

**Document Type:** PEIS–Administrative Record

**Index Field:** PEIS Scoping Report

**Project Name:** TVA Solar and Battery PEIS

**Project Number:** 2023-14

# **DRAFT TVA SOLAR AND BATTERY PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT PUBLIC SCOPING REPORT**

***Prepared by:***

Tennessee Valley Authority

July 2023

Elizabeth Smith  
NEPA Compliance Specialist  
Tennessee Valley Authority  
400 W Summit Hill Drive  
Knoxville, TN 37902  
Phone: 865-632-3053  
esmith14@tva.gov

This page intentionally left blank

# Table of Contents

<u>Section</u>	<u>Page</u>
Background .....	1
TVA's Objectives .....	1
Proposed Alternatives.....	2
Environmental Review Process .....	2
Public Outreach During Scoping Period .....	2
Summary of Public Scoping Feedback .....	3

## **Appendices**

Appendix A: Federal Register Notice of Intent

Appendix B: Newspaper Advertisements and Media Release

Appendix C: Public and Agency Comments

## **Symbols, Acronyms, and Abbreviations**

NEPA	National Environmental Policy Act
NOI	Notice of Intent
TVA	Tennessee Valley Authority
PEIS	Programmatic Environmental Impact Statement
IRP	Integrated Resource Plan
EJ	Environmental Justice
EO	Executive Order
MW	Megawatts
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
NPS	National Park Service
USFWS	U.S. Fish and Wildlife Service
DEQ	Department of Environmental Quality
DOT	Department of Transportation
MDAH	Mississippi Department of Archives and History
TDEC	Tennessee Department of Environment and Conservation



# **TVA Solar and Battery**

## **Programmatic Environmental Impact Statement (PEIS)**

### **Public Scoping Report July 2023**

The Tennessee Valley Authority (TVA) is preparing a Programmatic Environmental Impact Statement (PEIS) to develop new guidance and bounding analysis to further facilitate solar energy and battery energy storage development on TVA-owned and private lands within the TVA service area. The analyses in a programmatic NEPA review are valuable in setting out the broad view of environmental impacts and benefits for a proposed decision such as establishing a policy, program, or plan. That programmatic NEPA review can then be relied upon when agencies make decisions based on the programmatic EIS, as well as decisions based on a subsequent (also known as tiered) NEPA review. TVA is initiating the preparation of a PEIS pursuant to the National Environmental Policy Act (NEPA) to assess the environmental impacts of the proposed action.

### **Background**

In June 2019, TVA completed the 2019 Integrated Resource Plan (IRP) and associated EIS. The IRP is a comprehensive study of how TVA will meet the demand for electricity in its service territory over the next 20 years. The 2019 IRP recommends solar expansion and anticipated growth in all scenarios analyzed, with most scenarios anticipating 5,000 to 8,000 megawatts (MW) and one anticipating up to 14,000 MW by 2038, as well as up to 5,300 MW of storage. The IRP recommendation as well as customer demand for cleaner energy has prompted TVA to release multiple Requests for Proposal for renewable energy and carbon-free energy resources since 2019. As of April 2023, TVA currently has over 2,900 MW of solar capacity both operating and contracted.

TVA has identified the need to respond in a more efficient and effective manner to the growing number of solar and battery projects that will be required to meet the target supply identified in the 2019 IRP and to meet TVA's carbon reduction goals. Programmatic environmental guidance would seek to minimize potential negative environmental impacts, minimize social and economic impacts, integrate conservation measures with site development in alignment with the TVA Biodiversity Policy, and standardize and streamline the authorization process for solar energy development through a bounding analysis to help identify the range of potential impacts or risks. TVA's purpose is to promote, expedite, and advance the production and transmission of environmentally sound energy resources, including solar energy and battery storage systems, and increase opportunities for responsible renewable energy development.

### **TVA's Objectives**

TVA has identified the need to respond in a more efficient and effective manner to the growing number of solar and battery projects that will be required to meet the target supply identified in the 2019 IRP and to meet TVA's carbon reduction goals. Programmatic environmental guidance would seek to minimize potential negative environmental impacts, minimize social and economic impacts, integrate conservation measures with site development in alignment with the TVA Biodiversity Policy, and standardize and streamline the authorization process for solar energy development through a bounding analysis to help identify the range of potential impacts or risks. TVA's purpose is to promote, expedite, and advance the production and transmission of environmentally sound energy resources, including solar energy and battery storage systems, and increase opportunities for responsible renewable energy development.

## **Proposed Alternatives**

The PEIS will evaluate a no action alternative, under which TVA would not develop programmatic environmental guidance and continue to address environmental concerns for TVA-owned and TVA-contracted solar and battery projects on a case-by-case basis. Under the action alternative, TVA would develop programmatic environmental guidance through a bounding analysis to help identify the range of potential impacts or risks for use in TVA-owned and TVA-contracted solar and battery projects. TVA solicits comment on whether there are other alternatives that should be assessed in the PEIS. TVA also requests information and analyses that may be relevant to the project.

## **Environmental Review Process**

NEPA requires the identification and analysis of potential environmental effects of proposed federal actions and alternatives before those actions take place. The NEPA review process is intended to help federal agencies make decisions that are based on an understanding of the action's environmental impacts and, if necessary, to take actions that protect, restore, and enhance the environment. NEPA also requires that federal agencies provide opportunities for public involvement in the decision-making process.

TVA is initiating the preparation of this PEIS to assess the environmental impacts of the proposed action and a reasonable range of alternatives. An EIS is the most intense level of NEPA review. A programmatic EIS is prepared to assess environmental impacts of proposed policies, plans, programs, or projects at a broad or high-level for which subsequent action will be implemented, in this case the TVA Solar and Battery Programmatic Environmental Impact Statement. During the completion of this PEIS, the public and environmental and permitting agencies will have opportunities to provide input on the development of the environmental review. After considering input from the scoping period, TVA will develop and publish a Draft PEIS that will be provided to the public and intergovernmental agencies for additional comment. TVA will consider all the comments received during the public review of the Draft PEIS, make revisions as appropriate, and publish a Final PEIS stating a preferred alternative. Subsequently, TVA will publish a Record of Decision documenting its final decision regarding the proposed action.

TVA estimates that the Draft PEIS will be published in Summer 2024 with the Final PEIS decision thereafter.

## **Public Outreach During Scoping Period**

The purpose of the scoping period is to present TVA's project objectives and initial alternatives for input from the public and interested stakeholders.

On May 19, 2023, TVA published a Notice of Intent (NOI) in the Federal Register announcing plans to prepare a PEIS to evaluate actions to develop new guidance and a bounding analysis that will further facilitate solar energy and battery energy storage development on TVA-owned and private lands within the service area (see Appendix A). The NOI initiated a 30-day public scoping period, which concluded on June 20, 2023. In addition to the NOI in the Federal Register, TVA issued a news release to media and posted the news release on the TVA web site. The media advisory was covered by several websites (Chattanooga, Global Renewable News, and Hydro Review), which can be found in Appendix B.

## **Summary of Public Scoping Feedback**

TVA received a total of 12 comments regarding the Solar and Battery PEIS from 17 commenters. The comment submissions were from federal (U.S. Environmental Protection Agency [USEPA], Department of Interior National Park Service [DOI NPS], U.S. Army Corp of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS]) or state (VA Department of

Environmental Quality [VADEQ], VA Department of Transportation [VADOT], MS Department of Archives and History [MDAH], Tennessee Department of Environment and Conservation [TDEC], State of Kentucky) entities, one letter sent on behalf of five non-government organizations or NGOs (Southern Environmental Law Center, Center for Biological Diversity, Appalachian Voices, Energy Alabama, and Sierra Club) and two comments from members of the public. All comments received from state agencies were to ensure TVA consults with appropriate agencies on the draft and final PEIS and to ensure TVA emails the Notice of Availability (NOA) to those agencies. The comment letter received from the NGOs asks that TVA evaluate distributed energy resource (DER) alternatives and other measures outlined in the *TVA Clean Energy Report*. Original comment submissions are included in Appendix C.

### **Public Scoping Comments**

**Comment 1:** EPA recommends TVA consider including resource-based exclusions, environmental justice, and cumulative impacts in the PEIS.

**Comment 2:** DOI NPS asks that TVA consider potential impacts to all National Parks, National Heritage Areas, National Scenic and Historic Trails, Wild and Scenic Rivers, National Natural Landmarks, National Register of Historic Places, are National Historic Landmarks. NPS does not anticipate requesting cooperating status at this time, but upon further review may find it appropriate as information is developed and shared.

**Comment 3:** The USACE, Norfolk District (NAO) requests to be a cooperating agency as this proposal may involve future impacts to waters of the U.S., which may require Department of the Army authorization pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. NAO recognizes the TVA as the Lead Federal Agency for NEPA, the ESA, Tribal Trust, and the NHPA.

**Comment 4:** USFWS encourages the use of siting tools to avoid and minimize conflicts with sensitive species and habitats and can help TVA develop spatial datasets to identify suitable sites for solar and/or battery storage. USFWS encourages TVA to prioritize sites that are already cleared and avoid sites that would impact forests, streams, wetlands, or sensitive areas and habitat fragmentation. USFWS recommends best management practices following the Photovoltaic Stormwater Management Research and Testing program and to use native seed mixes to control the spread of invasive species.

**Comment 5:** USFWS, Mississippi Field Office (MFO) encourage sound solutions that prevent adverse impacts while supporting environmental solutions to increasing energy demands. USFWS MFO provided TVA with a list of species found within the TVA service area in MS and their status.

**Comment 6:** VADEQ provided a list of agencies they sent the NOI to outside the TVA intergovernmental list. VA DEQ also sent a list of databases for TVA to assist us in drafting the PEIS. They provided an email address to the NOA when published.

**Comment 7:** VADOT provided a list of items (permits for proposed entrance to a roadway, drainage plans) that must be submitted and who to submit those items to.

**Comment 8:** MDAH determine that solar and battery projects are likely to affect historic resources in Mississippi and requests to participate as a participating agency as the PEIS is developed.

**Comment 9:** TDEC encourages the TVA to consult with relevant local parties for actions which might be subject to local agency approval. The TDEC Office of Energy Programs (OEP) is encouraged by TVA's intent to diversify its generation portfolio and resilience with more battery

storage, solar, and pumped storage as these additions will increase overall energy security within Tennessee. OEP encourages TVA to address battery reuse and disposal as part of its long-term programmatic concerns.

**Comment 10:** The State of Kentucky submitted comments requesting that TVA ensure best management practices are implemented during future projects and that appropriate interagency coordination occur.

**Comment 11:** Appalachian Voices, Energy Alabama, Center for Biological Diversity, Sierra Club, and the Southern Environmental Law Center urge TVA to use the PEIS to:

- Consider TVA's solar and battery storage projects in the broader context of the utility's proposed energy buildout by: (a) evaluating solar and storage as substitutes for alternative resources, (b) discussing the transmission-related needs for the utility's anticipated energy system buildout, and (c) disclosing the impacts associated with its current solar and storage assets,
- Consider solar and battery storage projects in the context of TVA's and the federal government's decarbonization goals, and
- Fully consider and minimize the site-specific impacts of future proposed solar and storage projects using low-impact siting principles.

**Comment 12:** Please make this proposal a priority. TVA is so very far behind on renewable energy resources for our area. Time and money MUST be invested in the future of energy production, which is not gas or oil. I applaud your thinking on this project and ask you to PLEASE move forward with this and other renewable energy projects. (Commenter Ruth Anna Black)

## **Appendix A: Federal Register Notice of Intent**

This page intentionally left blank

May 24, 2023. Visit <https://www.tva.gov/NEPA> to obtain more information about the open house.

### EIS Preparation and Schedule

TVA will consider comments received during the scoping period and develop a scoping report which will be published at <https://www.tva.gov/NEPA>. The scoping report will summarize public and agency comments that were received and identify the projected schedule for completing the EIS process. Subsequently, following completion of the environmental analysis, TVA will post a Draft EIS for public review and comment on the project web page. TVA anticipates holding a public open house after releasing the Draft EIS. Open house details will be posted on TVA's website in conjunction with the Draft EIS. TVA expects to release the Draft EIS in 2024, a Final EIS in 2025, and a Record of Decision at least 30-days after the release of the Final EIS.

*Authority:* 40 CFR 1501.9.

**Susan Jacks,**

*General Manager, Environmental Resource Compliance.*

[FR Doc. 2023-10651 Filed 5-15--23; 8:45 am]

BILLING CODE 8120-0S-P

## TENNESSEE VALLEY AUTHORITY

### Pumped Storage Hydro Programmatic Environmental Impact Statement

**AGENCY:** Tennessee Valley Authority.

**ACTION:** Notice of intent.

**SUMMARY:** The Tennessee Valley Authority (TVA) is conducting a study to evaluate increasing pumped storage hydropower (PSH) capacity within its power service area. To meet its obligations under the National Environmental Policy Act (NEPA), TVA is preparing a Programmatic Environmental Impact Statement (PEIS) to evaluate potential new PSH facilities at two locations in Jackson County, Alabama and expansion of the existing Raccoon Mountain PSH Plant in Marion County, Tennessee. Based on the findings of the PEIS, TVA may potentially select one or more sites as the need for long-duration energy storage increases. The PEIS will consider potential environmental and economic impacts from the construction and operation at each site.

**DATES:** To ensure consideration, comments on the scope and environmental issues must be postmarked, emailed, or submitted online no later than July 5, 2023. To facilitate the scoping process, TVA will hold a virtual public scoping meeting;

see <https://www.tva.gov/nepa> for more information on the meeting.

**ADDRESSES:** Written comments should be sent to Elizabeth Smith, NEPA Compliance Specialist, 400 West Summit Hill Dr., WT 11D, Knoxville, TN 37902-1499. Comments may also be submitted online at: <https://www.tva.gov/nepa> or by email at [pumpedstorageNEPA@tva.gov](mailto:pumpedstorageNEPA@tva.gov).

**FOR FURTHER INFORMATION CONTACT:** For general information about the NEPA process and/or general project information, please email [pumpedstorageNEPA@tva.gov](mailto:pumpedstorageNEPA@tva.gov), or NEPA Specialist, Elizabeth Smith, at (865) 632-3053.

**SUPPLEMENTARY INFORMATION:** This notice is provided in accordance with the Council on Environmental Quality's Regulations (40 CFR parts 1500 to 1508) and TVA's procedures for implementing the NEPA. TVA is an agency and instrumentality of the United States, established by an act of Congress in 1933, to foster the social and economic welfare of the people of the Tennessee Valley region and to promote the proper use and conservation of the region's natural resources. One component of this mission is the generation, transmission, and sale of reliable and affordable electric energy.

The analyses in a programmatic NEPA review are valuable in setting out the broad view of environmental impacts and benefits for a proposed decision such as a rulemaking, or establishing a policy, program, or plan. That programmatic NEPA review can then be relied upon when agencies make decisions based on the programmatic EIS, as well as decisions based on a subsequent (also known as tiered) NEPA review.

### Background

PSH is a type of hydroelectric energy storage that consists of two water reservoirs at different elevations in which water can be pumped to the higher elevation reservoir during periods in which energy storage is needed and then can be released during periods when energy is needed on the electrical grid. PSH is utilized for long term storage to provide for reserves on the grid, use excess energy to store water in the higher reservoir when demand drops below the base load generation, and to support intermittent generation for renewables such as wind and solar.

TVA is planning a substantial decarbonization effort and aspires to be carbon neutral by 2050. As part of these efforts, long-duration storage (B to 12 hours) will be needed to balance the

daily energy cycle. This long-duration storage will enable additional generation from solar, new nuclear, and carbon capture technologies.

Long duration energy storage, like pumped storage, supports nuclear generation and carbon capture technologies by assisting with load balancing and allowing these technologies to run nearly full time, which is important as these technologies are generally not conducive to following the demand curve and work best when running fully loaded. PSH is a reliable and proven technology. The addition of pumped storage hydro facilities could also help TVA maintain grid stability and reliability in the future grid with less dispatchable generation and greater minute-by-minute variability due to fluctuations in output from renewables such as solar and wind.

### Project Purpose and Need

TVA is planning a substantial decarbonization effort with aspirations of being carbon neutral by 2050. To meet these goals, long-duration storage (8 to 12 hours) will be needed to balance the daily energy cycle. This long-duration storage will enable additional generation from solar, new nuclear, and carbon capture technologies.

Long duration energy storage, like pumped storage, supports nuclear generation and carbon capture technologies by assisting with load balancing and allowing these technologies to run nearly full time, which is important as these technologies are generally not conducive to following the demand curve and work best when running fully loaded. PSH is a reliable and proven technology. The addition of pumped storage hydro facilities could also help TVA maintain grid stability and reliability in the future grid with less dispatchable generation and greater minute-by-minute variability due to fluctuations in output from renewables such as solar and wind.

The purpose of this PEIS is to evaluate the potential for pumped storage facilities in two areas in Jackson County, Alabama, and an expansion of the existing facility at Raccoon Mountain and to consider potential environmental and economic impacts from the construction and operation of pumped storage facilities at each site. After the PEIS, one or more sites will be further evaluated, and transmission line siting performed. The impacts of that evaluation and transmission options for the preferred site(s) will be considered in a future supplement to this PEIS.

### Preliminary Proposed Action and Alternatives

TVA has initially identified four alternatives for evaluation in the PEIS associated with the proposed pumped storage hydro facilities. These include a No Action Alternative and three Action Alternatives. Under the No Action Alternative, TVA will evaluate and consider the impact of not including additional PSH in TVA's energy storage fleet. TVA will evaluate and consider each of the Action Alternatives to

determine which site(s) are best suited for pumped storage. The Action

Alternatives will include the expansion of the existing PSH facility at Raccoon Mountain, constructing a new facility near Pisgah, Alabama (Rorex Creek), and constructing a new facility near Fabius, Alabama (Widows Creek). Both new facilities would be located within Jackson County, Alabama.

The description and analysis of these alternatives in the PEIS will inform decision makers, other agencies, and the public about the potential for environmental impacts associated with the proposed PSH facilities. TVA solicits comment on whether there are other alternatives that should be assessed in the PEIS. TVA also requests information and analyses that may be relevant to the project.

### Anticipated Environmental Impacts

Public scoping is integral to the process for implementing NEPA and ensures that (1) issues are identified early and properly studied, (2) issues of little significance do not consume substantial time and effort, and (3) the analysis of identified issues is thorough and balanced. This PEIS will identify the purpose and need of the Action Alternatives and will contain descriptions of the existing environmental and socioeconomic resources within the area that could be affected by the proposed project. Evaluation of potential environmental impacts to these resources will include, but not be limited to, water resources, biological resources, cultural resources, natural areas and recreation, navigation, utilities, recreation, geology and groundwater, air quality and climate change, greenhouse gas emissions, land use and prime farmland, noise, public health and safety, socioeconomic and environmental justice, solid and hazardous waste and material, transportation, and visual resources. The PEIS will analyze measures that would avoid, minimize, or mitigate environmental effects.

The final range of issues to be addressed in the environmental review

will be determined, in part, from scoping comments received. TVA is particularly interested in public input on other reasonable alternatives that should be considered in the PEIS. The preliminary identification of reasonable alternatives and environmental issues in this notice is not meant to be exhaustive or final.

### Anticipated Permits and Other Authorizations

TVA anticipates consulting with the required authorities including, but not

limited to: the Endangered Species Act; Bald and Golden Eagle Protection Act;

Rare Species Protection and Conservation Act; National Historic Preservation Act; Clean Air Act; and Federal Clean Water Act.

TVA anticipates seeking required permits or authorizations as appropriate, from the following governmental entities: U.S. Army Corps of Engineers; U.S. Environmental Protection Agency; Alabama Department of Environment and Conservation; Tennessee Department of Environment and Conservation; U.S. Fish and Wildlife Service; Alabama State Historic Preservation Officer; Tennessee State Historic Preservation Officer; and Tribal Historic Preservation Officers. This is not an exhaustive list, other permits or authorizations may be sought as required or appropriate.

### Public Participation and Scoping Process

The public is invited to submit comments on the scope of the PEIS no later than the date identified in the **DATES** section of this notice. Federal, state, and local agencies and Native American Tribes are also invited to provide comments. Information about this project is available on the TVA web page at <https://www.tva.gov/nepa>, including a link to an online public comment page.

### SEIS Preparation and Schedule

Any comments received, including names and addresses, will become part of the administrative record and will be available for public inspection. After consideration of comments received during the scoping period, TVA will develop a scoping document that will summarize public and agency comments that were received and identify the schedule for completing the PEIS process.

Following analysis of the resources and issues, TVA will prepare a draft PEIS for public review and comment tentatively scheduled for late 2024/early 2025; the final PEIS and decision is tentatively scheduled for 2025. In

finalizing the PEIS and in making its final decision, TVA will consider the comments that it receives on the draft PEIS. A final determination on proceeding with the preferred alternative will be documented in a Record of Decision.

*Authority:* 40 CFR 1501.9.

**Susan Jacks,**  
*General Manager, Environmental Resource Compliance.*

[FR Doc. 2023-10653 Filed 5-18-23; 8:45 am]  
BILLING CODE 8120-08-P

## TENNESSEE VALLEY AUTHORITY

### Solar and Battery Programmatic Environmental Impact Statement

**AGENCY:** Tennessee Valley Authority.

**ACTION:** Notice of intent.

**SUMMARY:** TVA is working to build an energy system powered by cleaner, more flexible energy, and solar and storage will play a big role. TVA has an expansion target of 10,000 megawatts (MW) of solar by 2035. TVA has identified the need to respond more efficiently and effectively to the growing number of solar and battery projects that will be required to achieve TVA's overall decarbonization goals and aspirations. To meet its obligations under the National Environmental Policy Act (NEPA), TVA is preparing a Programmatic Environmental Impact Statement (PEIS) to develop new guidance and a bounding analysis that will further facilitate solar energy and battery energy storage development on TVA-owned and private lands within the TVA service area. TVA would consider this guidance, including recommended environmental practices and mitigation measures, in its decision-making processes.

**DATES:** To ensure consideration, comments on the scope, alternatives being considered, and environmental issues must be postmarked, emailed, or submitted online no later than June 20, 2023.

**ADDRESSES:** Written comments should be sent to Elizabeth Smith, NEPA Compliance Specialist, 400 West Summit Hill Dr., WT 11B, Knoxville, TN 37902-1499. Comments may also be submitted online at: <https://www.tva.gov/NEPA> or by email at [NEPA@tva.gov](mailto:NEPA@tva.gov).

FOR FURTHER INFORMATION CONTACT: For general information about the NEPA process and/or general project information, please contact Elizabeth Smith, NEPA Compliance Specialist,



## **Appendix B: Newspaper Advertisements and Media Release**

This page intentionally left blank



## **TVA MEDIA ADVISORY**

### **TVA Requests Input on Browns Ferry Nuclear Subsequent License Renewal**

ATHENS, Ala. – The Tennessee Valley Authority is asking for public comment on its Notice of Intent to prepare a Supplemental Environmental Impact Statement on proposed actions associated with obtaining U.S. Nuclear Regulatory Commission license renewals for the Browns Ferry Nuclear Plant Units 1, 2 and 3 in Limestone County, Alabama.

The NRC license renewals would authorize the Browns Ferry Nuclear Plant Units 1, 2, and 3 to continue operation for an additional 20 years beyond the current NRC operating licenses expiration dates of 2033, 2034, and 2036, respectively. TVA plans to evaluate a variety of alternatives including a no-action alternative.

TVA has a virtual meeting room available from June 1 through July 1, 2021. Access the virtual meeting and other details at <https://www.tva.com/nepa> under the section titled Open for Public Comment.

Comments must be received or postmarked by July 1, 2021, and may be submitted in writing to J. Taylor Cates, NEPA Specialist, 1101 Market Street, BR 2C-C, Chattanooga, TN 37402; online at <https://www.tva.com/nepa>; or by email to [nepa@tva.gov](mailto:nepa@tva.gov). Due to COVID-19 teleworking restrictions, electronic submission of comments is encouraged to ensure timely review and consideration.

All comments received, including names and addresses, will become part of the administrative record and available for public inspection.

For more information about TVA and its 88-year mission of service to the Tennessee Valley, click [here](#).

# # #

Media Contact: Malinda Hunter, Chattanooga, 423-718-9245  
TVA Public Relations, Knoxville, 865-632-6000  
<http://www.tva.com/newsroom>  
Follow TVA news on [Facebook](#), [Twitter](#) and [Instagram](#)

(Distributed: June 2, 2021)



[Home](#) > [Community](#) > [Business](#)

# TVA Seeks Public Comments On Scoping For Proposed Generation Projects

Thursday, May 25, 2023

The Tennessee Valley Authority is asking for public input on the scopes of three environmental reviews, which are the first steps in considering potential environmental impacts of a number of projects that would support a cleaner energy future, while maintaining affordability, reliability and resiliency.

Solar and Battery Storage:

• Comments must be received by June 20, 2023. Information on how to submit comments is available at: [www.tva.com/nepa](http://www.tva.com/nepa).

TVA is working to build an energy system powered by cleaner, more flexible energy, and solar and storage will play a big role. TVA has a strategic goal to add 10,000 megawatts of solar by 2035. To facilitate that goal, TVA is developing new guidance to help review solar energy and battery storage projects that could be built on private and TVA-owned land in our service area.

TVA is preparing a Programmatic Environmental Impact Statement to help develop new guidance and a bounding analysis, including recommended environmental practices and mitigation measures, that would be part of the decision-making processes.

Public comment is invited concerning the scope of the PEIS, alternatives being considered, and environmental issues that should be addressed as a part of this PEIS.

To ensure consideration, comments on the scope and environmental issues must be postmarked, emailed, or submitted online no later than June 20.

Home / Category : Solar / News



Tennessee Valley Authority

TENNESSEE VALLEY AUTHORITY

## TVA Seeks Public Comments on Scoping for Proposed Generation Projects

May 29, 2023

[Back](#)

[Twitter](#)

[Facebook](#)

[LinkedIn](#)

[Send](#)

[Print](#)

The Tennessee Valley Authority is asking for public input on the scopes of three environmental reviews, which are the first steps in considering potential environmental impacts of a number of projects that would support a cleaner energy future, while maintaining affordability, reliability and resiliency.

### Solar and Battery Storage

- **Comments must be received by June 20, 2023.** Information on how to submit comments is available at: [tva.com/nepa](https://tva.com/nepa).

TVA is working to build an energy system powered by cleaner, more flexible energy, and solar and storage will play a big role. TVA has a strategic goal to add 10,000 megawatts of solar by 2035. To facilitate that goal, TVA is developing new guidance to help review solar energy and battery storage projects that could be built on private and TVA-owned land in our service area.

TVA is preparing a Programmatic Environmental Impact Statement (PEIS) to help develop new guidance and a bounding analysis, including recommended environmental practices and mitigation measures, that would be part of the decision-making processes.

Public comment is invited concerning the scope of the PEIS, alternatives being considered, and environmental issues that should be addressed as a part of this PEIS.

To ensure consideration, comments on the scope and environmental issues must be postmarked, emailed, or submitted online no later than June 20, 2023.

The other two projects for which TVA is seeking input are a solar and battery storage project and a natural gas combustion turbine and battery energy storage system.

TVA has a strategic goal to add 10,000 MW of solar by 2035. To facilitate that goal, TVA is developing new guidance to help review solar energy and battery storage projects that could be built on private and TVA-owned land in its service area. TVA is preparing a PEIS to help develop new guidance and a bounding analysis, including recommended environmental practices and mitigation measures, that would be part of the decision-making processes.

And TVA is considering the construction of a new natural gas combustion turbine plant and battery energy storage system in Cheatham County, Tenn. TVA intends to prepare an EIS to evaluate the potential environmental impacts associated with the proposed construction and operation of the energy complex on 286 acres of TVA-owned land northwest of Nashville, Tenn. The Cheatham County Generation Site would generate about 900 MW and replace generation capacity for a portion of the Cumberland Fossil Plant second unit retirement planned by the end of 2028. The addition of the proposed 400-MW battery storage system could also help TVA maintain grid stability and reliability as intermittent renewable generation is added to the system.

TVA is a corporate agency of the U.S. that provides electricity for business customers and local power companies, serving nearly 10 million people in parts of seven southeastern states. In addition to operating and investing its revenues in [its electric system](#), TVA provides flood control, navigation and land management for the Tennessee River system and assists local power companies and state and local governments with economic development and job creation.

## **Appendix C: Public and Agency Comments**





**From:** [Somerville, Amanetta](#)  
**To:** [Smith, Elizabeth](#)  
**Subject:** Re: EPA Comments on the Notice of Intent to Prepare a Solar and Battery Programmatic Environmental Impact Statement  
**Date:** Tuesday, June 20, 2023 3:01:10 PM

**This is an EXTERNAL EMAIL from outside TVA. THINK BEFORE you CLICK links or OPEN attachments. If suspicious, please click the "Report Phishing" button located on the Outlook Toolbar at the top of your screen.**

Dear Ms. Smith:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Notice of Intent (NOI), consistent with our responsibilities pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and EPA's authority under Section 309 of the Clean Air Act. The CAA Section 309 role is unique to EPA. It requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement. The Tennessee Valley Authority is preparing a Programmatic Environmental Impact Statement (PEIS) to develop new guidance and a bounding analysis that will further facilitate TVA's expansion target of 10,000 megawatts of solar energy and battery energy storage development on TVA-owned and private lands within the TVA service area by 2035.

The EPA is submitting the following recommendations for consideration in the NEPA document: 1) Resource-based exclusions, 2) environmental justice, and 3) cumulative impacts.

Thank you for the opportunity to comment on the NOI. Should you have any questions or need additional information, please feel free to contact Amanetta Somerville, Lead Reviewer, at 404-562-9025, or [somerville.amanetta@epa.gov](mailto:somerville.amanetta@epa.gov).

#### 1) Resource-Based Exclusions

The EPA recommends that the TVA identify areas with the lowest conflict as priority areas and identify exclusions based on current, updated science. Exclusion evaluations may be completed during project-level NEPA activities. The EPA recommends the following exclusions:

- Ecological concerns:
  - U.S. Fish and Wildlife Service (USFWS) critical habitat
  - Lands to which special status species have been translocated
  - lands adjacent to existing or planned highway wildlife crossing structures
  - Riparian corridors
  - Connecting lands between habitats
  - Bird migration corridors
  - Areas containing sensitive soils
- Specially designated areas:
  - National landscape conservation lands, including national historic and scenic trails, national monuments, wilderness areas, wilderness study areas, and wild and scenic

- rivers –
    - Special recreation management areas
    - Conservation opportunity areas
    - Scenic byways
- Cultural resource, tribal interests, and environmental justice concerns
  - Traditional cultural properties
  - Areas of tribal importance including burial sites, sacred sites, spiritual sites, and ceremonial sites
  - Areas on the National Register of Historic Places
- Visual resource management Class I and Class II areas

## **2) Environmental Justice (EJ):**

- The EPA recommends TVA consider whether communities may already be experiencing existing pollution, social, economic, or health burdens and whether the proposed action may result in disproportionate impacts on those communities. If so, TVA should identify and address those impacts, as appropriate, consistent with E.O. 12898. Specifically, the EPA recommends that the environmental document identify and address any disproportionate impacts on people of color, indigenous, and low-income populations.
- The EPA recommends meaningfully engaging communities with EJ concerns and incorporating the proposed project's input, concerns, and engagement from communities affected. As an appendix, we recommend documenting meaningful engagement with residents, schools, daycare centers, retirement communities, care facilities, hospitals, municipalities, landowners, and community organizations. In addition, the NEPA document should describe how community concerns or recommendations have been used to develop proposed mitigation options or to further avoid or minimize impacts on human health and the environment. For additional information from the Interagency Workgroup on NEPA and EJ, see Promising Practices for EJ Methodologies In NEPA Reviews.

## **3) Cumulative Impacts:**

- We recognize that TVA is soliciting comments on an Integrated Resource Plan for the next five years. The EPA encourages continued engagement in regional master planning for energy needs. Every effort to expand the use of renewable energy in TVA's energy portfolio is encouraged.
- The EPA recommends that TVA Model for 100-and 500-year floods to ensure that key infrastructure, such as battery storage facilities, substations, and switchyards, are located outside of these vulnerable areas.
- Other approved projects may compound some impacts at a regional scale. Beyond project needs and alternatives, the EPA recommends that TVA disclose and consider as part of the cumulative impact analysis whether and how other recently approved projects, concurrently

proposed projects, or reasonably foreseeable actions may contribute to potentially significant impacts.

***Amanetta Somerville***

U.S. Environmental Protection Agency Region 4  
61 Forsyth Street SW. Atlanta, Ga 30303  
National Environmental Policy Act Section  
Strategic Programs Office  
Phone: 404-562-9025  
E-mail: [somerville.amanetta@epa.gov](mailto:somerville.amanetta@epa.gov)



## United States Department of the Interior

### NATIONAL PARK SERVICE

Atlanta Federal Center  
1924 Building  
100 Alabama Street, SW  
Atlanta, GA 30303



IN REPLY REFER TO:

1.A.2. (SERO-PC)

June 16, 2023

Elizabeth Smith  
NEPA Compliance Specialist  
400 West Summit Hill Dr., WT 11B  
Knoxville, Tennessee 37902-1499

Dear Ms. Smith:

The National Park Service (NPS) has reviewed the Tennessee Valley Authority (TVA) notice of intent (NOI) to prepare a programmatic environmental impact statement (PEIS) in accordance with the National Environmental Policy Act (NEPA) that will further facilitate solar energy and battery storage development on TVA-owned and private lands within the TVA service area. Under the action alternative, TVA would develop programmatic environmental guidance through a bounding analysis to help identify the range of potential impacts or risks for use in TVA-owned and TVA-contracted solar and battery storage projects.

The NOI requests comments concerning the scope of the PEIS, alternatives being considered, and environmental issues that should be addressed in the PEIS and any data, information, and analysis relevant to the proposed action from federal agencies like the NPS and others.

The NPS manages the National Park System, related areas, and numerous programs that assist in conserving the nation's natural and cultural heritage for the benefit of current and future generations. TVA's service area includes multiple National Park System units, National Heritage Areas, National Scenic and Historic Trails, Wild and Scenic Rivers, rivers on the Nationwide Rivers Inventory, Land and Water Conservation Fund assistance sites, National Natural Landmarks, and National Register properties including National Historic Landmarks where the NPS has jurisdiction or special expertise that may be affected by TVA-owned or contracted solar and battery projects. The NPS provides the following scoping comments for consideration in the development of the PEIS:

#### *National Park System*

The NPS preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations in accordance with the NPS Organic Act and other laws. (54 U.S.C. Subtitle I) TVA's service area contains eighteen units of the National Park System, some of which also overlap with NPS program areas as detailed below.

---

#### Interior Region 2 • South Atlantic–Gulf

Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi  
North Carolina, Puerto Rico, South Carolina, Tennessee, U.S. Virgin Islands

Geospatial data for the administrative boundaries of most National Park System Units can be located at the following link:

<https://irma.nps.gov/DataStore/Reference/Profile/2298879>.

#### *National Heritage Areas*

National Heritage Areas (NHAs) are designated by Congress as places where natural, cultural, and historic resources combine to form a cohesive, nationally important landscape. Through their resources, NHAs tell nationally important stories that celebrate our nation's diverse heritage. NHAs further the mission of the NPS by fostering community stewardship of our nation's heritage, and the NPS administers the NHA Program. NHAs are part of the National Park System as related areas but are not national park units. Rather, NPS partners with, provides technical assistance, and distributes matching federal funds from Congress to NHA entities. Through public-private partnerships, NHA entities support historic preservation, natural resource conservation, recreation, heritage tourism, and educational projects. NPS does not assume ownership of land inside NHAs or impose land use controls.

Geospatial data for NHA boundaries can be located at the following link:

<https://irma.nps.gov/DataStore/Reference/Profile/2271982>.

#### *National Scenic and Historic Trails*

The National Trails System was created in 1968 by the National Trails System Act (Act) (16 U.S.C. §§1241-1251). The system includes four types of trails that include national scenic trails (NSTs) displaying significant physical characteristics of U.S. regions and national historic trails (NHTs) following travel routes of national historical significance that are managed by the NPS. As defined in the Act, NSTs and NHTs are long-distance trails designated by acts of Congress. The Act limits federal land acquisition for the trails system, with specific provisions for different trail types.

The Appalachian NST, Natchez Trace NST, Overmountain Victory NHT, and Trail of Tears NHT are administered by the NPS in TVA's service area, and the Appalachian NST and the Natchez Trace NST are also managed as units of the National Park System. The Natchez Trace NST is completely contained within the Natchez Trace Parkway, which is another unit of the National Park System.

#### *Wild and Scenic Rivers*

The National Wild and Scenic Rivers System is a collection of exceptional rivers that have been designated to protect their free-flowing condition, water quality, and outstanding natural, cultural, and recreational values for the enjoyment of present and future generations. The NPS Wild and Scenic Rivers (WSR) Program provides support to NPS affiliated WSRs including rivers in park units, rivers managed in partnership with local agencies, and rivers managed by state agencies where NPS has a regulatory role. NPS jurisdiction under Section 7 of the Wild and Scenic Rivers Act can also apply to stream crossings outside of the designated reaches of WSRs. Section 7 requires NPS to evaluate federally assisted water resource developments "below or above a wild, scenic or recreational river area or on any stream tributary" that have the potential to "invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values."

The Sipsey Fork of the West Fork WSR and Obed WSR are within TVA's service area. Obed WSR, including adjacent lands, is also a unit of the National Park System.

#### *Nationwide Rivers Inventory*

The NPS administers the Nationwide Rivers Inventory (NRI). 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.

Geospatial data for the NRI can be located at the following link:

<https://irma.nps.gov/DataStore/Reference/Profile/2233706>.

#### *Land and Water Conservation Fund*

The Land and Water Conservation Fund (LWCF) State and Local Assistance Program was established by the LWCF Act of 1965 and is administered by the NPS. The LWCF provides matching grants to states and through states to local governments and federally recognized tribal governments for acquisition and development of public outdoor recreation areas and facilities. In addition to providing financial assistance, a permanent legacy of outdoor recreation resources is established under LWCF grants. Any property acquired and/or developed with LWCF assistance cannot not be wholly or partly converted to other than public outdoor recreation uses without the approval of the NPS pursuant to the LWCF Act (54 U.S.C. § 200305(f)(3)) and implementing regulations (36 C.F.R. § 59.3). LWCF matching grants have funded projects in every county in the TVA service area.

#### *National Natural Landmarks*

The NPS administers the National Natural Landmarks (NNL) Program. The program supports and encourages the conservation of our nation's best examples of the natural landscape. Federal agencies that coordinate, fund, or permit projects that could impact NNLs should be aware of the program and should consider the existence and location of designated NNLs in assessing the effects of their activities on the environment under NEPA for the purposes of environmental planning and decision-making.

A directory of most NNLs (some are not included due to privacy and/or resource sensitivity) is maintained by the NPS at the following link:

<https://www.nps.gov/subjects/nnlandmarks/nation.htm>.

#### *National Register of Historic Places*

TVA should complete compliance with the National Historic Preservation Act (NHPA), Section 106 in its analysis for the project, including identification of historic properties and the area of potential effects.

#### *National Historic Landmarks (NHLs)*

The NPS administers the National Historic Landmarks Program. National Historic Landmarks (NHLs) are nationally significant historic properties that illustrate or commemorate the history and prehistory of the United States. Properties designated as NHLs are listed in the National Register of Historic Places. In addition to responsibilities under NHPA Section 106, Section 110(f) of NHPA requires that before approval of any Federal undertaking which may directly

and adversely affect any NHL, the head of the responsible Federal agency shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark, and shall afford the Advisory Council a reasonable opportunity to comment on the undertaking.

At this time, based on the information available, the NPS does not anticipate requesting cooperating agency status under NEPA for TVA's solar and battery storage PEIS. However, TVA should consider potential impacts or related risks to areas of NPS jurisdiction or special expertise when developing its bounding analysis and programmatic environmental guidance for solar and battery storage projects. The NPS would appreciate continued engagement as the PEIS develops so that we may alert TVA to any potential issues at the earliest possible time. As more information is developed and shared, we will review and offer additional comments as appropriate. We also may find upon further review that it may be appropriate for the NPS to be a consulting party under NHPA.

Therefore, please ensure that the areas of NPS jurisdiction or special expertise listed are addressed in TVA's solar and battery storage PEIS, and that we are included in any applicable future correspondence.

We look forward to our continued collaboration on this project. The NPS would be happy to provide further information related to our jurisdiction or special expertise to inform TVA's analysis as needed. Please direct questions to Dusty Pate, Energy Specialist, at 404-772-0637 or [haigler\\_pate@nps.gov](mailto:haigler_pate@nps.gov).

Sincerely,

Ben West  
Program Manager, Planning and Compliance Division

**From:** [Wufoo](#)  
**To:** [nepa](#)  
**Subject:** TVA Solar and Battery PEIS [#6]  
**Date:** Tuesday, June 20, 2023 3:10:22 PM

**This is an EXTERNAL EMAIL from outside TVA. THINK BEFORE you CLICK links or OPEN attachments. If suspicious, please click the “Report Phishing” button located on the Outlook Toolbar at the top of your screen.**

Name	Jennifer M. Serafin
City	Roanoke
State	VA
Organization	USACE Norfolk District
Email	<a href="mailto:jennifer.m.serafin@usace.army.mil">jennifer.m.serafin@usace.army.mil</a>
Phone Number	(540) 344-1498
Please provide your comments by uploading a file or by entering them below. *	<p>The USACE, Norfolk District (NAO) requests to be a cooperating agency as this proposal may involve future impacts to waters of the U.S., which may require Department of the Army authorization pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.</p> <p>NAO recognizes the TVA as the Lead Federal Agency for NEPA, the ESA, Tribal Trust, and the NHPA.</p>





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
1875 Century Boulevard  
Atlanta, Georgia 30345



In Reply Refer To:  
FWS/IR4&5/ES/ER 23\_0197

Elizabeth Smith  
NEPA Specialist, NEPA Program  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

Re: Notice of Intent for Tennessee Valley Authority to Prepare a Programmatic  
Environmental Impact Statement for Solar and Battery Storage

Dear Ms. Smith:

The U.S. Fish and Wildlife Service (Service) has reviewed Tennessee Valley Authority's (TVA) Notice of Intent to prepare a Programmatic Environmental Impact Statement (PEIS), dated May 19, 2023, for solar and battery storage in the TVA service area. The Service's comments are submitted under the National Environmental Policy Act (42 U.S.C. 4321 et seq.) and its implementing regulations (40 CFR 1500-1508 and 43 CFR 46) and authority of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

### **Project Description**

TVA is preparing to develop new, programmatic guidance and a bounding analysis that will facilitate solar energy and battery energy storage development on TVA-owned and private lands within the TVA service area (Tennessee, northern Alabama, northern Georgia, southern Kentucky, eastern Mississippi, western North Carolina, and southwestern Virginia). TVA has a target expansion of 10,000 megawatts of solar by 2035. TVA will consider this guidance, including recommended environmental practices and mitigation measures, in its decision-making processes. The programmatic environmental guidance would seek to minimize potential negative environmental impacts, minimize social and economic impacts, integrate conservation measures with site development in alignment with the TVA Biodiversity Policy, and standardize and streamline the authorization process for solar energy development through a bounding analysis to help identify the range of potential impacts or risks. TVA's purpose is to promote, expedite, and advance the production and transmission of environmentally sound energy resources, including solar energy and battery storage systems, and increase opportunities for responsible renewable energy development.

### **General Comments**

The Service appreciates the opportunity to provide early scoping comments on the PEIS. We support the responsible siting and development of renewable energy facilities and understand the challenges that project proponents may face when siting solar projects. In this letter, we offer comments regarding development of solar and battery storage facilities along with

recommendations for addressing concerns. Additionally, we have attached guidance provided by our Mississippi Field Office.

#### Facility Siting

The construction of solar and battery storage facilities has the potential to result in the degradation, destruction and fragmentation of natural habitats. The Service encourages the use of siting tools to avoid and minimize conflicts with sensitive species and habitats. Tools can be found on the Service's [Information for Planning and Consultation \(IPAC\) website](#) provide information on listed species likely to occur within a project area, conservation recommendations for those species, and best management practices (BMPs). Additionally, we recommend TVA work with the Service and other resource agencies to develop a spatial model and/or heat-map of suitable sites. Several states already have such tools in development. These tools can be used to promote avoidance/minimization of impacts to sensitive resources while also considering factors critical to efficient delivery of power such as proximity to grid connections and other typical project needs.

#### Habitat Fragmentation

The Service is generally concerned about the potential impacts of large fenced solar sites to wildlife, including the potential for habitat loss, habitat fragmentation, and loss of wildlife travel corridors. We recommend that that TVA establish a tiered prioritization approach for site selection that would incentivize placing solar facilities on uplands that are already cleared or otherwise impacted (e.g., brownfields, roofs, parking lots (constructed as a canopy over the parking spaces) and barren ground) over sites that would impact forests, streams, wetlands, or other sensitive areas. We encourage the use of natural vegetation management practices and the planting or seeding of native pollinator plant species where possible. Additional recommendations to reduce impacts include:

- To facilitate large animal passage, we recommend that solar sites include established travel corridors across sites larger than 100 acres (or 20 MW), particularly sites that include streams or other natural wildlife travel corridors. These corridors should not be fenced.
- To facilitate passage for small mammals and turtles, we recommend creating openings in fencing. Openings as small as 6 inches high long the bottom of fence panels may provide adequate clearance for many species. However, openings should be designed with the local wildlife species in mind.
- We recommend that TVA avoid siting solar facilities in areas that are forested. We also recommend mitigating the loss of forested habitat through preservation and/or replanting. We encourage avoidance, minimization and compensation measures be integrated into facility design plans to offset the impacts to the greatest extent practicable.
- We recommend the construction and placement of bat and bird boxes throughout the sites, along with perch poles that are large enough to be used by raptors.
- We encourage the use of native seed mixes with plant species that are beneficial to pollinators throughout solar project sites. Example of types of seed recommended can be found in the Service's co-authored article: [North Carolina Technical Guidance for Native Plantings on Solar Sites](#).

#### Stormwater Runoff:

Solar panels are impervious, though they are typically underlain by pervious surfaces. Increase amounts of impervious surface and removal of native vegetation may result in changes in how watersheds may function, resulting in greater amounts of pollutants and sediment flowing into rivers and lakes. To address concerns for potential stormwater, the Service encourages all solar development to consider managing stormwater and to protect surface waters and groundwater. The Service recommends BMPs following the Photovoltaic Stormwater Management Research and Testing (PV-SMaRT) program developed an easy-to-use stormwater runoff calculator, which can be freely downloaded at <https://license.umn.edu/product/pv-smart-solar-runoff-calculator>. This calculator allows users to estimate runoff amounts for specific types of conditions. It also allows users to identify a solar- and site-specific curve number to incorporate into other models and incorporates the project findings validated with real-world measurements. The site also includes a user manual to guide users to correct and productive use of the calculator. Other guidance for BMPs for addresses storm water runoff may be available at a state level such as the [North Carolina Department of Environmental Quality's Stormwater Design Manual](#).

Additional consideration to reduce storm runoff include:

- Avoid stream buffers, especially in sensitive watersheds (100 feet minimum along perennial streams, 50 feet along intermittent streams). No fencing should be allowed within the stream buffer, except as needed for access or other operational reasons.
- Unless in an urban setting, prohibit widescale use of gravel, pavement, or other impactful, non-native substrate below solar panels. Maintenance of native vegetation is preferred.
- Consider increasing the spacing and height of solar panels to allow higher vegetation growth under the panels to reduce run off and encourage ground water recharge.

#### Spread of Invasive Species

Executive Order (EO) 13112, dated February 3, 1999, called upon executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. The Service is concerned with the introduction and spread of invasive species in association with solar projects. These invasive species are a major contributor to other species depletion and extinction as discussed in EO 13112. Despite their short-term erosion control benefits, many invasive species used in soil stabilization seed mixes are persistent once they are established, thereby preventing the reestablishment of native vegetation. Many are also aggressive invaders of nearby natural areas, where they are capable of displacing already established native species. Therefore, we strongly recommend native plant species be used in association with all aspects of solar projects. A list of native species is often available by state. We recommend contacting your local field office and/or appropriate state agencies to assist with recommended seeds and sources.

**Conclusion**

Thanks again for the opportunity to comment, and for your interest in fish and wildlife conservation. We look forward to working with you on this project. If you have any questions, or would like additional information, please contact Christine Willis of my staff at [Christine\\_Willis@fws.gov](mailto:Christine_Willis@fws.gov).

Sincerely,

Robert Tawes  
Supervisor, Division of Environmental Review  
Ecological Services

(Enclosure)





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Mississippi Ecological Services Field Office  
6578 Dogwood View Parkway, Suite A  
Jackson, Mississippi 39213  
Phone: (601)965-4900 Fax: (601)965-4340



June 8, 2023

Elizabeth Smith  
NEPA Specialist, NEPA Program  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

**Re: TVA Programmatic Environmental Impact Statement Solar and Battery Storage**

Dear Ms. Smith:

The U.S. Fish and Wildlife Service (Service) has reviewed your agency's Notification of Intent to Prepare a Programmatic Environmental Impact Statement dated May 12, 2023, for solar and battery storage in the Tennessee Valley Authority (TVA) service area, including potential areas in Mississippi. Our comments are submitted under the authority of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Please refer to the May 19, 2023, Tennessee Valley Authority letter relating to the proposed Solar and Battery Programmatic Environmental Impact Statement project within the TVA Mississippi service area. In response to TVA's expansion target to build an energy system powered by flexible energy, solar, and storage, TVA proposes to prepare new guidance and analysis to advance such energy development and aid in their decision-making process.

Development of infrastructure for renewable energy has triggered concerns of adverse impacts to plants, animals, and their habitats in Mississippi. These impacts are primarily in the form of disturbance from construction and maintenance activities that can directly impact species. We encourage sound solutions that prevent adverse impacts while supporting environmental solutions to increasing energy demands. Such solutions are urgent and must be collaborative in nature to ensure partners and industry are cooperating in a mutually beneficial scenario.

The TVA is responsible for determining whether the proposed Projects are likely or not likely to adversely affect any listed species and/or critical habitat, and for requesting the Service's concurrence with that determination. If the TVA determines, and the Service concurs, that the Projects are likely to adversely affect listed species and/or critical habitat, a request for formal consultation in accordance with Section 7 of the ESA should be submitted to the Service.

Within the Mississippi portion of the service area, several threatened, endangered, and at-risk species are known or believed to occur (Table 1). Information is provided below regarding those species and their preferred habitats. Please contact the Mississippi Ecological Services Office for information regarding potentially affected threatened and endangered species.

Table 1. Listed species that occur in the TVA service area in Mississippi.

<b>Species</b>	<b>Species Group</b>	<b>Status</b>
Alabama lampmussel	Clams	E
Alabama moccasinshell	Clams	T/CH
Black clubshell	Clams	E
Cumberlandian combshell	Clams	E/CH
Dromedary pearlymussel	Clams	E
Heavy pigtoe	Clams	E
Inflated heelsplitter	Clams	T
Longsolid	Clams	T/CH
Orangenacre mucket	Clams	T/CH
Ovate clubshell	Clams	E/CH
Oyster mussel	Clams	E/CH
Pink mucket	Clams	E
Rabbitsfoot	Clams	T/CH
Rough pigtoe	Clams	E
Slabside pearlymussel	Clams	E/CH
Snuffbox mussel	Clams	E
Southern clubshell	Clams	E/CH
Southern combshell	Clams	E
Gray bat	Mammals	E
Indiana bat	Mammals	E/CH
Northern long-eared bat	Mammals	E
Tricolored bat	Mammals	PE
Red-cockaded woodpecker	Birds	E

Woodstork	Birds	T
Alligator snapping turtle	Reptiles	PT
Pearl River map turtle	Reptiles	PT
Ringed map turtle	Reptiles	T
Gulf sturgeon	Fish	T/CH
Pearl darter	Fish	T/CH
Mitchell's satyr butterfly	Insects	E
Monarch butterfly	Insects	C
Price's potato-bean	Plants	T
White fringeless orchid	Plants	T
Whorled sunflower	Plants	E/CH

E = Endangered; T = Threatened; PE = Proposed endangered; PT = Proposed threatened; CH = Critical Habitat; C = Candidate

#### Aquatic Associates

There are 21 listed species and 2 proposed for listing associated with aquatic environments such as flowing streams or surrounding moist habitats. These include mussels (18), fish (2), and turtles (3). Mussels are important aquatic organisms that filter water, provide habitat benefits to fish, serve as food for other animals, and can indicate the health and quality of streams and rivers. Most listed mussel species in Mississippi are found in larger streams and rivers with few exceptions found in watersheds of the Tombigbee River drainage.

Seven federally listed mussel species are found within top bank of the Tombigbee, Luxapallila, and Buttahatchie Rivers, and Bull Mountain Creek. Two of these species (Southern clubshell and Southern combshell) may be found in the Noxubee River. These species all require clean, swiftly moving stable streams with pools and riffles. Work activities that affect channel geometry (i.e., depth, width) or that increase sedimentation and water turbidity could have adverse impacts on these species. Also, in-stream activities can affect channel geometry both up- and downstream. Additionally, critical habitat has been designated for the Alabama moccasinshell, orange-nacre mucket, ovate clubshell, and Southern clubshell in Itawamba, Lowndes and Monroe Counties.

Several listed mussels are found in the Bear Creek watershed including Cumberlandian combshell, oyster mussel, slabside pearlymussel, and snuffbox. The threatened inflated heelsplitter mussel is found in the lower Pearl River and Tombigbee watersheds. It inhabits areas with moderate to swift currents and prefers riffle or shoal areas with stable bottoms composed of sandy gravel or firm mud gravel and cobble. Work activities that alter flow, channel geometry or increase sedimentation and water turbidity could have adverse impacts on these species. All of Bear Creek in Tishomingo County is designated as critical habitat for the Cumberlandian combshell, oyster mussel, and slabside pearlymussel.

The rabbitsfoot mussel is a historical resident of the Bear Creek, Big Sunflower River, and Big Black River watersheds. Population declines can be attributed to channel erosion, water-quality degradation, loss of stable substrates, sedimentation, channelization, gravel mining, dredging, impoundments, and competition of exotic mussel species. Critical habitat has been designated for the Big Black River in Hinds and Warren Counties (from Porter Creek to Highway 27), the Big Sunflower River in Sunflower County (from Highway 442 to the Quiver River), and Bear Creek in Tishomingo County (from state line to state line).

The threatened Atlantic sturgeon, Gulf subspecies, is found in the coastal rivers of the northeastern Gulf of Mexico generally from Lake Pontchartrain in Louisiana to the Suwannee River in Florida. Gulf sturgeon are primitive, anadromous fish that annually migrate from the Gulf of Mexico into freshwater streams to spawn. Subadults and adults spend eight to nine months each year in rivers. Adult and subadult holding areas have been identified in the Pascagoula River. The decline of the Gulf sturgeon is primarily due to limited access to riverine migration routes and historic spawning areas, habitat modification, and water quality degradation. Critical habitat has been designated for the species in Mississippi to include portions of the Bogue Chitto, Bouie, Chickasawhay, Leaf, Pascagoula and Pearl Rivers and the Gulf of Mexico.

The threatened Pearl darter was historically found in the Pearl and Pascagoula River systems. However, it is currently found only in the Pascagoula River system. The darter prefers silty edge habitat, stable gravel riffles, or sandstone exposures with large sized gravel or rock. The Pearl darter is vulnerable to non-point source pollution, urbanization, and changes in river geomorphology due to its localized distribution within one river drainage and its apparent low population sizes.

The threatened ringed map turtle and Pearl River map turtle (proposed as threatened) are found in the Pearl River. They prefer river stretches with moderate currents, abundant basking sites, and sand bars for nesting. Stream modification in the Pearl River for flood control and urban development has significantly contributed to the decline of these species. Specific to the Pearl River map turtle, illegal collection also poses a significant threat. Other threats to these species include removal of forested habitat along the riverbanks (source of the deadwood used for basking) and/or removing instream deadwood used for basking and foraging (commonly referred to as desnagging), and water quality degradation.

The alligator snapping turtle, proposed as threatened, is the largest freshwater turtle in North America. It is a relatively long-lived turtle that takes 11-21 years to reach sexual maturity. It ranges across several Central and South-Central States. In Mississippi, it can be found in most watersheds, typically associated with deeper water, with shallower water occupied in early summer and deeper depths in late summer and mid-winter. In addition, they are often associated with structure, canopy cover, and undercut stream banks. Nest predation, bycatch, legal harvest, illegal collection/poaching, and habitat degradation pose significant threats to this species.

Most aquatic species are sensitive to changes in water quality; therefore, water quality protection measures would benefit many listed species. Properly implemented and monitored best management practices (BMPs) could prevent excessive erosion, drainage alteration, and stream obstruction. General water quality protection measures include avoiding runoff from soil disturbance, maintaining integrity of streambed and banks, avoiding or minimizing stream



crossings, avoiding trash and logging debris entering streams, avoiding chemical application in water, avoiding chemical seepage into groundwater, leaving streamside management zones (SMZs), and revegetating denuded areas. Additional BMP measures for wildlife include leaving existing deadwood that serves as structure for fish and turtles, minimizing disturbance to existing sandbars, leaving in-stream gravel beds, prohibiting use of structures that obstruct fish passage, avoiding impoundments, and leaving large SMZs. Where there are known records of listed species or where listed species can be found near or downstream of the project area, additional measures may be necessary to protect these species. Some practices may still cause take of the species through direct or indirect impacts. Therefore, more prudent measures should be taken to avoid impacts and further consultation with the USFWS is advised.

#### Birds and Terrestrial Species

The North Hills and Black Prairie of Mississippi includes the foothills of the Appalachian Mountains in Tishomingo County, rolling hills across North Mississippi, and a narrow crescent strip of rich prairie soils that run through several Northeastern counties all the way to Alabama. Several listed and proposed species can be found on the Mississippi North Hills and Black Prairie including bats (4), birds (2), insects (2), and plants (3). In general, but not exclusively, best practices for protecting bat species found in the North Hills Region of Mississippi include protection of caves where bats may be found, protecting maternity colonies of bats, harvesting outside of the maternity season, and protecting roost trees. Prairie communities are fire dependent systems that should be protected from development, exotic species, and maintained by prescribed fire during proper seasons. We recommend consulting the Mississippi Ecological Services for more specific conservation measures in areas where listed species could be found.

Of the 4 bat species in the MS TVA service area, the endangered gray bat is a historical resident of Tishomingo County. They are the only listed bat species in Mississippi that roosts year-round in caves. Thus, activities that impact caves or suitable mines could adversely affect this species.

The endangered Indiana bat is a migratory bat that hibernates in caves and abandoned mines in the winter, then migrates to wooded areas (roost sites) in the spring to bear and raise their young over the summer. Reproductive females occupy roost sites under the exfoliating bark of large, often dead, trees. Roost trees are typically those receiving direct sunlight for more than half of the day, within canopy gaps in the forest. Habitats include riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities.

Like the Indiana bat, the northern long-eared bat (NLEB) is a migratory bat that hibernates in caves, mines, and occasionally culverts and migrates to wooded areas to raise young over the summer. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live trees and snags (dead trees). The NLEB seems to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. The bat faces extinction due to the range-wide impacts of white-nose syndrome, a deadly fungal disease affecting cave-dwelling bats across the continent.

A significant threat to the survival and recovery of listed bats in Mississippi is the destruction of maternity and foraging habitats. Therefore, we recommend that all tree removal activities in areas supporting Indiana bat and NLEB habitat take place in the non-maternity season (September 1 – May 14). If tree clearing cannot be conducted during the non-maternity period, then a habitat assessment will need to be conducted and forwarded to our office for review to

determine the suitability of the site as potential NLEB maternity habitat. If the results of the habitat assessment indicate potential maternity habitat is present, then additional presence/absence surveys (netting or acoustic surveys) may be required.

The endangered Mitchell's satyr butterfly is a medium-sized butterfly with an overall rich brown color. A distinctive series of orange-ringed black circular eyespots with silvery centers are located on the lower surfaces of both pairs of wings. The species occurs in wetlands where low nutrient systems receive carbonate-rich groundwater from seeps and springs. In Mississippi, Mitchell's satyr has been found in small upland wetlands created by beaver dams and in wetlands formed by road culverts. The primary threat to this species is habitat destruction caused by beaver control, draining and filling of wetlands, invasion from exotic weeds, and contamination of wetlands by pesticides, fertilizer, and nutrient runoff from adjacent agriculture.

The threatened white fringeless orchid is a perennial herbaceous plant with a light green stem (growing to over 2 feet tall) arising from a tuber. Leaves decrease in size from the base to the top of the stem, have alternate arrangement, are narrowly elliptic to lanceolate in shape, and have entire margins. Flowers are white and borne in a loose cluster at the end of the stem. The flower's lower petal (the lip) does not have a conspicuous fringe along the margin but may be slightly toothed. A prominent green to white spur (growing to nearly 2.5 inches) protrudes from the underside of each flower. Flowering occurs from July to September and fruiting capsules mature in October. The species can be found in forested wetlands, wet, boggy areas at the heads of streams, and on seepage slopes that are partially shaded. Plants are often associated with *Sphagnum* (peat) moss and other orchids. Surveys should be conducted when plants are in bloom, as the species is difficult to distinguish from more common *Platanthera* species without flowers. Threats include habitat destruction and modification from development, incompatible forestry practices, alteration of hydrologic regimes, incompatible right-of-way maintenance, invasive species competition, over collection, herbivory by deer, and disturbance by feral hogs.

The endangered whorled sunflower is a tall (over 15 feet), rhizomatous, perennial herbaceous plant. The firm, linear to lanceolate leaves have a prominent mid-vein, lack prominent lateral veins, are short-petioled to nearly sessile, and can grow to over 7 inches long. Leaf arrangement is typically opposite on the lower stem, whorled (verticillate) in groups of 3 or 4 (to 6) along the mid-stem, and alternate or opposite near the top. The stem is smooth, waxy (glaucous), and has a bluish tint during the growing season. Flowering occurs from mid- to late August into October. Flowers are arranged in branched inflorescences (cymes) of 3 to 7 heads. Heads consist of deep yellow ray flowers and lighter yellow disk flowers. The species can be confused with its more common close relatives, narrowleaf sunflower (*H. angustifolius*), giant sunflower (*H. giganteus*), and sawtooth sunflower (*H. grosseserratus*). Plants are found on moist soils in open, grassy areas (such as wet prairies, road and utility rights-of-way, and along margins of agricultural fields) with little to no overstory canopy and are often associated with floodplains of small streams. Thus, indiscriminate herbicide application, incompatible mowing regimes, habitat destruction, and encroachment of woody vegetation are common threats to this species.

The threatened Price's potato-bean is a perennial, herbaceous, twining vine in the pea family (Fabaceae [=Leguminosae]). It is found on slopes or bluffs with open woods that often grade into creek and river bottoms. The species may also be found along forested margins of powerline and road rights-of-way. These areas are typically underlain by alkaline soils and calcareous parent material. Surveys should be conducted when the species is in flower or fruit, typically mid-June into October. Price's potato-bean can be confused with its more common

relative groundnut (*Apios americana*) and the American hog-peanut (*Amphicarpaea bracteata*), particularly when flowers are not present, and surveys should be conducted by individuals familiar with both species. Excessive shading from forest canopy closure, incompatible right-of-way maintenance (e.g., indiscriminate herbicide spraying), and competition from non-native, invasive plants pose threats to this species.

Birds have ecological and economic value and are important indicators of ecosystem health. Like some other animals, birds are important seed dispersers, pollinators, and can provide pest control as they feed on insects and small mammals. They also generate economic benefits from recreational bird viewers. Two federally listed birds range within the TVA service area: wood stork and red-cockaded woodpecker.

Wood storks are large, long-legged wading birds, about 50 inches tall, with a wingspan of 60 – 65 inches. The plumage is white except for black primaries and secondaries, and a short black tail. The head and neck are largely unfeathered and dark gray in color. Wood storks occur seasonally in Mississippi during the non-breeding season (May – October). Typical foraging sites include freshwater marshes, swales, ponds, hardwood and cypress swamps, narrow tidal creeks or shallow tidal pools, and artificial wetlands (such as stock ponds; shallow, seasonally flooded roadside or agricultural ditches; and impoundments). Habitat loss, modification, and fragmentation; reduced food base pose threats to this species.

The endangered red-cockaded woodpecker excavates nesting cavities in living, mature pine trees (60+ years old). A mated pair of birds and all helper birds form a group. A collection of cavity trees where the group nests and roosts is called a cluster. All cavity trees, active and inactive, are important to the group and should therefore be avoided. In addition, older (30+ years) pine stands within a half-mile of a colony should be considered suitable or potentially suitable foraging habitats and should not be adversely impacted without additional foraging habitat analysis.

### Consultation

The Endangered Species Act of 1973 was enacted to protect endangered and threatened species from becoming extinct. The provision under Section 7 requires Federal agencies to consult with the Service to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats. Section 9 of the Act prohibits anyone subject to the jurisdiction of the United States from "taking" a listed species without permission from the Secretary as defined through laws and regulations of the Act.

The Service recommends that the TVA contact the Service and the Mississippi Department of Wildlife, Fisheries, and Parks Natural Heritage Program (601-576-6000) for ESA section 7 consultation should the proposed action directly or indirectly affect threatened, endangered, or at-risk species or their habitat. Furthermore, Noxubee National Wildlife Refuge falls within the TVA service area in MS. Any activity proposed on lands managed by the National Wildlife Refuge (NWR) system must undergo a "Compatibility Determination" conducted by the Refuge. Please contact the individual Refuge to discuss any questions or concerns.

We look forward to working with you on this Project. If you have any questions, please contact Tamara Campbell in our office, telephone: (601) 321-1138, or visit our website at <http://www.fws.gov/mississippiES/>.

Sincerely,

---

James Austin  
Field Supervisor  
Mississippi Field Office

cc: MS Dept. of Wildlife, Fisheries, and Parks



*Commonwealth of Virginia*  
**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY**

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482 FAX (804) 698-4178

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

Travis A. Voyles  
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus  
Director  
(804) 698-4020

May 15, 2023

Elizabeth Smith  
NEPA Specialist, NEPA Program  
Tennessee Valley Authority  
400 West Summit Hill Drive  
WT-111b  
Knoxville, Tennessee 37902-1499  
[NEPA@tva.gov](mailto:NEPA@tva.gov)

RE: NEPA Scoping Response – Tennessee Valley Authority Solar and Battery Programmatic  
Environmental Impact Statement; Lee, Scott and Washington, Wise Counties, Virginia.

Dear Ms. Smith:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth.

**DOCUMENT SUBMISSIONS**

In order to ensure an effective coordinated review of the NEPA document, notification of the NEPA document documentation should be sent directly to OEIR. We request that you submit one electronic to [eir@deq.virginia.gov](mailto:eir@deq.virginia.gov) (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to [eir@deq.virginia.gov](mailto:eir@deq.virginia.gov)).

The NEPA document should include U.S. Geological Survey topographic. We strongly encourage you to issue shape files with the NEPA document. In addition, project details should be adequately described for the benefit of the reviewers.

**ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT:  
PROJECT SCOPING AND AGENCY INVOLVEMENT**

As you may know, NEPA (PL 91-190, 1969) and its implementing regulations (Title 40, *Code of Federal Regulations*, Parts 1500-1508) requires a draft and final Environmental Impact Statement (EIS) for federal activities or undertakings that are federally licensed or federally funded which will or may give rise to significant impacts upon the human environment. An EIS carries more stringent public participation requirements than an Environmental Assessment (EA) and provides more time and detail for comments and public decision-making. The possibility that an EIS may be required for the proposed project should not be overlooked in your planning for this project. Accordingly, we refer to “NEPA document” in the remainder of this letter.

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA document. Accordingly, we are providing notice of your scoping request to several state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office
- Air Division
- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation

Department of Health

Department of Agriculture and Consumer Services

Department of Wildlife Resources

Virginia Marine Resources Commission

Department of Historic Resources

Department of Mines, Minerals, and Energy (soon to be Virginia Energy)

Department of Forestry

Department of Transportation

#### DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:

- [www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx](http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx)

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

Virginia’s coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:

- <http://128.172.160.131/gems2/>

- MARCO Mid-Atlantic Ocean Data Portal



The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

<http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true>

- DHR Data Sharing System

Survey records in the DHR inventory:

- [www.dhr.virginia.gov/archives/data\\_sharing\\_sys.htm](http://www.dhr.virginia.gov/archives/data_sharing_sys.htm)

- DCR Natural Heritage Search

Produces lists of resources that occur in specific counties, watersheds or physiographic regions:

- [www.dcr.virginia.gov/natural\\_heritage/dbsearchtool.shtml](http://www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml)

- Wetland Condition Assessment Tool (WetCAT)

- <https://www.deq.virginia.gov/water/wetlands-streams/wetcat>

- DWR Fish and Wildlife Information Service

Information about Virginia's Wildlife resources:

- <http://vafwis.org/fwis/>

- Total Maximum Daily Loads Approved Reports

- <https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx>

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

- [www.epa.gov/superfund/sites/cursites/index.htm](http://www.epa.gov/superfund/sites/cursites/index.htm)

- EPA RCRAInfo Search

Information on hazardous waste facilities:

- [www.epa.gov/enviro/facts/rcrainfo/search.html](http://www.epa.gov/enviro/facts/rcrainfo/search.html)

- EPA Envirofacts Database

EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:

- [www.epa.gov/enviro/index.html](http://www.epa.gov/enviro/index.html)
- EPA NEPAAssist Database

Facilitates the environmental review process and project planning:  
<http://nepaassisttool.epa.gov/nepaassist/entry.aspx>

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 659-1915 or e-mail [bettina.rayfield@deq.virginia.gov](mailto:bettina.rayfield@deq.virginia.gov)).

I hope this information is helpful to you.

Sincerely,

A handwritten signature in black ink, appearing to read "Bettina Rayfield". The signature is fluid and cursive, with the first name "Bettina" and last name "Rayfield" clearly distinguishable.

Bettina Rayfield, Program Manager  
Environmental Impact Review and  
Long-Range Priorities



**From:** [Farmer, Samantha \(VDOT\)](#)  
**To:** [nepa](#)  
**Cc:** [Environmental Impact Review \(DEO\)](#); [Ailor, Blake, AICP \(VDOT\)](#); [Heath, Pamela, P.E. \(VDOT\)](#); [Harrison, Jeff W \(VDOT\)](#); [Mullins, Joseph \(VDOT\)](#); [Sumpter, Allan D \(VDOT\)](#)  
**Subject:** TVA Solar and Battery Storage PEIS Scoping Request Comments  
**Date:** Tuesday, June 13, 2023 8:54:20 AM  
**Attachments:** [image001.png](#)

**This is an EXTERNAL EMAIL from outside TVA. THINK BEFORE you CLICK links or OPEN attachments. If suspicious, please click the "Report Phishing" button located on the Outlook Toolbar at the top of your screen.**

Good morning,

The Virginia Department of Transportation Planning and Investment Management Division has reviewed the information attached in an email related to the TVA Solar and Battery Storage PEIS scoping request.

Our Abingdon Residency offered the following comments:

- For a permitted connection to a state-maintained roadway, the proposed entrance for the site must meet current VDOT access management requirements and current commercial entrance design requirements (please refer to Appendix F of the VDOT Road Design Manual)
- Drainage plans must be provided for review and approval
- If the plan and calculation submittal meet current VDOT standards, a commercial entrance permit can be issued

Our Wise Residency echoed those comments, while offering one more:

- For any proposed facilities or entrances that will be on VDOT right of way, plans will need to be submitted for review and approved in order to obtain a VDOT Land Use Permit

Please coordinate often throughout any project development with Ms. Pam Heath at the Abingdon Residency and Mr. Joey Mullins at the Wise Residency (both are Ccd on this email). Please let me know if you have any questions.

Thank you,



**Samantha Farmer**  
*Planning Specialist / Bristol District*  
Virginia Department of Transportation  
Office: 276-696-3280  
Cell: 276-268-0576  
[Samantha.Farmer@VDOT.Virginia.gov](mailto:Samantha.Farmer@VDOT.Virginia.gov)



P.O. Box 571  
Jackson, MS 39205-0571  
601-576-6850  
mdah.ms.gov

---

June 16, 2023

Ms. Elizabeth Smith  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

RE: Solar and Battery Programmatic Environmental Impact Statement, (TVA) MDAH  
Project Log #06-055-23, Multiple Counties

Dear Ms. Smith:

We have reviewed your May 19, 2023, programmatic environmental impact statement for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

After review, it is our determination that solar and battery projects are likely to affect historic resources in Mississippi. The Mississippi Department of Archives and History, in its roles as State Historic Preservation Office, respectfully requests to participate as a participating agency as the PEIS is developed.

If you have any questions, please do not hesitate to contact us at (601) 576-6940.

Sincerely,

Amy D. Myers  
Preservation Planning Administrator

FOR: Katie Blount  
State Historic Preservation Officer

**From:** [Ben Bolton](#)  
**To:** [nepa](#)  
**Cc:** [Smith, Elizabeth](#)  
**Subject:** RE: TDEC Comments on TVA Solar and Battery Programmatic Environmental Impact Statement  
**Date:** Wednesday, May 17, 2023 10:13:21 AM  
**Attachments:** [image001.png](#)

**This is an EXTERNAL EMAIL from outside TVA. THINK BEFORE you CLICK links or OPEN attachments. If suspicious, please click the "Report Phishing" button located on the Outlook Toolbar at the top of your screen.**

Concerning the TVA Solar and Battery Programmatic Environmental Impact Statement (EIS):

*The Tennessee Department of Environment and Conservation (TDEC) acknowledges that there is limited detail available in the Notice of Intent and plans to submit additional, detailed comments on planned activities upon release of a Draft EIS. TDEC encourages the TVA to consult with relevant local parties for actions which might be subject to local agency approval. The TDEC Office of Energy Programs (OEP) is encouraged by TVA's intent to diversify its generation portfolio and resilience with more battery storage, solar, and pumped storage as these additions will increase overall energy security within Tennessee. OEP encourages TVA to address battery reuse and disposal as part of its long-term programmatic concerns.*

Respectfully submitted,

Ben Bolton



**Ben Bolton, NEMAA** | Senior Energy Programs Administrator  
Emergency Services Coordinator 12 for Energy  
Office of Energy Programs



ANDY BESHEAR  
GOVERNOR

**ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601  
TELEPHONE: 502-564-2150  
TELEFAX: 502-564-4245

REBECCA W. GOODMAN  
SECRETARY

ANTHONY R. HATTON  
COMMISSIONER

July 28, 2023

TVA  
400 W Summit Hill Dr.  
Knoxville, TN 37902

RE: Solar and Battery Programmatic Environmental Impact Statement (NEPA 2023-37)

Dear Sir or Madam,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection (DEP) coordinates the review for Kentucky state agencies. We received your letter requesting an environmental review for this project. We have reviewed the document and provided comments below.

**Division of Enforcement**

The Division of Enforcement does not have any objections to this project. TVA is proposing to prepare a Programmatic Environmental Impact Statement (PEIS) to develop guidance to use in its decision-making process for the development of its solar energy and battery energy storage capacity. This proposal invites public input on the scope of the PEIS.

**Division of Water**

**Water Quality Branch**

Comment: The applicant should consult 401 KAR 10:026 to determine whether any alternative would impact Cold Water Aquatic Habitats or Outstanding State Resource Waters. If so, 401 KAR 10:031 Section 4(2) and Section 8 specify additional surface water criteria for these waters. In addition, best management practices should be utilized to reduce runoff from any project activities into nearby waters.

Questions should be directed to Andrea Fredenburg, (502) 782-6950,  
[Andrea.Fredenburg@ky.gov](mailto:Andrea.Fredenburg@ky.gov).

**Field Operations Branch**

An Equal Opportunity Employer M/F/D

Comment: 1) Developers would need to submit a Notice of Intent (NOI) for a KPDES General Stormwater Construction Activities and receive approval from DOW before implementing construction.

2) Construction plans would need to include development of a SWPPP (Stormwater Pollution Prevention Plan) applicable to the site and install/maintain proper Best Management Practices (BMPs) within the project area and throughout the duration of project to ensure protection of surface waters.

3) Ensure pre-dig planning of markup of all drinking water and wastewater collection system lines to ensure service lines are not damaged or services disrupted during the construction.

4) For work along or across the stream: Floodplain construction approval will need to be determined through DOW's Water Resources Branch.

5) For work along or across the stream: Developers to obtain a 404 Water Quality Certification approval through the USACE and 401 Water Quality Certification through KY Division of Water.

Questions should be directed to Constance Coy, (502) 782-6587, [Constance.Coy@ky.gov](mailto:Constance.Coy@ky.gov).

#### Watershed Management Branch

##### Water Supply Section:

Comment: This proposed project may be within designated Source Water Protection Area(s). Source Water Protection should include best management practices or BMP's that prevent, reduce, or eliminate storm water runoff, soil erosion, and movement of nutrients, bacteria, and contaminants into unprotected waterways that may pose threats to public drinking water supplies. It should also include contingency planning strategies if protective measures fail or accidents and/or disasters occur and emergency response planning for water supply contamination or service interruption. Examples can be referenced here:

<https://www.epa.gov/sourcewaterprotection/source-water-protection-practices> or <https://eec.ky.gov/Environmental-Protection/Water/Protection/Pages/SWP.aspx>

This proposed project may be within a designated Wellhead Protection Area(s).

Wellhead Protection should include best management practices or BMP's that prevent potential groundwater contamination and ensure good water quality. It should include proper storage, handling, application, and disposal of liquid, solid, and hazardous household, commercial, agricultural, or industrial substances. Examples can be referenced here:

<https://eec.ky.gov/Environmental-Protection/Water/Protection/Pages/SWP.aspx> or [https://www3.epa.gov/region1/eco/drinkwater/pc\\_wellhead\\_protection.html](https://www3.epa.gov/region1/eco/drinkwater/pc_wellhead_protection.html)

Questions should be directed to Chip Zimmer at (502) 782-7141, [Edward.Zimmer@ky.gov](mailto:Edward.Zimmer@ky.gov).

##### Groundwater Section:

Comment: There are no permits, certifications or formal approvals need for the description of work from the Groundwater Section of the Watershed Management Branch. However, it is our recommendation that site be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area during both construction and in operation if necessary.

Questions should be directed to Bronson McQueen at (502) 782-6036, [Bronson.McQueen@ky.gov](mailto:Bronson.McQueen@ky.gov).

#### Water Resources Branch



Floodplain Management Section:

Comment: Portions of the project in the regulated floodplain will require permitting from the Division of Water, Water Resources Branch.

You can check <https://watermaps.ky.gov/RiskPortal/> to determine if your site is located in the 1% chance floodplain (shown in Blue or Blue/Red on the map). You can use the search bar in the top right corner of the page to find your location using either a Latitude & Longitude, street address, or community name.

The Floodplain General Permit (GP) covers projects that have little potential to impact regulatory base flood elevation. If the GP applies to your project, no application or public notice is required. The GP does have conditions, requirements, and exclusions listed so be sure your project can meet all these prior to the start of development. The most common activities covered by the GP include:

- Underground utilities only with no ground surface elevation changes, where stream crossings, if any, are completed by directional boring; or
- Installation of utility poles; or
- Installation of fences that do not obstruct water flow; or
- Stream obstruction removals of items such as woody debris from near bridges and culverts.

#### **Division of Waste Management**

Based on the information provided by the applicant for this project:

Any questions pertaining to Kentucky requirements or information related to solar and battery storage facilities should be directed to the Office of Energy Policy and the Public Service Commission.

TVA did not include any maps or locations for the Kentucky solar and battery sites for review.

All solid waste generated by this project must be disposed of at a permitted facility.

If asbestos, lead paint and/or other contaminants are encountered during this project contact the Division of Waste Management for proper disposal and closure.

Please keep in mind that locations of releases, potential contamination or waste facilities may be present but unknown to the agency. Therefore, it is recommended that appropriate precautions be taken during construction activities. Please report any evidence of illegal waste disposal facilities and releases of hazardous substances, pollutants, contaminants or petroleum to the 24-hour Environmental Response Team at 1-800-928-2380.

#### **Division for Air Quality**

The Division for Air Quality does not have any comments relative to this proposal.

#### **Kentucky Nature Preserves**

Your project might have the potential of impacting federally or state listed species and natural communities. Go to the Kentucky Biological Assessment Tool ([kynaturepreserves.org](http://kynaturepreserves.org)) to obtain a Standard Occurrence Report for information regarding listed species known within your project area. The report will also provide information on public and private conservation lands, areas of biodiversity significance, and other natural resources in your project area for which the Office of Kentucky Nature Preserves maintains data.

This review is based upon the information that was provided by the applicant. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments. If you should have any questions, please contact me at (502) 782-0863 or e-mail [Louanna.Aldridge@ky.gov](mailto:Louanna.Aldridge@ky.gov).

Sincerely,



Louanna Aldridge  
Environmental Scientist Consultant Sr.  
Office of the Commissioner  
Department for Environmental Protection  
Energy and Environment Cabinet

June 20, 2023

**VIA EMAIL TO:**

Elizabeth Smith  
NEPA Compliance Specialist  
400 West Summit Hill Dr., WT 11B,  
Knoxville, TN 37902-1499  
NEPA@tva.gov

**Re: Scoping Comments, TVA's Proposed Solar and Battery  
Programmatic Environmental Impact Statement**

Dear Ms. Smith:

On behalf of Appalachian Voices, Energy Alabama, Center for Biological Diversity, and the Sierra Club, the Southern Environmental Law Center submits these comments on TVA's notice of intent to prepare a programmatic environmental impact study ("EIS") to develop new guidance and a bounding analysis that will further facilitate solar energy and battery energy storage development on TVA-owned and private lands within the TVA service area.<sup>1</sup>

As a federal agency, the largest public utility in the nation, and a major source of greenhouse gas emissions, TVA is well positioned to lead the national response to the climate crisis. President Biden has made achieving "a carbon pollution-free electricity sector no later than 2035" an urgent national priority and has ordered all federal agencies "to *immediately* commence work to confront the climate crisis."<sup>2</sup> Prioritizing carbon-free alternatives to coal and gas-fired generation, such as solar and battery storage, is essential to achieving this national climate goal.

TVA cannot achieve the President's climate mandate with new gas-fired generation that contributes to the climate-related harm already affecting public health, biodiversity, and economic productivity across the South. Therefore, we urge the utility to use the proposed programmatic environmental analysis to:

---

<sup>1</sup> Notice of Intent, Solar and Battery Programmatic Environmental Impact Statement, 88 Fed. Reg. 32,270 (May 19, 2023).

<sup>2</sup> Exec. Order No. 14008, 86 Fed. Reg. 7619, 7624 (Feb. 1, 2021); Exec. Order 13990, 86 Fed. Reg. 7037, 7037 (Jan. 25, 2021) (emphasis added).



*Conservation Groups' Comments on Solar and Storage Programmatic EIS*

- Consider TVA's solar and battery storage projects in the broader context of the utility's proposed energy buildout by: (a) evaluating solar and storage as substitutes for alternative resources, (b) discussing the transmission-related needs for the utility's anticipated energy system buildout, and (c) disclosing the impacts associated with its current solar and storage assets.
- Consider solar and battery storage projects in the context of TVA's and the federal government's decarbonization goals.
- Fully consider and minimize the site-specific impacts of future proposed solar and storage projects using low-impact siting principles.

TVA must seize this opportunity to fulfill its statutory mission to be “a national leader in technological innovation, low-cost power, and environmental stewardship.”<sup>3</sup>

**1. TVA must fairly consider solar and storage as substitutes for alternative resources.**

TVA must evaluate solar and storage as alternatives to other resources in its energy portfolio. Under NEPA, a federal agency must evaluate reasonable “alternatives to the proposed action” in an EIS.<sup>4</sup> The agency must “[d]iscuss each alternative considered in detail, including the proposed action, so that reviewers may evaluate their comparative merits.”<sup>5</sup>

Analyzing how solar and storage substitute for other resources enables TVA to accurately compare the alternatives' impacts. For example, solar and storage can substitute for higher-emitting resources, including coal and gas plants. An accurate comparison of the alternatives would demonstrate that solar and storage significantly reduce lifecycle greenhouse gas emissions.

To date, TVA has never displaced fossil fuel generation with new solar and storage generation. At times, TVA refuses to even consider solar and storage as an alternative to fossil fuels.<sup>6</sup> TVA has dismissed solar and storage as incapable of “provid[ing] firm, dispatchable generation needed to meet

---

<sup>3</sup> 16 U.S.C. § 831a(b)(5).

<sup>4</sup> 42 U.S.C. § 4332(C)(iii).

<sup>5</sup> 40 C.F.R. § 1502.14(b).

<sup>6</sup> *See, e.g.*, TVA, Paradise and Colbert Combustion Turbine Plants Draft Environmental Assessment (Feb. 2021) (considering gas-fired units as the only action alternative); TVA, Johnsonville Aeroderivative Combustion Turbine Project Final Environmental Assessment (July 2022) (same).

year-round generation needs.”<sup>7</sup> TVA has reached this conclusion based on flawed and outdated assumptions about the costs, feasibility, and reliability of solar and storage.<sup>8</sup> TVA must conduct new and revised analysis on the following topics:

- **Cost:** TVA must transparently account for Inflation Reduction Act benefits,<sup>9</sup> the Social Costs of Greenhouse Gases,<sup>10</sup> the environmental compliance costs of greenhouse gas mitigation for fossil resources,<sup>11</sup> the value of fuel cost mitigation, as well as the ancillary grid services battery storage provides.<sup>12</sup>
- **Capacity Factors:** TVA must apply updated capacity factors to reflect the recent and anticipated performance of solar and storage facilities. To date, TVA has deflated the capacity factors of solar and storage while inflating the capacity factors of gas- and coal-fired generation, skewing the projects' relative costs.<sup>13</sup>
- **Resilience:** TVA must reassess the reliability and resilience of solar and storage. TVA has continually characterized gas-fired generation as resilient and clean energy resources as unreliable. TVA's rolling blackouts during Winter Storm Elliott told another story. Two coal

---

<sup>7</sup> TVA, Cumberland Fossil Plant Retirement Final Environmental Impact Statement 57 (Dec. 2022).

<sup>8</sup> See generally Michael Goggin, Grid Strategies, LLC, Critique of TVA's Alternatives Analysis in the Utility's "Cumberland Fossil Plant Retirement, Draft Environmental Impact Statement" (June 13, 2022) (on file with the agency) [Goggin Report].

<sup>9</sup> See Department of the Treasury, Section 6417 Elective Payment of Applicable Credits (June 14, 2023), <https://home.treasury.gov/news/press-releases/jy1533> (draft guidance on "direct pay" of Inflation Reduction Act benefits).

<sup>10</sup> Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7037, 7040 (Jan. 25, 2021) ("It is essential that agencies capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account.").

<sup>11</sup> EPA, New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 88 Fed. Reg. 33240 (May 23, 2023).

<sup>12</sup> See Comments of Southern Environmental Law Center et al. on TVA's Draft Environmental Impact Statement for the Cumberland Fossil Plant Retirement 23–24 (June 13, 2022) (on file with the agency).

<sup>13</sup> Goggin Report at 7–13.

plants and one-third of TVA's gas units failed.<sup>14</sup> Solar and storage performed as expected, including during the blackout periods.<sup>15</sup>

- **Solar Integration:** TVA should consider the role storage can play in its current plans to reach 10,000 MW of solar by 2035. TVA has repeatedly justified building new gas plants by citing the need to integrate 10,000 MW of solar.<sup>16</sup> TVA must analyze whether storage can *better* integrate solar. Not only does storage exceed gas plants' flexibility, but storage can use excess solar to charge, avoiding the need to curtail excess renewables.
- **Clean Energy Portfolio:** The costs and reliability of solar and storage only improve when they are part of a portfolio of clean energy resources. Wind and solar have complementary generation patterns, and co-locating solar and wind effectively reduces the total amount of land required for new energy projects.<sup>17</sup> Energy efficiency and demand response would help TVA meet peak demand cost effectively without building additional facilities at all. Replacing coal and gas plants with a clean energy portfolio would provide clean, reliable energy while saving ratepayers billions of dollars.<sup>18</sup> When faced with the need to add generation and capacity, TVA should consider a clean energy portfolio of solar, storage, wind, demand response, and energy efficiency.
- **Transmission Costs:** Solar and storage additions may require new transmission investments. TVA should accurately assess the costs and feasibility of these investments. Solar and storage are highly modular, and their distance from existing transmission infrastructure can be a significant factor in their costs. TVA should consider strategically siting solar and storage to minimize transmission costs, including potentially siting solar on TVA's existing power plant sites and other TVA public lands.

---

<sup>14</sup> See generally TVA, After Action Report: Winter Storm Elliott (May 2023).

<sup>15</sup> Robert Zullo, Tennessee Lookout, How Did Renewables Fare During Winter Storm Elliott (Jan. 31, 2023), <https://tennesseelookout.com/2023/01/31/how-did-renewables-fare-during-winter-storm-elliott/>.

<sup>16</sup> Cumberland Fossil Plant Retirement, Final EIS ii; Johnsonville Aeroderivative Combustion Turbines Project, Final Environmental Assessment 1 (July 2022).

<sup>17</sup> The Nature Conservancy, Power of Place National Report 13 (2023), <https://bit.ly/42M0MnN>.

<sup>18</sup> Pat Knight et al., TVA's Clean Energy Future (March 8, 2023), <https://biologicaldiversity.org/w/news/press-releases/report-tva-clean-energy-transition-could-create-jobs-save-billions-2023-03-08/>.

- **Transmission Planning:** TVA should consider the need to proactively plan for greater investments in interregional transmission. The Department of Energy has found the need for substantial improvements in interregional transmission transfer capacity between TVA and its neighbors.<sup>19</sup> Investments in transmission are particularly helpful in integrating renewables, creating a grid that is larger than the weather. During Winter Storm Elliott, neighboring utilities curtailed approximately 3 GW of wind, partly due to a lack of interregional transmission capacity.<sup>20</sup>

To fairly consider solar and storage as an alternative to other resources, TVA must correct these flaws in this Programmatic EIS, as well as in the 2024 IRP.

**2. TVA must disclose and evaluate the cumulative impacts of current solar and storage assets.**

We support TVA's aim to efficiently expand solar energy and storage throughout its service area. Investing in solar energy and storage projects is essential to meeting decarbonization goals and will increase reliability and flexibility in the utility's system. TVA's scoping notice provides that "[a]s of April 2023, TVA currently has over 2,900 MW of solar capacity both operating and contracted" and that the utility has an expansion target of 10,000 MW by 2035.<sup>21</sup> This combined capacity estimate does not provide an accurate representation of utility's ability to meet current consumer demand.

According to TVA's most recent 10-K filing, TVA has 791 MW of operating purchased solar power.<sup>22</sup> Unlike the utility's *operating* solar capacity, TVA's contracted capacity is not in service. TVA's solar commitments do not contribute to its 10,000 MW solar expansion target until they are placed in service and could be anywhere from pre-permitting to late-stage construction. Moreover, according to TVA's 2022 Sustainability Report, over 2,200 MW of TVA's combined capacity has been contracted to business, industrial, and organizational customers through the Green Invest

---

<sup>19</sup> Department of Energy, National Transmission Needs Study xiii (Feb. 2023), <https://www.energy.gov/gdo/national-transmission-needs-study>.

<sup>20</sup> Ashtin Massie & Sarah Toth, RMI, Wasted Wind and Tenable Transmission During Winter Storm Elliott (Feb. 16, 2023), <https://rmi.org/wasted-wind-and-tenable-transmission-during-winter-storm-elliott/>.

<sup>21</sup> 88 Fed. Reg. at 32,271.

<sup>22</sup> TVA 2022 10-K, p. 16, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001376986/574e35a2-afc6-4906-9f57-2ad7bdad3c52.pdf>.



program.<sup>23</sup> TVA's end-use customers do not directly receive the full benefit from the solar energy produced by these facilities but bear the burden of any associated impacts.

NEPA requires TVA to include within the scope of the EIS any cumulative actions, as well as cumulative impacts associated with the proposed action.<sup>24</sup> A federal entity must do more than "just catalogue 'relevant past projects in the area.'"<sup>25</sup> TVA must be clear which solar projects are already considered part of its target 10,000 MW and why. In its Cumberland gas plant analysis, TVA stated, without explanation, that any new storage to substitute for the retiring coal plant would be "in addition" to TVA's "current plans" for 10,000 MW, straining TVA's capacity to add solar.<sup>26</sup> TVA must address which solar projects are or will be part of its 10,000 MW goal and why.

To fully inform the public and comply with NEPA, TVA must provide a detailed disclosure and cumulative analysis of its current operating and contracted solar assets. This analysis must evaluate operating and contracted capacity separately and, at a minimum, address estimated generating capacity, ownership of energy output, ownership of renewable energy credits (RECs), and date placed or anticipated to be placed in service.

**3. TVA must fully consider and minimize the site-specific impacts of future proposed solar and storage projects.**

TVA's proposed programmatic approach will help the utility establish a standardized process for identifying and reviewing sites where solar energy and battery storage can be prioritized. We encourage TVA to use this opportunity to lead by example and prioritize projects that minimize land disturbance and other environmental impacts. This should include siting projects on or near existing infrastructure and on properly managed EPA RE-Powering sites, such as abandoned mines.<sup>27</sup> TVA should also explore whether it is feasible to deploy floating solar on any of its 470,000 acres of inundated

---

<sup>23</sup> TVA, FY 2022 Sustainability Report 28 (May 10, 2023).

<sup>24</sup> 40 C.F.R. § 1508.25(a)(2); (c).

<sup>25</sup> *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 972 (9th Cir. 2006).

<sup>26</sup> Cumberland Final EIS at 53.

<sup>27</sup> U.S. Env't Prot. Agency, *How to Identify Sites*, EPA (May 12, 2023), <https://www.epa.gov/re-powering/how-identify-sites>.

reservoir property.<sup>28</sup> Additionally, TVA should consider policy changes that reduce land-use impacts and increase community resilience, such as opening up its policies on distribution-level projects, including local power company flexibility and rooftop solar.

With that said, we urge TVA to require strong avoidance, minimization, and mitigation measures.<sup>29</sup> Such protective measures are not only good practice, but also necessary given the programmatic nature of TVA's proposed approach. A programmatic EIS cannot meaningfully evaluate or publicly disclose the site-specific impacts associated with "the growing number of solar and storage projects" that will be required to meet TVA's 10,000 MW solar expansion target.<sup>30</sup>

Under NEPA, TVA must analyze impacts to at least the following environmental factors at the individual, site-specific level:

- water resources (groundwater, surface water, aquatic ecology);
- wetlands and floodplains;
- vegetation and wildlife;
- land use and prime farmlands;
- solid and hazardous waste;
- parks, managed areas, and ecologically significant sites;
- cultural resources;
- local infrastructure; and
- socioeconomics and environmental justice.

TVA's proposed programmatic approach must analyze the above factors programmatically and cumulatively. Subsequent analysis will be required to address the site-specific impacts of proposed projects on affected communities. To the extent that TVA proposes to "tier" site-specific analysis from the proposed Programmatic EIS, such tiering should not allow the

---

<sup>28</sup> See generally Robert S. Spencer et al., *Floating Photovoltaic Systems: Assessing the Technical Potential of Photovoltaic Systems on Man-Made Water Bodies in the Continental United States*, 53 Env't Sci. Tech. 1680 (2019); TVA, 2020 Natural Resource Plan 32.

<sup>29</sup> See, e.g., The Nature Conservancy, *supra* note 11; U.S. Dep't of Energy, DE-FOA-0002583, Solar Impacts on Wildlife and Ecosystems: Request for Information Response Summary (Nov. 2021), <https://bit.ly/4416rr0>; Chong Seok Choi et al., *Environmental Co-benefits of Maintaining Native Vegetation with Solar Photovoltaic Infrastructure*, *Earth's Future* 11(6) (2023); Jordan Macknick et al., NREL/TP-6A20-60240, Overview of Opportunities for Co-Location of Solar Energy Technologies and Vegetation (Dec. 2013), <https://bit.ly/465VYMO>.

<sup>30</sup> 88 Fed. Reg. at 32,270.

*Conservation Groups' Comments on Solar and Storage Programmatic EIS*

utility to obscure the extent of site-specific environmental impacts or to artificially narrow the alternatives available during site-specific analysis.<sup>31</sup>

Site-specific impacts are impossible to evaluate in the abstract. TVA's proposed "bounding" analysis may be useful in establishing efficient, non-site-specific review standards, but potentially affected communities deserve to know about the specific impacts that may occur where they live and work. People of color and low-wealth communities often bear a disproportionate burden of environmental hazards and unwanted land uses.<sup>32</sup> Confronting this legacy is a priority of the federal government.<sup>33</sup> TVA cannot analyze environmental justice impacts without considering the unique histories and burdens of real communities. TVA must follow best practices in community engagement and maximize the local economic impact of those 10,000 MW of solar projects. While we recognize that some projects will not require a full NEPA review, we urge TVA to honor its commitment to environment justice and provide the public with a meaningful opportunity to engage before project level decisions are made.

Thank you for your consideration of our comments. Please contact us if we can answer any questions.

Sincerely,

---

<sup>31</sup> *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). ("The critical inquiry in considering the adequacy of an EIS prepared for a large scale, multi-step project is not whether the project's site-specific impact should be evaluated in detail, but when such detailed evaluation should occur."); *id.* at 763 ("The promise of site-specific EIS's [sic] in the future is meaningless if later analysis cannot consider wilderness preservation as an alternative to development.").

<sup>32</sup> *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 87 (4th Cir. 2020) (quoting Nicky Sheats, *Achieving Emissions Reductions for Environmental Justice Communities Through Climate Change Mitigation Policy*, 41 Wm. & Mary Env't L. & Pol'y Rev. 377, 382 (2017) ("There is evidence that a disproportionate number of environmental hazards, polluting facilities, and other unwanted land uses are located in communities of color and low-income communities.")).

<sup>33</sup> 86 Fed. Reg. at 7629 ("To secure an equitable economic future, the United States must ensure that environmental and economic justice are key considerations in how we govern.").

*Conservation Groups' Comments on Solar and Storage Programmatic EIS*

Emma Wellbaum  
Southern Environmental Law Center  
601 Rosemary Street, Suite 220  
Chapel Hill, NC 27516  
[ewellbaum@selcnc.org](mailto:ewellbaum@selcnc.org)

Trey Bussey  
Southern Environmental Law Center  
1033 Demonbreun Street, Suite 205  
Nashville, TN 37203  
[tbussey@selctn.org](mailto:tbussey@selctn.org)

Amy Kelly  
Sierra Club  
PO Box 113  
Powell, TN 37849  
(423) 398-3506  
[amy.kelly@sierraclub.org](mailto:amy.kelly@sierraclub.org)

Matt Wasson  
Appalachian Voices  
589 West King Street  
Boone, NC 28607  
(865) 219-3225  
[matt@appvoices.org](mailto:matt@appvoices.org)

Daniel Tait  
Energy Alabama  
PO Box 1381  
Huntsville, AL 35807  
[dtait@energyalabama.org](mailto:dtait@energyalabama.org)

Gaby Sarri-Tobar  
Center for Biological Diversity  
1411 K St. NW, Suite 1300  
Washington, DC 20005  
[gsarritobar@biologicaldiversity.org](mailto:gsarritobar@biologicaldiversity.org)





June 20, 2023

Elizabeth Smith,  
NEPA Compliance Specialist,  
Tennessee Valley Authority  
400 West Summit Hill Dr., WT 11B, Knoxville,  
TN 37902-1499

via email to [NEPA@TVA.org](mailto:NEPA@TVA.org) and [tva.gov/NEPA](http://tva.gov/NEPA)

**Re: Scoping On TVA's Solar and Storage Programmatic Environmental Impact Statement**

Dear Ms. Smith,

On behalf of the Center for Biological Diversity ("Center"), we submit these scoping comments on the Tennessee Valley Authority's ("TVA") Solar and Storage Programmatic Environmental Impact Statement ("PEIS"). The Center is a national, non-profit conservation organization with more than 1.7 million members and online activists, including approximately 9,000 living in states served by TVA, who care about the country's urgent need to expedite the renewable energy transition and protect human health, the natural environment, and species from the ravages of the climate emergency, extinction crisis, and environmental degradation.

At the outset, we reiterate the concerns raised in the June 12, 2023 letter from the Southern Environmental Law Center, in which six separate conservation groups noted that TVA has stacked numerous public comment periods on top of each other, undermining the public's ability to meaningfully engage in TVA's decision-making, and fundamentally undermining the purpose of NEPA to allow agencies to incorporate public comment into their decisions. With each of these actions, TVA loses more credibility and impairs its relationship with those in the best position to help TVA make better decisions.

Because we are currently focused on separate scoping comments for the new IRP, which are due soon, we will be submitting short comments here. Nonetheless, we stress that TVA has an obligation under NEPA and the TVA Act to closely examine the manner in which it could meet three vital goals at the same time by focusing on the buildout of distributed energy resources (DER): (1) increasing resilience and reliability through local energy control; (2) decarbonization; and (3) affordability. Specific pathways for TVA to accomplish these objectives are detailed in the recently released Study entitled *TVA's Clean Energy Future: Charting a course to decarbonization in the Tennessee Valley*. ("TVA Clean Energy Future Report").<sup>1</sup> This Study should be fully considered in evaluating alternatives as part of the Solar and Storage PEIS.

---

<sup>1</sup> The full Study is available at the following URL, and is incorporated here by reference:  
<https://www.biologicaldiversity.org/programs/energy-justice/pdfs/TVAs-Clean-Energy-Future.pdf>. The

The Scoping Notice states that, for the Solar and Storage PEIS, TVA is “particularly interested in public input on other reasonable alternatives that should be considered.” 97 Fed. Reg. 32,270, 32,2721 (2023). However, before cabining reasonable alternatives, TVA must properly define the *purpose and need* for what it is doing here. If the purpose is defined as simply facilitating large-scale solar and storage projects, TVA is likely to refuse to consider DER approaches on the grounds that they are not relevant to TVA’s purpose. On the other hand, if TVA properly defines the purpose as how to most effectively decarbonize while meeting the needs to the communities it serves, it will fully evaluate DER-related alternatives and other measures detailed in the *TVA Clean Energy Future Report*. This would include, *e.g.*, energy efficiency initiatives; rooftop and community solar projects; microgrids; demand-response measures; and beneficial electrification to move communities away from dirty fossil fuels.

The Scoping Notice also states that TVA’s analysis is intended to minimize the potential adverse impacts of large-scale solar and storage projects, and specifically references TVA’s Biodiversity Policy, which seeks to “[m]inimize the adverse impact of TVA operations on biodiversity and ecosystems, including by protecting endangered species.”<sup>2</sup> However, only by evaluating DERs and related initiatives in the PEIS will TVA be able to *compare* the environmental impacts of decarbonizing in this manner with the impacts associated with large-scale renewable energy projects. Indeed, it is well-recognized that, unless properly sited, large scale renewable energy projects can have significant and unnecessary adverse impacts on species and habitats.<sup>3</sup>

For all these reasons, we urge TVA to expand the scope of its Solar and Battery PEIS to encompass the full range of potential actions identified in the *TVA Clean Energy Future Report*, and to fully and fairly evaluate how TVA can best accomplish decarbonization goals while also maximizing local control of energy needs, local energy resilience, and savings for TVA’s millions of customers.

///

---

accompanying *Policy Brief* is available here: [https://www.biologicaldiversity.org/programs/energy-justice/pdfs/TVA-Clean-Energy-Roadmap\\_Policy-Brief.pdf](https://www.biologicaldiversity.org/programs/energy-justice/pdfs/TVA-Clean-Energy-Roadmap_Policy-Brief.pdf).

<sup>2</sup> See *TVA Biodiversity Policy*, [https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/about-tva/board-of-directors/november-10-2021/tva-biodiversity-policy5756e37a-f416-40d6-ba04-d5c962f933a2.pdf?sfvrsn=48370c02\\_3](https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/about-tva/board-of-directors/november-10-2021/tva-biodiversity-policy5756e37a-f416-40d6-ba04-d5c962f933a2.pdf?sfvrsn=48370c02_3).

<sup>3</sup> See, *e.g.* Michael F. Allen, G. Darrel Jenerette, and Louis E. Santiago, *Carbon Balance in California Desert: Impacts of Widespread Solar Power Generation*, California Energy Commission (2013), [https://www.mdt.org/wp-content/uploads/2016/11/CC-3\\_CEC-carbon-balance-in-cal-desert.pdf](https://www.mdt.org/wp-content/uploads/2016/11/CC-3_CEC-carbon-balance-in-cal-desert.pdf); R. R. Hernandez, *et al.*, *Environmental Impacts of Utility-Scale Solar Energy*, 29 Renewable and Sustainable Energy Rev. 766–79 (2014) <https://doi.org/10.1016/j.rser.2013.08.041>; Damon Turney, and Vasilis Fthenakis, *Environmental Impacts from the Installation and Operation of Large-Scale Solar Power Plants*, 15.6 Renewable and Sustainable Energy Rev. 3261, 3261–70, (2011) <https://doi.org/10.1016/j.rser.2011.04.023>.

CENTER FOR BIOLOGICAL DIVERSITY  
Scoping Comments re TVA Solar and Storage PEIS  
June 20, 2023  
Page 3

\* \* \*

TVA's PEIS on Solar and Storage can be a positive development, but only if TVA properly defines its purpose and meaningfully addresses reasonable alternatives. We look forward to reviewing and commenting on TVA's Draft PEIS.

Sincerely yours,

**CENTER FOR BIOLOGICAL DIVERSITY**

/s/ Howard Crystal  
Howard Crystal  
Senior Attorney  
1411 K Street NW, Suite 1300  
Washington, DC 20005  
[hcrystal@biologicaldiversity.org](mailto:hcrystal@biologicaldiversity.org)  
(202) 809-6926

/s/ Gaby Sarri-Tobar  
Gaby Sarri-Tobar  
Energy Justice Campaigner  
1411 K Street NW, Suite 1300  
Washington, DC 20005  
[gsarritobar@biologicaldiversity.org](mailto:gsarritobar@biologicaldiversity.org)  
(240) 462-5461

**From:** [Wufoo](#)  
**To:** [nepa](#)  
**Subject:** TVA Solar and Battery PEIS [#3]  
**Date:** Monday, June 5, 2023 7:59:29 AM

**This is an EXTERNAL EMAIL from outside TVA. THINK BEFORE you CLICK links or OPEN attachments. If suspicious, please click the “Report Phishing” button located on the Outlook Toolbar at the top of your screen.**

Name	Ruth Anna Black
City	Cookeville
State	Tennessee
Email	<a href="mailto:rablolly5@gmail.com">rablolly5@gmail.com</a>
Phone Number	(931) 268-2592

Please provide your comments by uploading a file or by entering them below. \*

Please make this proposal a priority. TVA is so very far behind on renewable energy resources for our area. Time and money MUST be invested in the future of energy production, which is not gas or oil. I applaud your thinking on this project and ask you to PLEASE move forward with this and other renewable energy projects.