

**Appendix C – TVA’s Bat Strategy Project Screening Form and U.S
Fish and Wildlife Service Notification**

From: [Hamrick, Elizabeth Burton](#)
To: "robbie_sykes@fws.gov"; "ross_shaw@fws.gov"
Subject: RE: Project-specific notification in accordance with TVA Programmatic Consultation for Routine Actions and Federally listed bats
Date: Tuesday, September 04, 2018 12:04:37 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[Pickwick Dam Seismic Upgrade PwrPlants TVA BatStrategy PSF 2018-08-31.pdf](#)

Good afternoon,

TVA's programmatic ESA consultation on routine actions and bats was completed in April 2018.

For projects with NLAA or LAA determinations, TVA will be providing project-specific notification to relevant Ecological Service Field Offices. This notification also will be stored in the project administrative record. For projects that utilize Take issued through the Biological Opinion, that Take will be tracked and reported in TVA's annual report to the USFWS in March of the following year.

The attached form is serving at TVA's mechanism to determine if project-specific activities are within the scope of TVA's bat programmatic consultation and if there is project-specific potential for impact to covered bat species, necessitating conservation measures, which are identified for the project on pages 6-11. The form also is serving as the primary means of notification to the USFWS and others as needed.

Project: Pickwick Landing Dam South Embankment Seismic Upgrade- Additional Acreage. Due to a second scope change in the engineering plans, an additional 0.78 acres of suitable bat trees will need to be cleared in winter. Hardin County, Tennessee. This project was previously consulted on (FWS #2016-CPA-0659) prior to the completion of TVA's bat programmatic consultation.

Thank you,

Liz Hamrick
Terrestrial Zoologist
Biological Compliance

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Project Screening Form - TVA Bat Strategy (05/08/2018)

This form is to assist in determining alignment of proposed projects and any required measures to comply with TVA's ESA Section 7 programmatic consultation for routine actions and federally-listed bats¹

Project Name: _____ **Date:** _____

Contact(s): _____ **CEC#:** _____ **RLR#:** _____ **Project ID:** _____

Project Location (City, County, State): _____

Project Description: _____

STEP 1) Select Appropriate TVA Action (or check here if none of the Actions below are applicable):

<input type="checkbox"/>	1	Manage Biological Resources for Biodiversity and Public Use on TVA Reservoir Lands	<input type="checkbox"/>	6	Maintain Existing Electric Transmission Assets
<input type="checkbox"/>	2	Protect Cultural Resources on TVA-Retained Land	<input type="checkbox"/>	7	Convey Property associated with Electric Transmission
<input type="checkbox"/>	3	Manage Land Use and Disposal of TVA-Retained Land	<input type="checkbox"/>	8	Expand or Construct New Electric Transmission Assets
<input type="checkbox"/>	4	Manage Permitting under Section 26a of the TVA Act	<input type="checkbox"/>	9	Promote Economic Development
<input type="checkbox"/>	5	Operate, Maintain, Retire, Expand, Construct Power Plants	<input type="checkbox"/>	10	Promote Mid-Scale Solar Generation

STEP 2) Select all activities from Tables 1 and 2 (Column 1 only) included in proposed project. If you have an activity that is not listed below, describe here): _____

Table 1. Activities (CHECK ALL THAT APPLY) with No Effect on Federally Listed Bats. If none, check here:

#	ACTIVITY	#	ACTIVITY
<input type="checkbox"/>	1 Loans and/or grant awards	<input type="checkbox"/>	12 Sufferance agreement
<input type="checkbox"/>	2 Purchase of property	<input type="checkbox"/>	13 Engineering or environmental planning or studies
<input type="checkbox"/>	3 Purchase of equipment for industrial facilities	<input type="checkbox"/>	14 Harbor limits
<input type="checkbox"/>	4 Environmental education	<input type="checkbox"/>	19 Site-specific enhancements in streams and reservoirs for aquatic animals
<input type="checkbox"/>	5 Transfer of ROW easement or ROW equipment	<input type="checkbox"/>	20 Nesting platforms
<input type="checkbox"/>	6 Property and/or equipment transfer	<input type="checkbox"/>	41 Minor water-based structures
<input type="checkbox"/>	7 Easement on TVA property	<input type="checkbox"/>	42 Internal renovation or internal expansion of existing facility
<input type="checkbox"/>	8 Sale of TVA property	<input type="checkbox"/>	43 Replacement or removal of TL poles, or cutting of poles to 4-6 ft above ground
<input type="checkbox"/>	9 Lease of TVA property	<input type="checkbox"/>	44 Conductor and OHGW installation and replacement
<input type="checkbox"/>	10 Deed modification of TVA rights or TVA property	<input type="checkbox"/>	49 Non-navigable houseboats
<input type="checkbox"/>	11 Abandonment of TVA retained rights		

Table 2. Activities (CHECK ALL THAT APPLY) and Associated Conservation Measures. If none, check here:

#	ACTIVITY	CONSERVATION MEASURES	TZ SME Review Needed
<input type="checkbox"/>	15 Windshield or ground surveys for archaeological resources	<input type="checkbox"/> a. NV1 <input type="checkbox"/> b. HP2	<input type="checkbox"/> b. HP1
<input type="checkbox"/>	16 Drilling	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a NV3, NV4 / <input type="checkbox"/> a1. NV2
<input type="checkbox"/>	17 Mechanical vegetation removal; does <u>not</u> include removal of trees or tree branches ≥ 3" in diameter.	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	18 Erosion control – minor	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SPCC1, SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/>	21 Herbicide use	<input type="checkbox"/> d. SSPC1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> d. SSPC6, SSPC7
<input type="checkbox"/>	22 Grubbing	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC4
<input type="checkbox"/>	23 Prescribed burns, burn piles, or	<input type="checkbox"/> c. SHF1, SHF4, SHF5	<input type="checkbox"/> c. SHF2, SHF3, SHF6, SHF7,

#	ACTIVITY	CONSERVATION MEASURES	TZ SME Review Needed
	brush piles		SHF8, SHF9
<input type="checkbox"/>	24 Tree planting	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/>	25 Maintenance, improvement or construction of pedestrian or vehicular access corridors	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> a1. NV2 <input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	26 Maintenance or construction of access control measures	<input type="checkbox"/> a. NV1 <input type="checkbox"/> b. HP2 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a NV3, NV4 / <input type="checkbox"/> a1. NV2 <input type="checkbox"/> b. HP1 <input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	27 Restoration of sites following human use and abuse	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	28 Removal of debris (e.g., dump sites, hazardous material, unauthorized structures)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	29 Acquisition and use of fill/borrow material	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	30 Dredging and excavation; recessed harbor areas	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/>	31 Stream/wetland crossings	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	32 Clean-up following storm damage	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3	<input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	33 Removal of hazardous trees or tree branches	<input type="checkbox"/> a. NV1 <input type="checkbox"/> d. TR7, TR8 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> d. TR1, TR2, TR3, TR4, TR5, TR6, TR9, <input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	34 Mechanical vegetation removal, includes trees or tree branches three inches or greater in diameter	<input type="checkbox"/> a. NV1 <input type="checkbox"/> d. TR7, TR8 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> d. TR1, TR2, TR3, TR4, TR5, TR6, TR9, <input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	35 Stabilization (major erosion control)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	36 Grading	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> f. SSPC4, SSPC7
<input type="checkbox"/>	37 Installation of soil improvements	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a1. NV2 <input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	38 Drainage installations (including for ponds)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/>	39 Berm development	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/>	40 Closed loop heat exchangers (heat pumps)	<input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/>	45 Stream monitoring equipment-placement, use	<input type="checkbox"/> a. NV1	None
<input type="checkbox"/>	46 Floating boat slips within approved harbor limits	<input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/>	47 Conduit installation	<input type="checkbox"/> a. NV1	<input type="checkbox"/> a1. NV2
<input type="checkbox"/>	48 Laydown areas	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/>	50 Minor land-based structures	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/>	51 Signage installation	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSCP1, SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/>	52 Floating buildings	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a1. NV2
<input type="checkbox"/>	53 Mooring buoys or posts	<input type="checkbox"/> a. NV1	

#	ACTIVITY	CONSERVATION MEASURES	TZ SME Review Needed
		<input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 54	Maintenance of water control structures (dewatering units, spillways, levees)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC6, SSPC7
<input type="checkbox"/> 55	Solar panels	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	<input type="checkbox"/> f. SSPC7
<input type="checkbox"/> 56	Culverts	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC3, SSPC5	None
<input type="checkbox"/> 57	Water intake - non-industrial	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC3, SSPC5	None
<input type="checkbox"/> 58	Wastewater outfalls	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 59	Marine fueling facilities	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 60	Commercial water-use facilities (e.g., marinas)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 61	Septic fields	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 62	Blasting	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3, <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a. NV3, NV4 / <input type="checkbox"/> a1. NV2
<input type="checkbox"/> 63	Foundation installation	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 64	Installation of steel structure, overhead bus, equipment, etc.	<input type="checkbox"/> a. NV1 <input type="checkbox"/> g. SSPC1, SSPC2, SSPC3	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 65	Pole and/or tower installation and/or extension	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 66	Private, residential docks, piers, boathouses	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SPCC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 67	Siting of temporary office trailers	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 68	Financing for speculative building construction	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/> 69	Renovation of existing structures	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> e. AR1, AR2, AR4, AR5
<input type="checkbox"/> 70	Lock maintenance and construction	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 71	Concrete dam modification	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 72	Ferry landings/service operations	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 73	Boat launching ramps	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC5	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 74	Recreational vehicle campsites	<input type="checkbox"/> a. NV1 <input type="checkbox"/> g. SPCC5	None
<input type="checkbox"/> 75	Utility lines/light poles	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SPCC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 76	Concrete sidewalk	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 77	Construction or expansion of land-based buildings	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> e. AR1, AR2, AR5
<input type="checkbox"/> 78	Wastewater treatment plants	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC5 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 79	Swimming pools and associated	<input type="checkbox"/> a. NV1	

#	ACTIVITY	CONSERVATION MEASURES	TZ SME Review Needed
	equipment	<input type="checkbox"/> f. SSPC5 <input type="checkbox"/> g. L1, L2	None
<input type="checkbox"/> 80	Barge fleeting areas	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 81	Water intakes - Industrial	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 82	Construction of dam/weirs/ Levees	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SPCC2, SPCC3, SPCC5	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 83	Submarine pipeline, directional boring operations	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 84	On-site/off-site public utility relocation or construction or extension	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC1, SSPC3, SSPC5	None
<input type="checkbox"/> 85	Playground equipment - land-based	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/> 86	Landfill construction	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3 <input type="checkbox"/> g. L1, L2	<input type="checkbox"/> a1. NV2
<input type="checkbox"/> 87	Aboveground storage tanks	<input type="checkbox"/> a. NNV1 <input type="checkbox"/> f. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 88	Underground storage tanks (USTs)	<input type="checkbox"/> a. NV1 <input type="checkbox"/> g. SSPC2, SSPC3, SSPC5	None
<input type="checkbox"/> 89	Structure demolition	<input type="checkbox"/> f. SSPC1, SSPC2, SSPC3	<input type="checkbox"/> e. AR1, AR2, AR4, AR5
<input type="checkbox"/> 90	Pond closure	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC2, SSPC3	None
<input type="checkbox"/> 91	Bridge replacement	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC3, SSPC5	<input type="checkbox"/> a1. NV2 <input type="checkbox"/> e. AR1, AR2, AR3, AR5,
<input type="checkbox"/> 92	Return of remains to former burial sites	<input type="checkbox"/> a. NV1 <input type="checkbox"/> b. HP2	<input type="checkbox"/> b. HP1
<input type="checkbox"/> 93	Standard license	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/> 94	Special use license	<input type="checkbox"/> a. NV1	None
<input type="checkbox"/> 95	Recreation license	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5	None
<input type="checkbox"/> 96	Land use permit	<input type="checkbox"/> a. NV1 <input type="checkbox"/> f. SSPC5	None

STEP 3) Are all project activities limited to Table 1? If **YES**, **STOP HERE**. No Bat Strategy Conservation Measures required. Include this form in environmental documentation (e.g., attach to CEC) and send to batstrategy@tva.gov. If **NO**, proceed to Step 4..... **YES** **NO**

STEP 4) Check ALL relevant characteristics below. If **none** apply, **STOP HERE** and check . No Bat Strategy Conservation Measures required. Include form in environmental documentation and send to batstrategy@tva.gov

- a. Project may occur outside, involves human presence, or use of equipment that **generates noise or vibration** (e.g., drilling, blasting, loud machinery).
 - a1. Project involves continuous noise (i.e., ≥ 24 hrs) that is >75 decibels measured on A scale (e.g., loud machinery).
- b. Project may involve **human entry into/survey of a potential bat roost** (cave, bridge, other structure).
- c. Project may involve **fire (e.g., prescribed fire, burn piles) or preparation of fire breaks** within 0.25 mi of trees, caves, or water sources. **If prescribed burn**, estimated acreage: _____
- d. Project may involve **tree removal**.
 - Tree removal may need to occur **outside of winter**..... **YES** **NO**
 - Tree removal will occur **only in winter**..... **YES** **NO**
 - Estimated number of trees or acres to be removed: _____ acres trees
 - If warranted, project has flexibility for bat surveys (May 15-Aug 15):..... **MAYBE** **YES** **NO**
- e. Project may involve **alteration or removal of bridges or other human structures**.
- f. Project may involve land use activities involving **ground disturbance or use of chemicals or fuels** near water sources, wetlands, sinkholes, caves, or exposed limestone/karst.
- g. Project may involve use of artificial lighting at night.

STEP 5) Please contact Holly LeGrand or other Bat Strategy support staff for assistance if needed. For those Activities selected in Table 2: select all Conservation Measures with letters (e.g., a-g) that correspond to characteristics selected in Step 4. If this results in selection of Conservation Measures in the last column of Table 2, a review by a terrestrial zoologist is required. Based on selection of Conservation Measures, does project require review by a terrestrial zoologist? If **YES**, **STOP HERE** and submit form as part of environmental review request; if **NO**, skip to **STEP 16**..... **YES** **NO**

Terrestrial Zoologist SME Verification (Steps 6-11 will be completed by a terrestrial zoologist if warranted):

STEP 6) Project is within range of: Gray bat VA Big-eared bat Indiana bat Northern long-eared bat

STEP 7a) Project includes the following:

- Removal/burning of suitable trees within 0.5 mile (0.8 km) of P1-P2 Indiana bat hibernacula or 0.25 mile (0.4 km) of P3-P4 Indiana bat hibernacula or any northern long-eared bat hibernacula.
- Removal/burning of suitable trees within 10 miles of documented Indiana bat hibernacula or within 5 miles of northern long-eared bat hibernacula.
- Removal/burning of suitable trees greater than 10 miles from documented Indiana bat hibernacula or greater than 5 miles from documented northern long-eared bat hibernacula.
- Removal/burning of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.
- Removal/burning of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.
- Removal/burning of suitable trees greater than 2.5 miles from Indiana bat roost trees or greater than 5 miles from Indiana bat capture sites.
- Removal/burning of documented Indiana bat or northern long-eared bat roost tree, if still suitable.

STEP 7b) Amount of SUITABLE tree/acreage removal or burned (may be different than total amount of removal): _____ acres trees

STEP 8) Select anticipated date range of burning/tree removal in table below:

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 31	<input type="checkbox"/> Apr 1 - May 31, Aug 1- Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
VA	<input type="checkbox"/> Sep 16 - Nov 15	<input type="checkbox"/> Nov 16 - Apr 14	<input type="checkbox"/> Apr 15 - Sep 15	<input type="checkbox"/> Jun 1 - Jul 31
AL	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 15	<input type="checkbox"/> Mar 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
NC	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 15	<input type="checkbox"/> Apr 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
MS	<input type="checkbox"/> Oct 1 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 14	<input type="checkbox"/> Apr 15 - Sep 30	<input type="checkbox"/> Jun 1 - Jul 31

STEP 9) Presence/absence surveys (visual, mist net, acoustic) were/will be conducted: **YES** **NO** **TBD**

STEP 10) Result of presence/absence surveys (if conducted), on _____ (date): **NEGATIVE** **POSITIVE** **N/A** NOTES: _____

STEP 11) Conservation measures have been verified (and modified, if necessary) in Table 2. NOTES: _____

Bat Strategy Compliance Verification (Steps 12-15 will be completed by SME/Bat Strategy Support staff):

STEP 12) Project **WILL** **WILL NOT** require use of Incidental Take in the amount of _____ acres or trees, proposed to be used during the **WINTER** **VOLANT** **NON-VOLANT** bat season (or **N/A**).

STEP 13) Available Incidental Take as of _____ for _____ (Action):

TVA Action	Total 20-year acreage	Winter Burning/Removal	Volant Season Burning/Removal	Non-Volant Season Burning/Removal

STEP 14) Amount contributed to TVA's Bat Conservation Fund upon activity completion: _____ or **N/A**

STEP 15) Project Effects Determinations: **Gray Bat:** NE NLAA N/A; **Virginia Big-eared Bat:** NE NLAA N/A; **Northern Long-eared Bat:** NE NLAA LAA N/A; **Indiana Bat:** NE NLAA LAA N/A

NOTES: _____

TVA's ESA Section 7 Bat Strategy Conservation Measures Required for:

STEP 16) Based on completion of Step 5, select the appropriate Conservation Measures listed in the table below (this will be completed/verified by a Terrestrial Zoologist if a Terrestrial Zoologist review is required) and review the following bullets. Save this form in project environmental documentation AND send a copy of form to batstrategy@tva.gov. Submission of this form is an indication that the Project Lead _____ (name) is (or will be made) aware of the requirements below.

- Implementation of conservation measures identified below is required to comply with TVA's programmatic Endangered Species Act bat consultation.
- Confirmation of completion (e.g., report from contractor, time stamped photos pre and post completion) for Conservation Measures below with an * (as well as any additional confirmation noted here by Terrestrial Zoologist: _____) will be provided to TVA's Bat Strategy Compliance Officer (batstrategy@tva.gov) following completion of activit (ies).
- TVA may conduct post-project monitoring to determine if conservation measures were effective in minimizing or avoiding impacts to federally listed bats.

STEP 17) For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, please acknowledge the following statement:

Project Lead/Contact acknowledges that proposed project will result in use of _____ acres/ trees in Incidental Take and will require _____ contribution to TVA's Conservation Fund upon completion of activity.

Conservation Measure Acronym	Conservation Measure Description
NV1	Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
NV2	Drilling, blasting, or any other activity that involves continuous noise (i.e., longer than 24 hours) disturbances greater than 75 decibels measured on the A scale (e.g., loud machinery) within a 0.5 mile radius of documented winter and/or summer roosts (caves, trees, unconventional roosts) will be conducted when bats are absent from roost sites.
NV3	Drilling or blasting within a 0.5 mile radius of documented cave (or unconventional) roosts will be conducted in a manner that will not compromise the structural integrity or alter the karst hydrology of the roost site.
NV4	Drilling or blasting within 0.5 miles of a documented roost site (cave, tree, unconventional roost) that needs to occur when bats are present will first involve development of project-specific avoidance or minimization measures in coordination with the USFWS.
HP1	Site-specific cases in which potential impact of human presence is heightened (e.g., conducting environmental or cultural surveys within a roost site) will be closely coordinated with staff bat biologists to avoid or minimize impacts below any potential adverse effect. Any take from these activities would be covered by TVA's Section 10 permit.
HP2	Entry into roosts known to be occupied by federally listed bats will be communicated to the USFWS when impacts to bats may occur if not otherwise communicated (i.e., via annual monitoring reports per TVA's Section 10 permit). Any take from these activities would be covered by TVA's section 10 permit.
SHF1	Fire breaks will be used to define and limit burn scope.
SHF2	Site-specific conditions (e.g., acres burned, transport wind speed, mixing heights) will be considered to ensure smoke is limited and adequately dispersed away from caves so that smoke does not enter cave or cave-like structures.
SHF3	Acreage will be divided into smaller units to keep amount of smoke at any one

		time or location to a minimum and reduce risk for smoke to enter caves.
	SHF4	If burns need to be conducted during April and May, when there is some potential for bats to present on the landscape and more likely to enter torpor due to colder temperatures, burns will only be conducted if the air temperature is 55° or greater, and preferably 60° or greater.
	SHF5	Fire breaks will be plowed immediately prior to burning, will be plowed as shallow as possible, and will be kept to minimum to minimize sediment.
	SHF6	Tractor-constructed fire lines will be established greater than 200 feet from cave entrances. Existing logging roads and skid trails will be used where feasible to minimize ground disturbance and generation of loose sediment.
	SHF7	Burning will only occur if site specific conditions (e.g. acres burned, transport wind speed, mixing heights) can be modified to ensure that smoke is adequately dispersed away from caves or cave-like structures. This applies to prescribed burns and burn piles of woody vegetation.
	SHF8	Brush piles will be burned a minimum of 0.25 mile from documented, known, or obvious caves or cave entrances and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.
	SHF9	A 0.25 mile buffer of undisturbed forest will be maintained around documented or known gray bat maternity and hibernation colony sites, documented or known Virginia big-eared bat maternity, bachelor, or winter colony sites, Indiana bat hibernation sites, and northern long-eared bat hibernation sites. Prohibited activities within this buffer include cutting of overstory vegetation, construction of roads, trails or wildlife openings, and prescribed burning. Exceptions may be made for maintenance of existing roads and existing ROW, or where it is determined that the activity is compatible with species conservation and recovery (e.g., removal of invasive species).
	TR1*	Removal of potentially suitable summer roosting habitat during time of potential occupancy has been quantified and minimized programmatically. TVA will track and document alignment of activities that include tree removal (i.e., hazard trees, mechanical vegetation removal) with the programmatic quantitative cumulative estimate of seasonal removal of potential summer roost trees for Indiana bat and northern long-eared bat. Project will therefore communicate completion of tree removal to appropriate TVA staff.
	TR2	Removal of suitable summer roosting habitat within 0.5 mile of Priority 1/Priority 2 Indiana bat hibernacula, or 0.25 mile of Priority 3/Priority 4 Indiana bat hibernacula or any northern long-eared bat hibernacula will be prohibited, regardless of season, with very few exceptions (e.g., vegetation maintenance of TL ROW immediately adjacent to a known cave).
	TR3*	Removal of suitable summer roosting habitat within documented bat habitat (i.e., within 10 miles of documented Indiana bat hibernacula, within five miles of documented northern long-eared bat hibernacula, within 2.5 miles of documented Indiana bat summer roost trees, within five miles of Indiana bat capture sites, within one mile of documented northern long-eared bat summer roost trees, within three miles of northern long-eared bat capture sites) will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
	TR4*	Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared bat will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
	TR5	Removal of any trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity summer roost tree during non-winter season, range-wide pup season or swarming season (if site is within known swarming habitat), will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts),

		TVA will coordinate with the USFWS to determine how to minimize impacts to pups to the extent possible. May include establishment of artificial roosts before removal of roost tree(s).
	TR6	Removal of a documented Indiana bat or northern long-eared bat roost tree that is still suitable and that needs to occur during non-winter season, range-wide pup season, or swarming season (if site is within known swarming habitat) will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts), TVA will coordinate with USFWS to determine how to minimize impacts to pups to the extent possible. This may include establishment of artificial roosts before removal of roost tree(s).
	TR7	Tree removal within 100 feet of existing transmission ROWs will be limited to hazard trees. On or adjacent to TLs, a hazard tree is a tree that is tall enough to fall within an unsafe distance of TLs under maximum sag and blowout conditions and/or are also dead, diseased, dying, and/or leaning. Hazard tree removal includes removal of trees that 1) currently are tall enough to threaten the integrity of operation and maintenance of a TL or 2) have the ability in the future to threaten the integrity of operation and maintenance of a TL.
	TR8	Requests for removal of hazard trees on or adjacent to TVA reservoir land will be inspected by staff knowledgeable in identifying hazard trees per International Society of Arboriculture and TVA's checklist for hazard trees. Approval will be limited to trees with a defined target.
	TR9	If removal of suitable summer roosting habitat occurs when bats are present on the landscape, a funding contribution (based on amount of habitat removed) towards future conservation and recovery efforts for federally listed bats would be carried out. Project can consider seasonal bat presence/absence surveys (mist netting or emergence counts) that allow for positive detections without resulting in increased constraints in cost and project schedule. This will enable TVA to contribute to increased knowledge of bat presence on the landscape while continuing to carry out TVA's broad mission and responsibilities.
	AR1	<p>Projects that involve structural modification or demolition of buildings, bridges, and potentially suitable box culverts, will require assessment to determine if structure has characteristics that make it a potentially suitable unconventional bat roost. If so a survey to determine if bats may be present will be conducted. Structural assessment will include:</p> <ul style="list-style-type: none"> ○ Visual check that includes an exhaustive internal/external inspection of building to look for evidence of bats (e.g., bat droppings, roost entrance/exit holes); this can be done at any time of year, preferably when bats are active. ○ Where accessible and health and safety considerations allow, a survey of roof space for evidence of bats (e.g., droppings, scratch marks, staining, sightings), noting relevant characteristics of internal features that provide potential access points and roosting opportunities. Suitable characteristic may include: gaps between tiles and roof lining, access points via eaves, gaps between timbers or around mortise joints, gaps around top and gable end walls, gaps within roof walling or around tops of chimney breasts, and clean ridge beams. ○ Features with high-medium likelihood of harboring bats but cannot be checked visually include soffits, cavity walls, space between roof covering and roof lining. ○ Applies to box culverts that are at least 5 feet (1.5 meters) tall and with one or more of the following characteristics. Suitable culverts for bat day roosts have the following characteristics: <ul style="list-style-type: none"> ▪ Location in relatively warm areas

		<ul style="list-style-type: none"> ▪ Between 5-10 feet (1.5-3 meters) tall and 300 ft (100 m) or more long ▪ Openings protected from high winds ▪ Not susceptible to flooding ▪ Inner areas relatively dark with roughened walls or ceilings ▪ Crevices, imperfections, or swallow nests ○ Bridge survey protocols will be adapted from the Programmatic Biological Opinion for the Federal Highway Administration (Appendix D of USFWS 2016c, which includes a Bridge Structure Assessment Guidance and a Bridge Structure Assessment Form). ○ Bat surveys usually are NOT needed in the following circumstances: <ul style="list-style-type: none"> ▪ Domestic garages /sheds with no enclosed roof space (with no ceiling) ▪ Modern flat-roofed buildings ▪ Metal framed and roofed buildings ▪ Buildings where roof space is regularly used (e.g., attic space converted to living space, living space open to rafters) or where all roof space is lit from skylights or windows. Large/tall roof spaces may be dark enough at apex to provide roost space.
	AR2	Additional bat P/A surveys (e.g., emergence counts) conducted if warranted (i.e., when AR1 indicates that bats may be present).
	AR3	Bridge survey protocols will be implemented, either by permittee (e.g., state DOT biologists) or qualified personnel. If a bridge is determined to be in use as an unconventional roost, subsequent protocols will be implemented.
	AR4	Removal of buildings with suitable roost characteristics within six miles of known or presumed occupied roosts for Virginia big-eared bat would occur between Nov 16 and Mar 31. Buildings may be removed other times of the year once a bat biologist evaluates a buildings' potential to serve as roosting habitat and determines that this species is not present and/or is not using structure(s).
	AR5	If evidence of bat use warrants seasonal modification or removal, TVA will carry out or recommend (i.e., to applicants) seasonal modification or removal. Risk to human safety, however, should take priority. For project-specific cases in which project is unable to accommodate seasonal modification or removal, and federally listed bat species are present, TVA will carry out or recommend consultation with the USFWS to determine the best approach in the context of the project-specific circumstance. This may include establishment of artificial roosts before demolition of structures with bats present.
	SSPC1	<p>Transmission actions and activities will continue to Implement A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities. This focuses on control of sediment and pollutants, including herbicides. Following are key measures:</p> <ul style="list-style-type: none"> ○ BMPs to minimize erosion and prevent/control water pollution in accordance with state-specific construction storm water permits. BMPS are designed to keep soil in place and aid in reducing risk of other pollutants reaching surface waters, wetlands and ground water. BMPs will undertake the following principles: <ul style="list-style-type: none"> ▪ Plan clearing, grading, and construction to minimize area and duration of soil exposure. ▪ Maintain existing vegetation wherever and whenever possible. ▪ Minimize disturbance of natural contours and drains. ▪ As much as practicable, operate on dry soils when they are least susceptible to structural damage and erosion. ▪ Limit vehicular and equipment traffic in disturbed areas. ▪ Keep equipment paths dispersed or designate single traffic flow

		<p>paths with appropriate road BMPs to manage runoff.</p> <ul style="list-style-type: none"> ▪ Divert runoff away from disturbed areas. ▪ Provide for dispersal of surface flow that carries sediment into undisturbed surface zones with high infiltration capacity and ground cover conditions. ▪ Prepare drainage ways and outlets to handle concentrated/increased runoff. ▪ Minimize length and steepness of slopes. Interrupt long slopes frequently. ▪ Keep runoff velocities low and/or check flows. ▪ Trap sediment on-site. ▪ Inspect/maintain control measures regularly and after significant rain. ▪ Re-vegetate and mulch disturbed areas as soon as practical. <ul style="list-style-type: none"> ○ Application of herbicide is in compliance with USEPA, state water quality standards, and state permits. Areas in which covered species are known to occur on existing transmission line ROW are depicted on referenced, applicable spreadsheets and include guidelines to follow for impact minimization or avoidance. During pre-job briefings, the ROW Forester will review location of resources with contractors and provide guidelines and expectations from TVA's BMP Manual (Appendix O). Herbicides labeled for aquatic use are utilized in and around wetlands, streams, and SMZs. Unless specifically labeled for aquatic use, measures are taken to keep herbicides from reaching streams whether by direct application or through runoff or flooding by surface water. Hand application of certain herbicides labeled for use within SMZs is used only selectively. ○ Specific guidelines regarding sensitive resources and buffer zones: <ul style="list-style-type: none"> ▪ Extra precaution (wider buffers) within SMZs is taken to protect stream banks and water quality for streams, springs, sinkholes, and surrounding habitat. ▪ BMPs are implemented to protect and enhance wetlands. Select use of equipment and seasonal clearing is conducted when needed for rare plants; construction activities are restricted in areas with identified rare plants. ▪ Standard requirements exist to avoid adverse impacts to caves, protected animals, and unique and important habitat (e.g., protective buffers around caves, restricted herbicide use, seasonal clearing of suitable habitat).
SSPC2		<p>Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.</p>
SSPC3		<p>Power Plant actions and activities will continue to implement standard environmental practices. These include:</p> <ul style="list-style-type: none"> ○ Best Management Practices (BMPs) in accordance with regulations:

		<ul style="list-style-type: none"> ▪ Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy ▪ Maintain every site with well-equipped spill response kits, included in some heavy equipment ▪ Conduct Quarterly Internal Environmental Field Assessments at each sight ▪ Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant. ▪ When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage ○ Construction Site Protection Methods <ul style="list-style-type: none"> ▪ Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites ▪ Storm drain protection device ▪ Check dam to help slow down silt flow ▪ Silt fencing to reduce sediment movement ○ Storm Water Pollution Prevention (SWPP) Pollution Control Strategies <ul style="list-style-type: none"> ▪ Minimize storm water contact with disturbed soils at the construction site ▪ Protect disturbed soil areas from erosion ▪ Minimize sediment in storm water before discharge ▪ Prevent storm water contact with other pollutants ▪ Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1 acre) ○ Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to minimize fuel and chemical use
	SSPC4	Woody vegetation burn piles associated with transmission construction will be placed in the center of newly established ROWs to minimize wash into any nearby undocumented caves that might be on adjacent private property and thus outside the scope of field survey for confirmation. Brush piles will be burned a minimum of 0.25 miles from documented caves and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.
	SSPC5	Section 26a permits and contracts associated with solar projects, economic development projects or land use projects include standards and conditions that include standard BMPs for sediment and contaminants as well as measures to avoid or minimize impacts to sensitive species or other resources consistent with applicable laws and Executive Orders.
	SSPC6	Herbicide use will be avoided within 200 ft of portals associated with caves, cave collapse areas, mines and sinkholes that are capable of supporting cave-associated species. Herbicides are not applied to surface water or wetlands unless specifically labeled for aquatic use. Filter and buffer strips will conform at least to federal and state regulations and any label requirements.
	SSPC7	Clearing of vegetation within a 200-ft radius of documented caves will be limited to that conducted by hand or small machinery clearing only (e.g., chainsaws, bush-hog, mowers). This will protect potential recharge areas of cave streams and other karst features that are connected hydrologically to caves.
	L1	Direct temporary lighting away from suitable habitat during the active season.
	L2	Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

¹Bats addressed in consultation (02/2018), which includes gray bat (listed in 1976), Indiana bat (listed in 1967), northern long-eared bat (listed in 2015), and Virginia big-eared bat (listed in 1979).