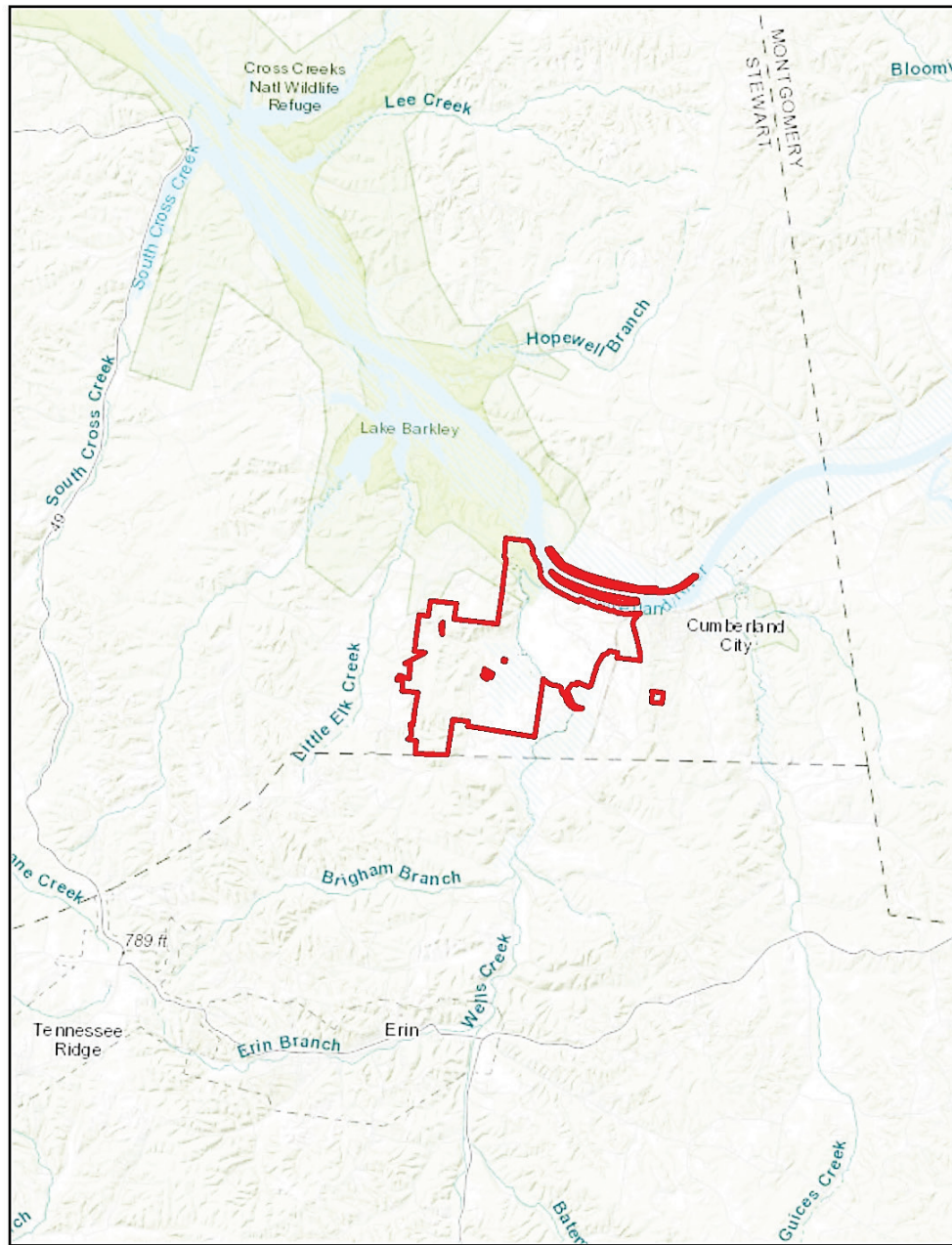


Cumberland Fossil Plant Retirement EIS SCOPING REPORT

AUGUST 10, 2021



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Scoping Report Executive Summary

The Tennessee Valley Authority (TVA) is preparing an environmental impact statement (EIS) on the proposed retirement and subsequent demolition of the two coal-fired units at the Cumberland Fossil Plant (CUF) in Cumberland City, Stewart County, Tennessee and the construction and operation of facilities to replace part of the retired generation. The existing CUF plant is on a large reservation of approximately 2,388 acres located at the confluence of Wells Creek and the south bank of the Cumberland River.

In June 2019, TVA published the 2019 Integrated Resource Plan (IRP), which was developed with input from stakeholder groups and the general public. The 2019 IRP evaluated six scenarios (plausible futures) and five strategies (potential TVA responses to those futures) and identified a range of potential resource additions and retirements throughout the TVA power service area, which encompasses approximately 80,000 square miles covering most of Tennessee and parts of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia. The target supply mix adopted by the TVA Board through the 2019 IRP included the potential retirement of 2,200 megawatts (MW) of coal-fired generation by 2038. The IRP acknowledged continued operational challenges for the aging coal fleet and included a recommendation to conduct end-of-life evaluations during the term of the IRP to determine whether retirements greater than 2,200 MW would be appropriate.

Following the publication of the IRP, TVA began conducting these evaluations to inform long-term planning. TVA's recent evaluation confirms that the aging coal fleet is among the oldest in the nation and is experiencing deterioration of material condition and performance challenges. The performance challenges are projected to increase because of the coal fleet's advancing age, the difficulty of adapting the fleet's generation within the changing generation profile, and - in general - because the coal fleet is contributing to environmental, economic, and reliability risks.

TVA anticipates that the scope of the EIS will include various alternatives in addition to the no action alternative (continuing to operate CUF). TVA plans to

consider three action alternatives in the EIS: A) Retirement of CUF and construction and operation of a Combined Cycle Combustion Turbine (CC) Gas Plant at the same site; B) Retirement of CUF and construction and operation of two Simple Cycle Combustion Turbine (CT) Gas Plants at alternate locations; C) Retirement of CUF and construction and operation of Solar and Storage Facilities, primarily at alternate locations. Whether these or other alternatives are reasonable warranting further consideration under the National Environmental Policy Act (NEPA) would be determined in the course of preparing the EIS. Connected actions, such as construction of the natural gas pipeline and transmission upgrades will also be considered in this assessment.

NEPA requires federal agencies to consider the potential environmental consequences of proposed actions. The NEPA review process is intended to help federal agencies make decisions based on an understanding of a proposed action's impacts and, if necessary, to take steps that protect, restore, and enhance the environment. NEPA also requires that federal agencies provide opportunities for public involvement in decision making. One of those opportunities is through the public scoping process. TVA initiated a 30-day public scoping period on May 11, 2021, when it published a Notice of Intent (NOI) in the *Federal Register* announcing its plan to prepare an EIS. During the scoping period, May 11, 2021 to June 10, 2021, the public provided input to help TVA identify issues of concern and to help lay the foundation for development of the EIS. In particular, TVA requested comments on other reasonable alternatives that should be assessed in the EIS. This scoping report will be available to the public on the TVA project website and presents the public comments received, as well as information on how the EIS is being developed.

During the EIS scoping period, TVA received comments from two federal agencies, one state agency, six non-governmental organizations, and hundreds of private individuals including local landowners. Comments about the EIS process were related to alternatives, land use, prime farmland, water resources, biological resources, greenhouse

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gas emissions (GHGs), cultural resources, socioeconomic and environmental justice impacts, and cumulative effects. This scoping report also

includes information about NEPA, federal and local laws, and executive orders (EOs) that are relevant to the EIS.

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List of Acronyms

BMP	Best Management Practice
CC	Combined Cycle Combustion Turbine
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
CT	Simple Cycle Combustion Turbine
CUF	Cumberland Fossil Plant
EIS	Environmental Impact Statement
EO	Executive Order
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
IRP	Integrated Resource Plan
KV	Kilovolt
MW	Megawatt
NEPA	National Environmental Policy Act
NHA	National Heritage Area
NHT	National Historic Trail
NOI	Notice of Intent
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
ROW	Right-of-Way
SELC	Southern Environmental Law Center
TDEC	Tennessee Department of Environment and Conservation
TN	Tennessee
TVA	Tennessee Valley Authority
U.S.	United States
USEPA	U.S. Environmental Protection Agency

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1 Introduction

The Tennessee Valley Authority (TVA) is a self-financed, wholly owned corporate agency of the United States (U.S.) that serves a region that consists of parts of seven southeastern states. As a public power entity, TVA has no shareholders and receives no tax dollars. Under the TVA Act of 1933, as amended, Congress charged TVA with advancing the social and economic well-being of the residents of the Tennessee (TN) Valley region.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. In June 2019, TVA published the 2019 Integrated Resource Plan (IRP) and associated Environmental Impact Statement (EIS), which were developed with input from stakeholder groups and the public. The IRP evaluated six scenarios (plausible futures) and five strategies (potential TVA responses to those futures) and identified a range of potential resource additions and retirements throughout the TVA power service area, which encompasses approximately 80,000 square miles covering most of TN and parts of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia. The target supply mix adopted by the TVA Board through the 2019 IRP included the potential retirement of 2,200 megawatts (MW) of coal-fired generation by 2038.

Following the publication of the IRP, TVA began conducting end-of-life evaluations for aging fossil units (as recommended in the IRP) to inform long-term planning. TVA's recent evaluation confirms that the aging coal fleet is among the oldest in the nation and is experiencing deterioration of material condition and performance challenges. The performance challenges are projected to increase because of the coal fleet's advancing age and the difficulty of adapting the fleet's generation within the changing generation profile; and, in general, because the coal fleet is contributing to environmental, economic, and reliability risks.

The Cumberland Fossil Plant (CUF) plant is located on a 2,388-acre reservation situated at the confluence of Wells Creek and the south bank of the Cumberland

River near Cumberland City in Stewart County, approximately 22 miles southwest of Clarksville, TN (Figure 1). Built between 1968 and 1973, and with a summer net generating capacity of 2,470 MW, the two-unit CUF coal-fired steam-generating plant is the largest in the TVA coal fleet.

CUF is 15 to 20 years younger than TVA's other coal plants, but frequent cycling of the large super-critical units, a recent change in the method of plant operation for which the plant was not originally designed, presents reliability challenges that are difficult to anticipate and expensive to mitigate. Based on this analysis, TVA has developed planning assumptions for CUF retirement. TVA proposes to retire one CUF unit as early as 2026 but no later than 2030, and the second unit as early as 2028 but no later than 2033, dependent on internal and external factors that could affect bringing replacement generation online.

The CUF Retirement EIS assesses the impact of retiring and demolishing both CUF units and of replacing the generation of one of those units, as discussed in the Alternatives sections below. To recover the generation capacity lost from retirement of one CUF unit, TVA is proposing the addition of approximately 1,450 MW of replacement generation. To maintain adequate reserves on the TVA system, this 1,450 MW replacement generation would need to be in commercial operation prior to retirement of the first CUF unit. Replacement generation for the second retired CUF unit would likely consist of some combination of gas, solar, and storage, but the planning for that generation can be deferred to allow more time to assess the specific types and locations of that generation.

Additional tiered NEPA analysis will be completed as these future generation needs are identified.

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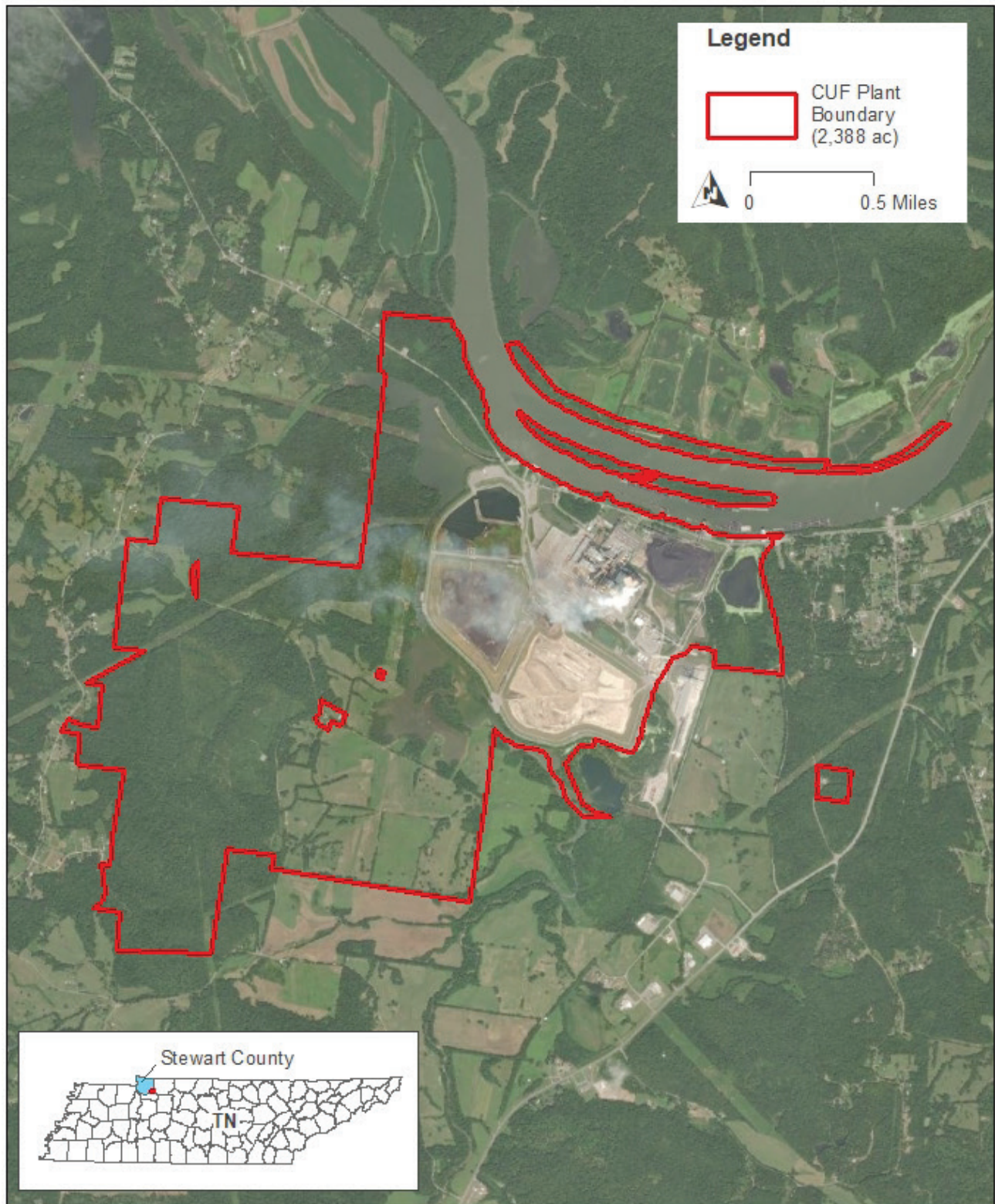


Figure 1. CUF Plant Location and Reservation Boundary

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2 Purpose and Need

TVA's asset strategy incorporates the strategic direction from the 2019 Integrated Resource Plan and continues to support affordable, reliable, and cleaner energy for the customers we serve. Alternatives to be studied as part of this EIS are one piece of the overall asset strategy, which also includes:

- Maintaining the existing low-cost, carbon-free nuclear and hydro fleets
- Retiring aging coal units as they reach the end of their useful life, expected by 2035
- Adding 10,000 MW of solar by 2035 to meet customer demands and system needs
- Using natural gas as a bridge to enable needed coal retirements and solar expansion as other technologies develop
- Leveraging demand-side options, in partnership with local power companies
- Partnering to develop new carbon-free technologies for deeper decarbonization

TVA utilizes least-cost planning in the development of its asset strategy in order to provide electricity at the lowest feasible rate for our customers. As a result of resource changes outlined in the asset strategy, TVA has a plan for 70 percent carbon reductions by 2030, a path to ~80 percent carbon reductions by 2035 and aspires to net-zero carbon emissions by 2050 (based on a 2005 baseline).

TVA's 2019 IRP and associated EIS acknowledged continued operational challenges for the aging fossil units and included a recommendation to conduct end-of-life evaluations on TVA's remaining fossil plants during the term of the IRP to determine whether retirements greater than 2,200 MW would be appropriate. Based on the end-of-life evaluations, the target supply mix adopted by the TVA Board through the 2019 IRP included the potential retirement of 2,200 MW of coal-fired generation by 2038.

Frequent cycling, or the swinging of the generation load from high to low, of the large supercritical units at CUF is a recent change in the method of plant operation for which the CUF plant was not originally

designed. Such frequent cycling of the units presents reliability challenges that are difficult to anticipate and expensive to mitigate. Based on these evaluations, TVA has developed planning assumptions for CUF retirement. TVA proposes to retire one CUF unit as early as 2026, but no later than 2030, and the other unit as early as 2028, but no later than 2033, dependent on when replacement generation could be constructed and brought online.

This EIS will assess the impact of the Proposed Action of retiring both CUF units and the addition of 1,450 MW of replacement generation to recover the generation capacity lost from retirement of one CUF unit. The replacement generation would need to be online prior to retirement of the first CUF unit. Planning for the replacement generation for the second retired CUF unit (likely consisting of some combination of gas, solar, and storage) would be deferred to allow additional time for the assessment of specific types and locations of that generation.

The Proposed Action would provide cost-effective replacement generation consistent with the IRP and TVA goals. The purpose of the subject EIS is to address the potential environmental effects associated with the proposed retirement and demolition of two CUF units and addition of replacement generation versus taking no action.

3 Alternatives

TVA anticipates that the scope of the EIS will include various alternatives in addition to the no action alternative (continuing to operate CUF). For all action alternatives, the EIS will also analyze the demolition of the CUF plant. In addition to a No Action Alternative (continue to operate CUF in Cumberland City, TN) as described in Section 3.1, TVA plans to consider at least three action alternatives in the EIS, described in more detail in Sections 3.2 through 3.4. Whether these or other alternatives are reasonable, warranting further consideration under the National Environmental Policy Act (NEPA), would be determined while preparing the EIS. Connected actions, such as the natural gas pipeline and transmission upgrades, will also be considered in this assessment.

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3.1 No Action Alternative

Under the No Action Alternative, the TVA would continue to operate CUF in Cumberland City, Stewart County, TN. Existing conditions (land use, natural resources, visual resources, physical resources, and socioeconomics) on the Project Site, and in the vicinity, would remain unchanged. TVA would continue to operate the two-unit, coal-fired steam-generating plant with no changes. TVA would continue to implement plant upgrades necessary to comply with Effluent Limitation Guidelines.

3.2 Action Alternative A

Under Action Alternative A, TVA would retire the CUF, demolish and restore the site, and construct and operate a Combined Cycle Combustion Turbine (CC) Gas Plant at the same 2,388-acre site in Cumberland City, Stewart County, TN.

Replacing generation at the CUF location with a CC gas plant would require the construction of an approximately 30-mile-long natural gas pipeline to bring gas supply to the CUF reservation. The EIS will include discussion and review of natural gas pipeline(s) proposed as a necessary component of the new proposed CC plant under Alternative A. The construction of the natural gas pipeline(s) would likely be subject to Federal Energy Regulatory Commission (FERC) jurisdiction and additional review will be undertaken by FERC in accordance with its own NEPA procedures.

The proposed action may also require issuance of an Individual or Nationwide Permit under Section 404 of the Clean Water Act; Section 401 Water Quality Certification; conformance with Executive Orders (EOs) on Environmental Justice (12898), Wetlands (11990), Floodplain Management (11988), Migratory Birds (13186), and Invasive Species (13112); and compliance with Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and other applicable Local, Federal and State regulations. More detail on applicable laws and regulations can be found in Table 1.

The proposed action would likely require transmission upgrades to the site and possible regional transmission.

3.3 Action Alternative B

Under Action Alternative B, TVA would retire the CUF, demolish and restore the site, and construct and operate two Simple Cycle Combustion Turbine (CT) gas plants at alternate locations. Preliminary locations include Gleason, TN; Johnsonville, TN; Lagoon Creek, TN; Southhaven, MS; and Kemper, MS. All preliminary locations are currently TVA-owned brownfield locations with existing gas-fired generation.

It is anticipated that relatively minor, if any, upgrades would be required to supply natural gas to the proposed new CT units, as these sites already host operating gas-fired generation.

The proposed action would likely require upgrades to both sites and regional transmission.

3.4 Action Alternative C

Under Action Alternative C, TVA would retire the CUF, demolish and restore the site, and construct and operate Solar and Storage Facilities, primarily at alternate locations. A portion of the facilities would serve Middle TN transmission needs and the balance would be distributed across the TVA system.

Based on typical solar and storage configurations, it is anticipated that 20 or more of such facilities would be required to fulfill the required need resulting from the first CUF unit retirement. Under the proposed action, TVA would most likely issue a competitive request for proposal to procure and potentially operate the majority of the solar and storage facilities. The location of the 20 or more sites on the TVA system is not known at this time. For purposes of the EIS, a programmatic analysis will be performed of the impacts of this action, with site-specific NEPA reviews to be followed at a later date if this alternative is selected by TVA to replace generation of one of the CUF units.

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The proposed action would likely require transmission upgrades at the sites and possible regional transmission.

4 Environmental Review Process

NEPA requires federal agencies to consider and study the potential environmental consequences of proposed actions. Actions, in this context, can include new and continuing activities that are conducted, financed, assisted, regulated or approved by federal agencies, as well as new or revised plans, policies or procedures. The NEPA review process is intended to help federal agencies make decisions that are based on an understanding of a proposed action's impacts and, if necessary, to take steps that protect, restore, and enhance the environment (40 Code of Federal Regulations [CFR] 1500.1(c)). NEPA also requires that federal agencies provide opportunities for public involvement in the decision-making process.

TVA is initiating the preparation of an EIS to assess the environmental impacts of the Action Alternatives. TVA is using the input from the public scoping period, summarized below, in developing the Draft EIS. The Draft EIS will be distributed to interested individuals; groups; and federal, state and local agencies for their review and comment. TVA also will send the Draft EIS to the U.S. Environmental Protection Agency (USEPA), which will publish a notice of its availability in the *Federal Register*. Following the 45-day public comment period for the Draft EIS, TVA will respond to the comments received and incorporate any necessary changes into the Final EIS. TVA will make a final decision regarding the Proposed Action after the Final EIS is published.

The completed Final EIS will be placed on TVA's website, and notices of its availability will be sent to those who received, or submitted comments on, the Draft EIS. TVA also will send the Final EIS to the USEPA, which will publish a notice of its availability in the *Federal Register*. TVA will then issue a Record of Decision, which will include (1) the decision; (2) the rationale for the decision; (3) alternatives that were

considered; (4) the alternative that was considered environmentally preferable; and (5) associated mitigation measures and monitoring, and enforcement requirements. TVA expects to publish the Draft EIS in April 2022, publish the Final EIS by September 2022, and issue the Record of Decision by November 2022.

In accordance with Section 1318.402(g)(8), site-specific studies associated with the retirement and demolition of the CUF plant and alternatives will be delegated to TVA specialists and contractors. Detailed studies and analysis of the proposed 30-mile pipeline associated with Alternative A would be conducted by a separate contractor and additional review will be undertaken by FERC in accordance with its own NEPA procedures.

4.1 Applicable Federal Laws and Executive Orders

4.1.1 National Environmental Policy Act

This EIS is being prepared by TVA in accordance with NEPA (42 U.S. Code §§ 4321 et seq.), regulations implementing NEPA analyses promulgated by the Council on Environmental Quality (40 CFR Parts 1500 to 1508), and TVA NEPA regulations and procedures (18 CFR Part 1318). For major federal actions with significant environmental impacts, NEPA requires that an EIS be prepared. This process must include public involvement and analysis of a reasonable range of alternatives.

4.1.2 Other Laws and Executive Orders

Other laws and EOs that are relevant to the Action Alternatives as a federal action are shown in Table 1. These laws and orders may affect the environmental consequences of the retirement of the CUF and the construction and operation of the replacement(s) generation, dependent on the alternative selected. They may also prescribe mitigation and minimization measures to implement during retirement and demolition, and for the construction and operation of the replacement generation. The Draft EIS will describe the regulatory setting for each resource in more detail.

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Table 1. Laws and Executive Orders relevant to the Proposed Action.

Environmental Resource Area	Law / Executive Order
Geology, Soils, and Prime Farmland	Farmland Protection Policy Act.
Water Resources	Administrative Code of Tennessee Department of Environment and Conservation (TDEC), Chapter 0400-04. Clean Water Act Sections 401, 402, and 404. EO 11988 – Floodplain Management. EO 11990 – Protection of Wetlands. EO 13778 – Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the “Waters of the U.S.” Rule. Safe Drinking Water Act.
Biological Resources	Administrative Code of TDEC, Chapter 0400. Bald and Golden Eagle Protection Act. Endangered Species Act Section 7 (Consultation with U.S. Fish & Wildlife Service). EO 13112 – Invasive Species. EO 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds. Migratory Bird Treaty Act.
Air Quality and Greenhouse Gas (GHG) Emissions	Clean Air Act. EO 14008 – Tackling the Climate Crisis at Home and Abroad.
Cultural Resources	Administrative Code of TDEC, Chapter 0400. National Historic Preservation Act Section 106 (Consultation with State Historic Preservation Office and tribes). Native American Graves Protection and Repatriation Act.
Waste Management	Administrative Code of TDEC, Chapter 0400. Comprehensive Environmental Response, Compensation, and Liability Act. Emergency Planning and Community Right-to-Know Act. Resource Conservation and Recovery Act. Solid Waste Disposal Act. Toxic Substances Control Act.
Public and Occupational Health and Safety	Occupational Safety and Health Act.
Environmental Justice	EO 12898 – Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. EO 14008 – Tackling the Climate Crisis at Home and Abroad.

4.2 Environmental Resources to Be Considered in EIS

Based on internal and public scoping, identification of applicable laws, regulations, EOs, and policies, TVA identified the resource areas listed below as requiring review in the EIS:

- Land use and recreation
- Geology, soils, and prime farmland
- Water resources, including groundwater, wetlands and surface water, and floodplains
- Biological resources, including natural areas, vegetation, wildlife, rare, threatened, and endangered species
- Visual resources
- Noise
- Air quality and climate change (emissions and GHGs)
- Cultural resources
- Utilities
- Waste management
- Public and occupational health and safety
- Transportation
- Socioeconomics

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- Environmental Justice
- In accordance with Section 1318.402(g)(4), no other environmental issues have been mentioned that will not be addressed in detail.

5 Public Outreach during Scoping Period

On May 11, 2021, TVA published a Notice of Intent (NOI) in the *Federal Register* announcing plans to prepare an EIS to assess the potential environmental effects associated with the proposed retirement of the two coal-fired units at the CUF in Cumberland City, Stewart County, TN and the construction and operation of facilities to replace part of the retired plant (Appendix A). The NOI initiated a 30-day public scoping period, which concluded on June 10, 2021. The NOI solicited public input on both the scope of the EIS and environmental issues that should be considered in the EIS. The purpose of the scoping period was to present TVA's project objectives and initial alternatives for input from the public and interested stakeholders.

In addition to the NOI in the *Federal Register*, TVA invited members of the public as well as Federal, state, and local agencies and federally recognized Indian tribes to comment on the scope of the EIS. Information about this project was listed on TVA's web page at www.tva.com/nepa, which included a link to a virtual public meeting room and an online public comment page.

The virtual meeting room was hosted online for the duration of the scoping period and provided navigation to the following materials: welcome board and video, project purpose and need board, project alternatives map and detailed views, overview of NEPA and scoping board, a location to submit comments, information on the virtual scoping meeting, and links to other related websites. The virtual meeting room also contained text-accessible versions of the content.

TVA sent notification of the NOI via email to local and state government entities and federal agencies. TVA published notices regarding the NOI in local

newspapers, including the following cities and associated newspapers:

- Dover, TN – Stewart County Standard & Houston County Herald
- Clarksville, TN – The Leaf-Chronicle

TVA also posted a news release on the TVA website (Appendix C).

A virtual public scoping meeting was held on May 27, 2021 from 5:30pm to 7:00pm CDT via AdobeConnect. 28 members of the public, agencies, and other organizations attended the meeting. TVA used comments submitted prior to and during the virtual public meeting to develop a list of Frequently Asked Questions, which has been posted onto the [TVA CUF Retirement EIS website](#). In accordance with Section 1318.402(h) of TVA's NEPA regulations, this scoping report will be available to the public on TVA's project website.

6 Summary of Public Scoping Comments

TVA received approximately 830 comments. Comments were received from members of the general public, including potentially affected landowners, and from multiple organizations and agencies including:

- Appalachian Voices
- Center for Biological Diversity
- Energy Alabama
- National Park Service
- Sierra Club
- Southern Alliance for Clean Energy
- Southern Environmental Law Center (SELC)
- TDEC
- USEPA

Comment submissions are included in Appendix D and summarized in Section 6.1.

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6.1 Scoping Commenters

6.1.1 General Public

- Support for continuing the operation of the CUF.
- Recommendation for inclusion of estimates of certain environmental and cost impacts:
 - Management and disposition of the coal combustion residual (CCR) accumulations and remediation of toxics leakage into surface and ground waters.
 - Disposition of the site post-closure, to include local community input/benefits.
 - Employee reassignments/retraining.
 - Climate change impacts of generation capacity replacement.
 - Objective cost/benefit analyses of onsite gas generation vs off-site gas generation vs renewable energy sources. This should include examination of the costs/benefits of importing wind energy from Oklahoma, etc. Should also include energy storage technologies.
- Support for repurposing existing plants throughout TVA's footprint.
- Support for specific renewable energy and replacement sources.
- Support for TVA providing worker re-training and funding economic development initiatives if the plant is closed.
- Concern for the economic stability of the area if jobs are eliminated from the plant.
- Consider modern nuclear, which is safe, occupies little land area, and is very dependable. Such plants are scalable, carbon-neutral, and load-following and well-suited for existing coal plant sites.
- Focus on distributed solar.
- Address the life cycle impacts of the natural gas supply, including impacts from hydraulic fracturing, flaring, and methane emissions.
- Evaluate co-firing the fossil plant with woody biomass.

- Hire a firm to complete the Bellefonte Nuclear Plant, retire the CUF, and install solar on the Cumberland site.

6.1.2 Potentially Affected Landowners

- The Tennessee Gas Pipeline Company, LLC has proposed an approximate 30-mile pipeline coming from the south and paralleling the existing 500 kilovolt (KV) line from Cumberland City. Landowners expressed concern that the impacts of this pipeline must be addressed as part of the TVA EIS and not left for Tennessee Gas Pipeline Company to perform.
- Landowners would like for TVA to address the following in the EIS:
 - The amount of carbon released by destroying 32 miles of forest along the pipeline corridor easement.
 - The amount of carbon which could be sequestered in the future if the pipeline corridor easement was allowed to grow to mature forest.
 - The amount of CO₂ produced from the energy used to clear the pipeline easement, manufacture the pipe, excavate the trench, and install the pipe.
 - Multiple gas pipeline routes.
 - The perceived additional burden placed on landowners who have for many years endured the 200-foot easement for the 500 KV line from the CUF, specifically the inability to plant trees or build structures on the easements and the necessity to maintain the easement to prevent TVA maintenance contractors from entering and spraying unwanted chemicals.
 - The proposed pipeline would take additional land from adjacent landowners that is cleared and perceived as nearly unusable.
 - Other burdens include the inability of landowners to be notified when TVA or their contractors are conducting

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activities on the easement and the cutting of cross fences by TVA contractors to gain access.

- Potential increased air traffic noise from planes and helicopters using the easement as a guide route from Fort Campbell to Nashville.

6.1.3 Center for Biological Diversity

- The climate emergency demands immediate and substantial reductions in GHG emissions from TVA.
- Assess the impacts of GHG emissions by comparing impacts between the existing alternatives and one or more alternatives that chart a path to zero emissions.
- Evaluate an alternative that includes offsetting the CUF's electricity production with maximized distributed energy resources, storage, and energy efficiency improvements.
- Evaluate renewable energy alternatives aligned with a "path to zero emissions."
- Evaluate the GHG impacts of all reasonable alternatives.
- The evaluation of the relative costs of the different alternatives must include the social cost of carbon.

6.1.4 National Park Service

Potential Impacts

- Given the way Alternative C is described, it is difficult to understand the potential impacts of its 20+ solar and storage facilities.
- Potential impacts to Nationwide Rivers Inventory (NRI) rivers, the Trail of Tears National Historic Trail (NHT), National Register of Historic Places (NRHP) properties, and the Tennessee Civil War National Heritage Area (NHA) should be addressed in TVA's analyses.

Resources of Interest

- *Nationwide Rivers Inventory*
 - Yellow Creek and Jones Creek, which are listed on the NRI administered by the National Parks Service, may be crossed by the

natural gas pipeline that is a part of Alternative A.

- Geospatial data for the NRI can be located at the following link: <https://irma.nps.gov/DataStore/Reference/Profile/2233706>.
- NRI river segments are potential candidates for inclusion in the National Wild and Scenic River System. Under the Wild and Scenic Rivers Act section 5(d)(1) and related guidance, all federal agencies must seek to avoid or mitigate actions that would adversely affect one or more NRI segments.
- *National Historic Trails*
 - Johnsonville, TN, one of the Alternative B Preliminary CT Sites, is within one mile of the Water Route of the Trails of Tears NHT and within 1.5 miles of the Bengie Route of the Trail of Tears NHT.
 - The Reynoldsburg Ferry Site within the community of Johnsonville is a high potential site associated with the Trail of Tears NHT.
 - A high potential site is defined in the National Trails System Act as, "those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use" (P.L. 90-543, as amended through P.L. 116-9, March 12, 2019).
 - There are several routes of the designated alignment of the Trail of Tears NHT within the boundary depicted in the project map for Alternative C, the Potential Solar and Storage Plants.
 - The geospatial data for the designated alignment of the Trail of Tears NHT can be located at the following link: <https://irma.nps.gov/DataStore/Reference/Profile/2238914>.

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- *National Register of Historic Places*
 - An initial review indicates that Henry Hollister House, a NRHP-listed property, may be within the CUF reservation. Also, the Richard C. Napier House, Promise Land School, and Nesbit Place Farm are all NRHP-listed properties that could be affected by the natural gas pipeline that is part of Alternative A.
- *National Heritage Areas*
 - Portions of the project would be located within the Tennessee Civil War NHA.

6.1.5 Sierra Club

Approximately 500 comments were received from individuals using the Sierra Club's form letter service. The general form letters included responses, such as the following:

- Thank you for taking comments on this important process that will impact how electricity in the Tennessee Valley is generated.
- I support TVA's decision to retire the polluting Cumberland coal plant. Moving away from coal is a smart business decision that benefits our air, water, and climate. I also urge TVA to assist the communities that will be impacted by the plant's closure, including providing worker re-training and funding economic development initiatives.
- The same economics behind moving away from coal also support moving aggressively toward safe, cheap, abundant solar, increasing battery storage, and helping people lower their bills by making energy efficiency more accessible.
- Renewable energy is smarter and safer than fossil fuels, and it is known that it is the cheapest form of new electricity generation across most of the U.S.
- New gas infrastructure would expose the people and businesses in the Tennessee Valley to another polluting fossil fuel that is

risky for our health and environment, our climate, and for customers.

6.1.6 Tennessee Department of Environment and Conservation

Comments from TDEC were received regarding three resource areas: cultural resources, air quality, and water resources.

Resources of Interest

- *Cultural Resources*
 - The construction of new facilities could disturb archaeological resources and any alternatives should be coordinated in consultation with TVA and the State Historic Preservation Office.
- *Air Quality*
 - Asbestos removal and demolition notification.
 - Construction emissions.
 - Restrictions for construction equipment idling.
 - For any new air pollution sources that will be built as a result of this project, TDEC requires that an application for a construction permit be made not less than 90 days prior to the estimated start date of construction for minor new source review and not less than 120 days prior to the estimated start date of construction for new source review.
- *Water Resources*
 - Alternatives A and B would require aquatic resource alteration permits and stormwater permits.
 - With the magnitude of the construction and the water resources involved, a hydrologic determination by a qualified hydrologic professional will be necessary to fully determine potential impacts to streams and wetlands.

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6.1.7 U.S. Environmental Protection Agency

Resources of Interest

- *Water Quality*
 - This proposed action has the potential to disturb a considerable amount of soil.
 - A state or county construction stormwater permit will be required before construction can begin.
 - Construction may impact nearby Cumberland River or other surface water bodies and best management practices (BMPs) should be applied to protect these water bodies before and after construction.
 - Outfall monitoring and sampling should be analyzed alongside the impairment status of water bodies since base outfalls contribute to impairments.
- *Air Quality*
 - This project site is within an attainment area for air quality standards; however, localized impacts to air quality could occur during demolition and construction due to equipment exhaust emissions and fugitive dust.
 - The USEPA recommends implementing measures to reduce dust, diesel emissions, such as switching to cleaner fuels, retrofitting current equipment with emission reduction technologies, repowering older engines with newer, cleaner engines, replacing older vehicles, and reducing idling through operator training and/or contracting policies.
 - The USEPA also encourages controlling fugitive dust by watering or the application of other engineered controlled methods.
- *Environmental Justice*
 - Consistent with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the USEPA encourages TVA to ensure protected populations are not disproportionately or adversely impacted by the project.
 - The USEPA also encourages compliance with EO 13166, Improving Access to Services for Persons with Limited English Proficiency, if applicable.
- *Energy and Recycling*
 - Efforts should be made to divert any recyclable materials such as concrete, steel and asphalt away from landfills and repurpose the material instead.
 - The appropriate NEPA document should also address potential environmental impacts to construction workers, to include the hazards of demolishing the older structures, such as from lead and asbestos latent materials.
 - Project management should consider sustainable building practices that utilize variable forms of proven renewable energy for the proposed project, for example, solar power for supplemental electricity and lighting for the, parking lots, or special buildings that may be proposed in the various projects.

6.1.8 Southern Environmental Law Center

- Embrace President Biden's 2035 electric system decarbonization mandate and TVA's critical role in the government-wide approach to address the climate crisis.
- Evaluate existing carbon-free distributed and utility-scale technologies, alone and in combination, as alternatives to the CUF. These technologies include demand response, energy efficiency, distributed solar, utility-scale solar, onshore wind, and battery storage.

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- In addition to proposed Alternative C, utility-scale solar and battery storage, the SELC states that the Cumberland EIS must include these alternatives:
 - Distributed solar;
 - Onshore wind;
 - Demand response and energy efficiency;
 - Solar (distributed and utility-scale);
 - Onshore wind;
 - Energy efficiency, demand response, and battery storage;
 - Not replacing the lost generation due to decreased demand and entering the Southeast Energy Exchange Market; and
 - Purchase of carbon-free power.
- TVA must accurately quantify the GHG emissions of any proposed gas plants using the Social Cost of Carbon.
- TVA must disclose the climate impacts of building new gas plants to replace the CUF.
- TVA must quantify GHG emissions and disclose the climate impacts of new gas plants.
- TVA must use appropriate tools to fairly identify environmental justice populations and must assess the disproportionate harm to specific communities.
- TVA must consider all site-specific impacts.

7 Relevant Environmental Documents and Reviews

Several environmental documents and reviews are relevant to the proposed Project and are briefly discussed in the sections below.

7.1 Programs, Plans, and Policies

TVA Integrated Resources Plan and EIS (July 2019)

This programmatic EIS evaluated the potential impacts of TVA's long-term IRP which provides direction on how TVA can best meet future electricity demand. The 2019 IRP evaluated six scenarios

(plausible futures) and five strategies (potential TVA responses to those futures) and identified a range of potential resource additions and retirements throughout the TVA power service area.

TVA Natural Resource Plan (February 2020)

This Supplemental EIS assessed the potential environmental, social, and economic impacts associated with implementing an updated Natural Resource Plan.

TVA Aging Coal Fleet Evaluation (May 2021)

This evaluation was performed to recommend near-term retirement planning assumptions to reflect practical timelines for replacement generation. The first draft of the evaluation was completed during Fiscal Year 2020, with refinements made in May 2021.

7.2 Power Generation – Coal and Gas

Ash Impoundment Closure (June 2016)

This programmatic EIS evaluated the closure of ash impoundments containing CCR at fossil fuel plants across the Tennessee Valley to support the implementation of TVA's goal to eliminate all wet CCR storage at its coal plants.

Cumberland Fossil Plant Borrow Areas and Access Road (August 2017)

This EA evaluated the development of a new access road and onsite borrow sites at the CUF to support ongoing operations, including partial closure of the fly ash and gypsum stacks in accordance with TDEC regulations.

Cumberland Fossil Plant Coal Combustion Residuals Management Operations (April 2018)

This EIS evaluated the construction and operation of a bottom ash dewatering facility, an onsite CCR landfill, and process water basins at the CUF.

Cumberland Fossil Plant Wastewater Treatment Facility (July 2019)

This EA was prepared to inform TVA decision makers and the public about the environmental

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consequences of the proposed construction of a new wet flue gas desulfurization wastewater treatment system at CUF.

8 Potential Mitigation Measures

Most comments received during the scoping period did not identify specific mitigation measures for the Proposed Action. Minimization and mitigation measures were provided by TDEC as recommendations regarding demolition materials in lieu of open burning, and general permitting and BMP guidance regarding cultural, air, and water resources with potential to be impacted by the project.

TVA's siting processes for generation and transmission facilities, as well as practices for modifying these facilities, are designed to avoid and/or minimize potential adverse environmental impacts. Potential impacts also are reduced through pollution prevention measures and environmental controls such as air pollution control systems, wastewater treatment systems, and thermal generating plant cooling systems. Other potentially adverse impacts can be mitigated by measures such as compensatory wetlands mitigation, payments in lieu stream mitigation programs and related conservation initiatives, enhanced management of other properties, documentation and recovery of cultural resources, and infrastructure improvement assistance to local communities.

TVA would implement minimization and mitigation measures in relation to resources potentially affected by the Project. These would be developed with consideration to BMPs, permit requirements, and adherence to erosion and sediment control plans. TVA would utilize standard BMPs to minimize erosion during construction, operation, and maintenance activities. These BMPs are described in *A Guide for Environmental Protection and BMPS for TVA Construction and Maintenance Activities – Revision 3* (TVA's BMP Manual) and the *Tennessee Erosion and Sediment Control Handbook*.

In association with the potential construction of an action alternative, TVA would employ standard practices and specific routine measures to avoid and minimize impacts to resources. During development of the EIS, TVA would consider implementation of the following minimization and mitigation measures in relation to potentially affected resources:

Soils

Install silt fence along the perimeter of vegetation-cleared areas, implement other soil stabilization and vegetation management measures to reduce the potential for soil erosion during site operations, and try to balance cut-and-fill quantities to alleviate the transportation of soils offsite during construction.

Water Resources

Comply with the terms of the erosion and sediment control plans prepared as part of the National Pollutant Discharge Elimination System permitting process; use BMPs for controlling soil erosion and runoff, such as the use of buffer zones surrounding perennial and intermittent streams and wetlands and the installation of erosion control silt fences and sediment traps; and implement other routine BMPs as necessary, such as non-mechanical tree removal within surface water buffers, placement of silt fence and sediment traps along buffer edges, selective herbicide treatment to restrict application near receiving water features, and proper vehicle maintenance to reduce the potential for adverse impacts to groundwater.

Biological Resources

Revegetate with native and/or noninvasive vegetation, including pollinator species, to reintroduce habitat, reduce erosion, and limit the spread of invasive species. Follow U.S. Fish and Wildlife recommendations regarding biological resources and pollinator species: use of timer- and/or motion-activated downward facing lighting to limit attracting wildlife, particularly migratory birds and bats; instruct personnel on wildlife resource protection measures, including applicable federal and state laws such as those that prohibit animal disturbance, collection, or removal, the importance of protecting wildlife resources, and avoiding plant disturbance; and avoid direct impacts to migratory birds and federally listed

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tree roosting bats by clearing trees and shrubs in winter months outside of nesting season and summer roosting season, respectively.

Waste Management

Develop and implement a variety of plans and programs to ensure safe handling, storage, and use of hazardous materials.

Public and Occupational Health and Safety

Implement BMPs for site safety management to minimize potential risks to workers.

Transportation

Implement staggered work shifts during daylight hours and a flag person during the heavy commute periods to manage construction traffic flow near the Project Site(s).

Noise

Limit construction activities primarily to daytime hours and ensure that heavy equipment, machinery, and vehicles utilized at the Project Site meet all federal, state, and local noise requirements.

Air Quality and GHG Emissions

Comply with local ordinances or burn permits if burning of vegetative debris is required and use BMPs such as periodic watering, covering open-body trucks, and establishing a speed limit to mitigate fugitive dust.

TVA employs standard practices when constructing, operating, and maintaining transmission lines, structures, and the associated right-of-way (ROW) and access roads. Some of the more specific routine measures that would be taken to reduce the potential for adverse environmental effects during the proposed retirement of the CUF and construction, maintenance, and operation of facilities to replace part of the retired plant are as follows:

- To minimize the introduction and spread of invasive species in the ROW, access roads, and adjacent areas, TVA would follow standard operating procedures consistent with EO 13112 (Invasive Species) for revegetating the areas with noninvasive plant species as defined by TVA.
- Ephemeral streams that could be affected by the proposed construction would be protected by implementing standard BMPs as identified in TVA's BMP manual and the *Tennessee Erosion and Sediment Control Handbook*.
- In areas requiring chemical treatment, only USEPA-registered and TVA approved herbicides would be used in accordance with label directions designed, in part, to restrict applications near receiving waters and to prevent unacceptable aquatic impacts.
- To minimize adverse impacts on natural and beneficial floodplain values, the following mitigation measures would be implemented:
 - BMPs would be used during construction activities; and
 - Construction activities would adhere to the TVA subclass review criteria for transmission line location in floodplains.

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