Attachment A – Communication Specification Diagram

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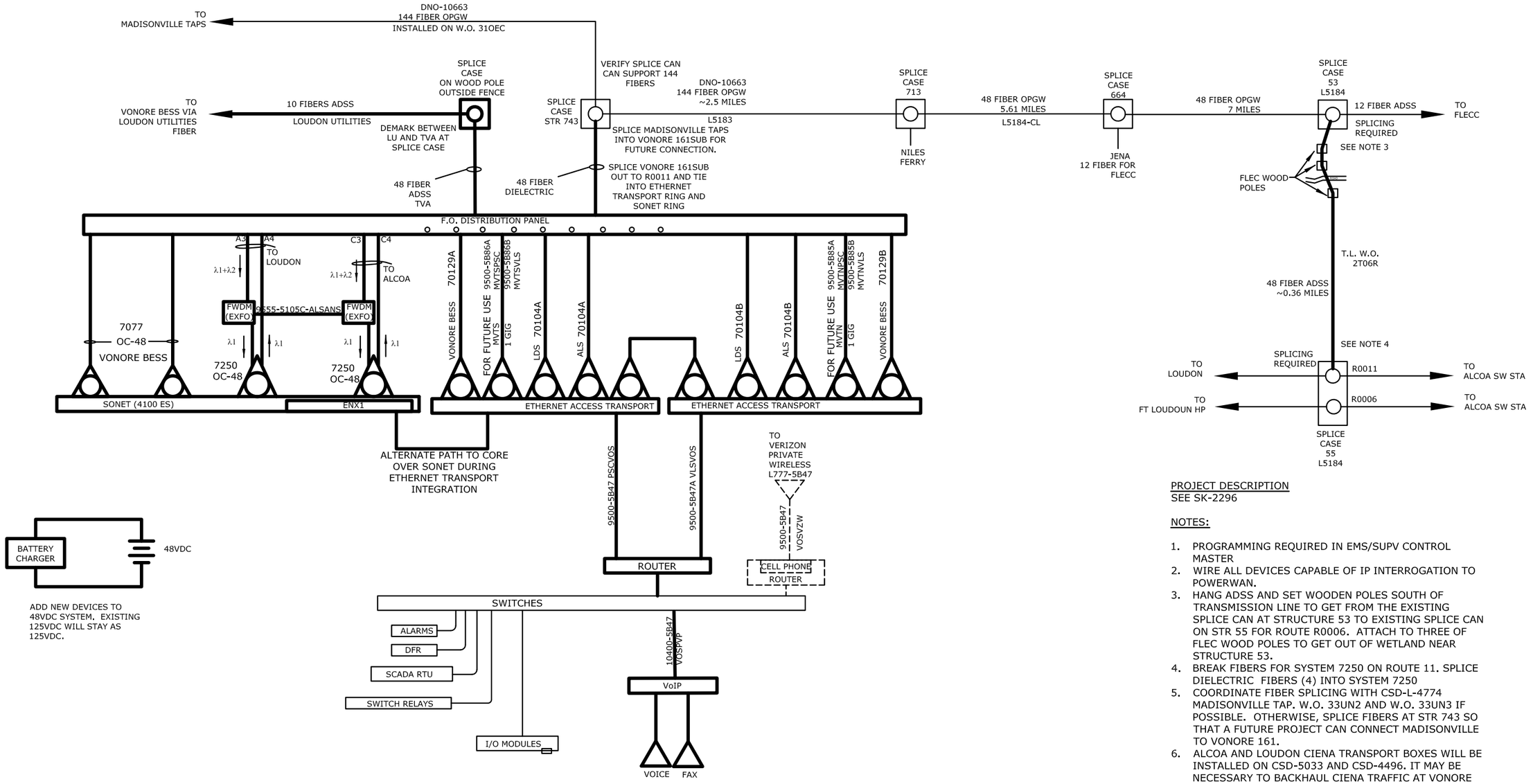
CSD-L-5136



PROJECT DESCRIPTION
SEE SK-2296

NOTES:

1. PROGRAMMING REQUIRED IN EMS/SUPV CONTROL MASTER
2. WIRE ALL DEVICES CAPABLE OF IP INTERROGATION TO POWERWAN.
3. HANG ADSS AND SET WOODEN POLES SOUTH OF TRANSMISSION LINE TO GET FROM THE EXISTING SPLICE CAN AT STRUCTURE 53 TO EXISTING SPLICE CAN ON STR 55 FOR ROUTE R0006. ATTACH TO THREE OF FLEC WOOD POLES TO GET OUT OF WETLAND NEAR STRUCTURE 53.
4. BREAK FIBERS FOR SYSTEM 7250 ON ROUTE 11. SPLICE DIELECTRIC FIBERS (4) INTO SYSTEM 7250
5. COORDINATE FIBER SPLICING WITH CSD-L-4774 MADISONVILLE TAP. W.O. 33UN2 AND W.O. 33UN3 IF POSSIBLE. OTHERWISE, SPLICE FIBERS AT STR 743 SO THAT A FUTURE PROJECT CAN CONNECT MADISONVILLE TO VONORE 161.
6. ALCOA AND LOUDON CIENA TRANSPORT BOXES WILL BE INSTALLED ON CSD-5033 AND CSD-4496. IT MAY BE NECESSARY TO BACKHAUL CIENA TRAFFIC AT VONORE OVER SONET UNTIL ALL DEVICES IN SERVICE. ALCOA W.O. 35LVT. LOUDON W.O. 2C090
7. LOUDON UTILITIES WILL INSTALL ADSS FIBER TO A WOOD POLE (INSTALLED BY LU) JUST OUTSIDE OF SUBSTATION FENCE. TVA WILL INSTALL A SPLICE CAN AND HANDHOLD AT THIS WOOD POLE AND CONNECT TVA OWNED ADSS CABLE. TVA TO INSTALL ADDITIONAL WOOD POLES OR CONNECT TO AVAILABLE STRUCTURES TO GET CABLE TO TRENCH AND INSIDE THE SWITCH HOUSE.

VONORE, TN 161KV SUBSTATION (S5B47)

SUBSTATION W.O. :2C03H (ZERO 3 HOTEL)
TL W.O. : 2T06R
TL DCN: 121952853

LEGEND
EXISTING OR BY OTHERS
INSTALL
RETIRE

REV	DATE	WORK ORDER	DCN\PIC NUMBER	DSGN	DRWN	CHKD	TECH SUPV	PROJ ENG	SBMT	APPD	
2	11/5/21				JVL	RSG					DEM
	ADDED BESS DETAIL. ADD AGC RTU. ADD DPU ETH MODULES										
1	2/25/21			JVL	JVL	JHB					DEM
	AS SCOPED										

DOC CLASS | DOC TYPE | DOC STATUS

ISD (ACTUAL): SEE SCHEDULE
PROJECT ID: TPS193842

TENNESSEE VALLEY AUTHORITY
VONORE, TN 69KV BESS
CONSTRUCT BATTERY ENERGY STORAGE SYSTEM

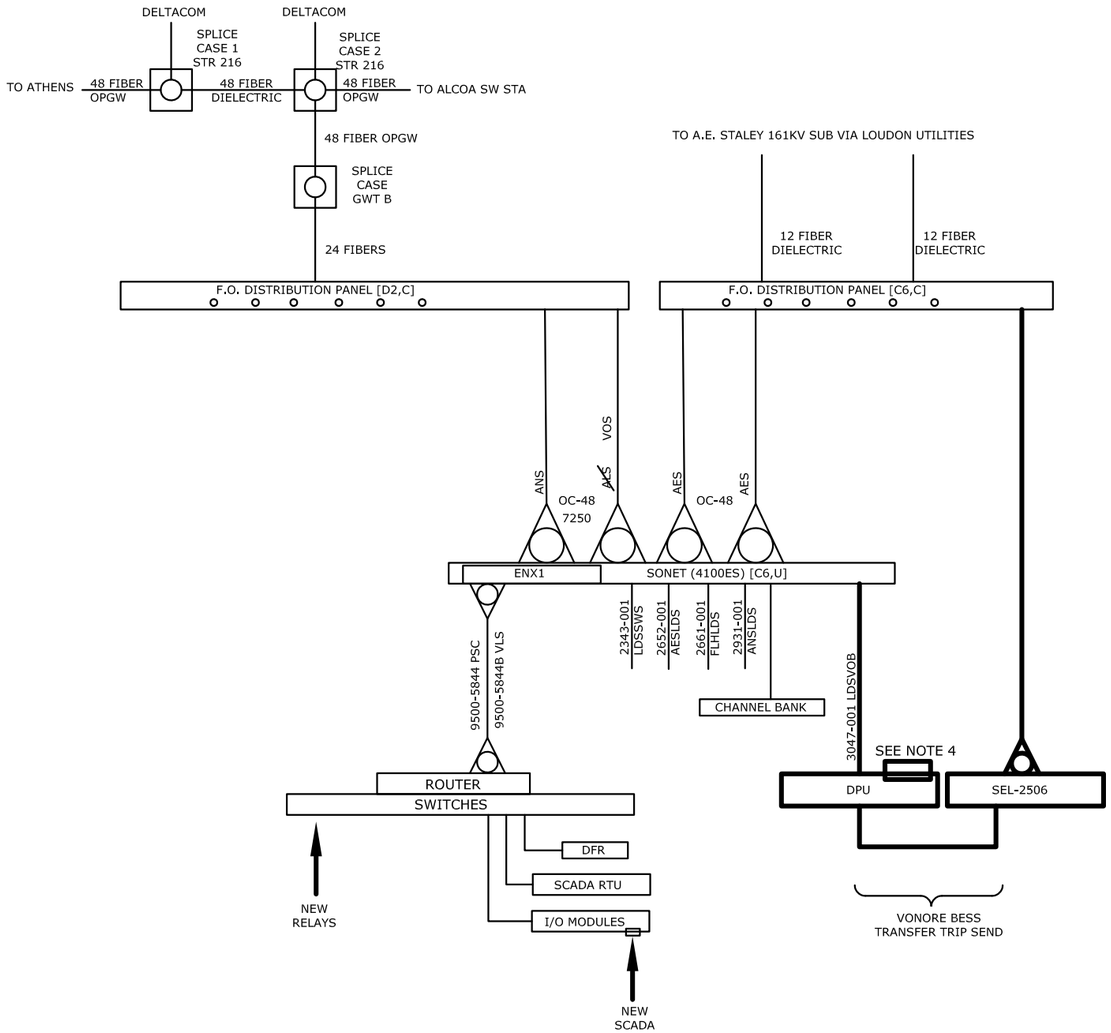
COMMUNICATION SPECIFICATION DIAGRAM

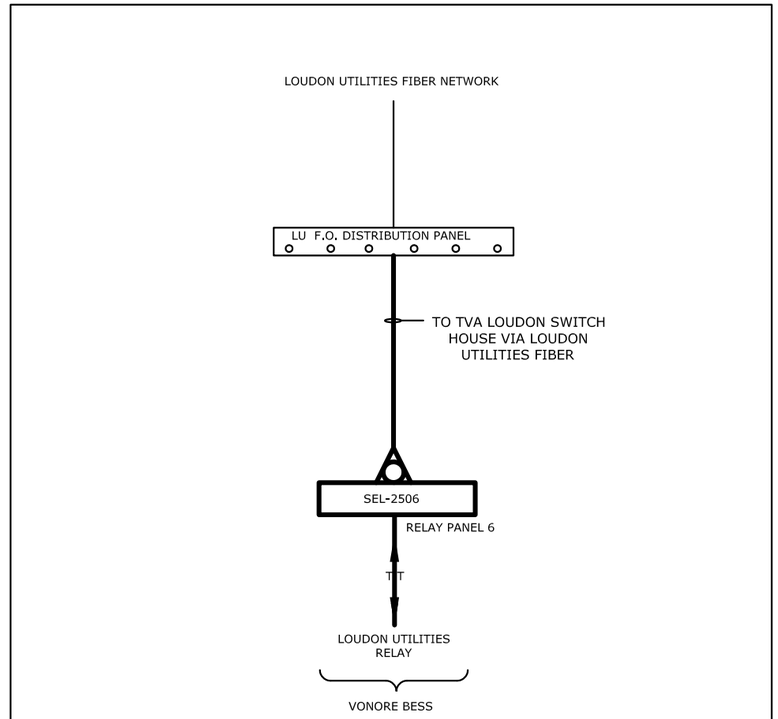
SCALE	LATEST SUBMITTED	LATEST APPROVED	SHEET 1

TO	TSC	CONST. AREA	CONTROL	STATION NUMBER	CSD-L-5136	R 2

L-5136-1 R2 VONORE BESS AUTOCAD 1
JVLEONAR 9/24/2021 8:23 AM

CAD SYSTEM ORIGINAL DO NOT CHANGE MANUALLY





LOUDON UTILITIES SWITCH HOUSE

LOUDON, TN 161KV SW STA (S5844)

W.O. 2S05Q

PROJECT DESCRIPTION
SEE SK-2296

NOTES:

1. PROGRAMMING REQUIRED IN EMS/SUPV CONTROL MASTER
2. WIRE ALL DEVICES CAPABLE OF IP INTERROGATION TO POWERWAN.
3. CIENA EQUIPMENT WILL BE INSTALLED ON CSD-5033 W.O. 2C090
4. INSTALL GARD ETHERNET MODULE FOR FUTURE USE

LEGEND

- EXISTING OR BY OTHERS
- INSTALL
- RETIRE

ISD (ACTUAL): SEE SCHEDULE

PROJECT ID: TPS193842

REV	DATE	WORK ORDER	DCN\PIC NUMBER	DSGN	DRWN	CHKD	TECH SUPV	PROJ ENG	SBMT	APPD
2	11/5/21				JVL	RSG				DEM
1	2/25/21			JVL	JVL	JHB				DEM

2 ADDED BESS DETAIL. ADD AGC RTU. ADD DPU ETH MODULES
1 AS SCOPED

DOC CLASS | DOC TYPE | DOC STATUS

TENNESSEE VALLEY AUTHORITY
VONORE, TN 69KV BESS
CONSTRUCT BATTERY ENERGY STORAGE SYSTEM

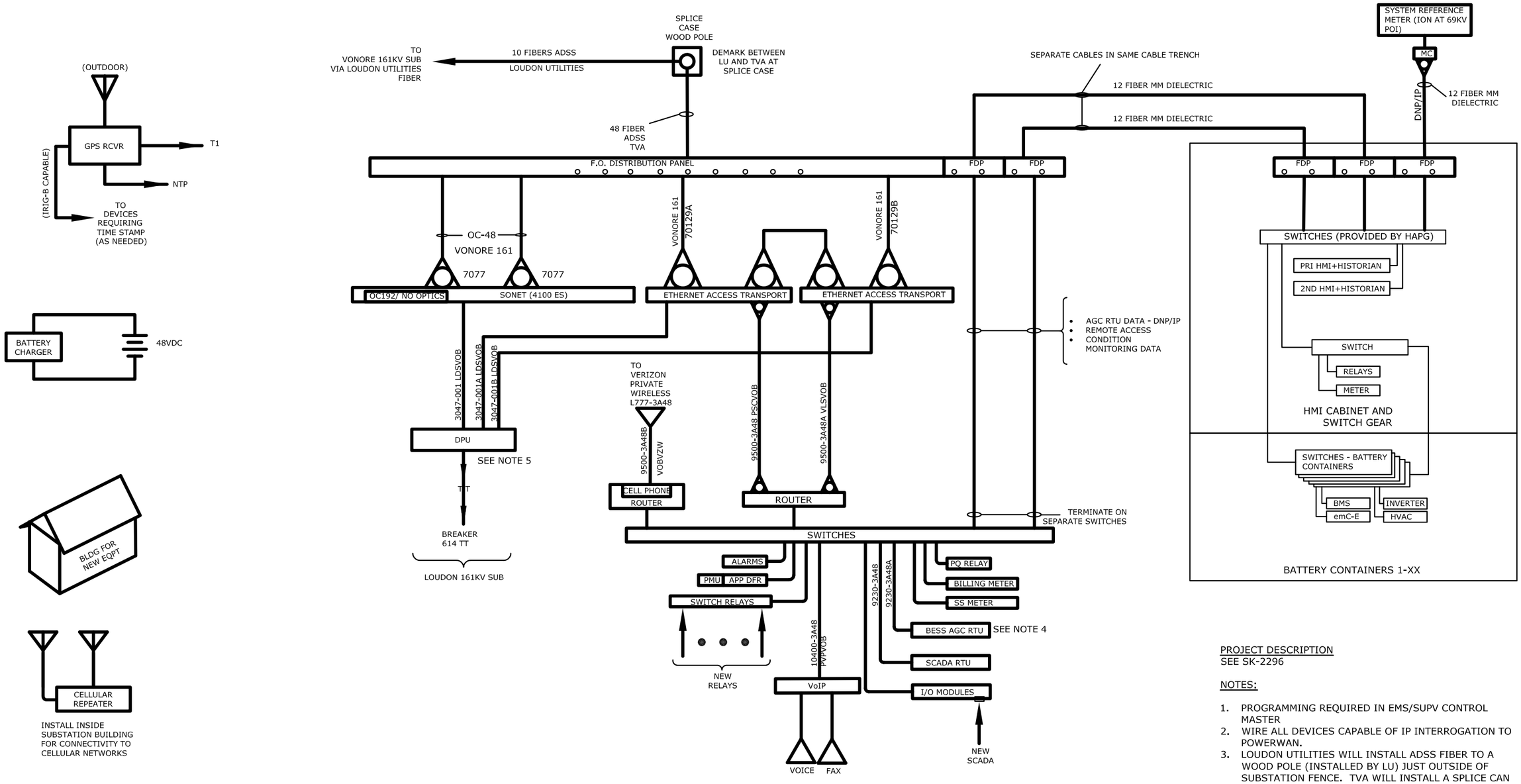
COMMUNICATION SPECIFICATION DIAGRAM

SCALE	LATEST SUBMITTED	LATEST APPROVED	SHEET 2
TO	TSC	CONST. AREA	CONTROL	STATION NUMBER	CSD-L-5136	R2

L-5136-1 R2 VONORE BESS AUTOCAD 1
JVLEONAR 9/24/2021 8:23 AM

CAD SYSTEM ORIGINAL DO NOT CHANGE MANUALLY

CSD-L-5136



VONORE BESS, TN 69KV (S3A48)

W.O. 2S110
T.L. W.O. 2T06R
T.L. DCN 121952853

PROJECT DESCRIPTION
SEE SK-2296

NOTES:

1. PROGRAMMING REQUIRED IN EMS/SUPV CONTROL MASTER
2. WIRE ALL DEVICES CAPABLE OF IP INTERROGATION TO POWERWAN.
3. LOUDON UTILITIES WILL INSTALL ADSS FIBER TO A WOOD POLE (INSTALLED BY LU) JUST OUTSIDE OF SUBSTATION FENCE. TVA WILL INSTALL A SPLICE CAN AND HANDHOLD AT THIS WOOD POLE AND CONNECT TVA OWNED ADSS CABLE. TVA TO INSTALL ADDITIONAL WOOD POLES OR CONNECT TO AVAILABLE STRUCTURES TO GET CABLE TO TRENCH AND INSIDE THE SWITCH HOUSE.
4. REFERENCE DIRECT CONNECT BASELINE FOR LIST OF REQUIRED SCADA DATA AND CONTROL POINTS.
5. INSTALL GARD ETHERNET MODULE FOR FUTURE USE

LEGEND
EXISTING OR BY OTHERS
INSTALL
RETIRE

ISD (ACTUAL): SEE SCHEDULE
PROJECT ID: TPS193842

REV	DATE	WORK ORDER	DCN\PIC NUMBER	DSGN	DRWN	CHKD	TECH SUPV	PROJ ENG	SBMT	APPD
2	11/5/21				JVL	RSG				DEM
1	AS SCOPED 2/25/21			JVL	JVL	JHB				DEM

2 ADDED BESS DETAIL. ADD AGC RTU. ADD DPU ETH MODULES
1 AS SCOPED

DOC CLASS | DOC TYPE | DOC STATUS

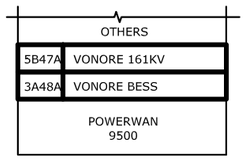
TENNESSEE VALLEY AUTHORITY
VONORE, TN 69KV BESS
CONSTRUCT BATTERY ENERGY STORAGE SYSTEM

COMMUNICATION SPECIFICATION DIAGRAM

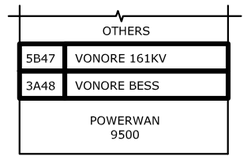
SCALE	LATEST SUBMITTED	LATEST APPROVED	SHEET 3
TO	TSC	CONST. AREA / CONTROL / STATION NUMBER	CSD-L-5136 R2

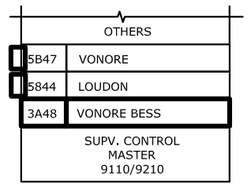
L-5136-1 R2 VONORE BESS AUTOCAD 1
JVLEONAR 9/24/2021 8:23 AM

CAD SYSTEM ORIGINAL DO NOT CHANGE MANUALLY

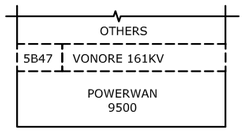


VOLUNTEER, TN 500KV SUB (S6069)

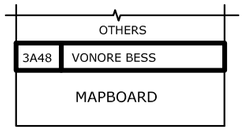


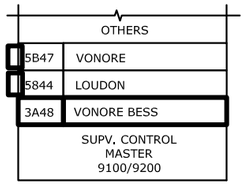


POWER SYSTEM CONTROL CENTER (ROC) (S929)



VERIZON WIRELESS





SYSTEM OPERATIONS CENTER (S9239)

PROJECT DESCRIPTION
SEE SK-2296

NOTES:

1. PROGRAMMING REQUIRED IN EMS/SUPV CONTROL MASTER
2. WIRE ALL DEVICES CAPABLE OF IP INTERROGATION TO POWERWAN.

LEGEND

EXISTING OR BY OTHERS
INSTALL
RETIRE

ISD (ACTUAL): SEE SCHEDULE

PROJECT ID: TPS193842

TENNESSEE VALLEY AUTHORITY
VONORE, TN 69KV BESS
CONSTRUCT BATTERY ENERGY STORAGE SYSTEM

COMMUNICATION SPECIFICATION DIAGRAM

REV	DATE	WORK ORDER	DCN\PIC NUMBER	DSGN	DRWN	CHKD	TECH SUPV	PROJ ENG	SBMT	APPD	
2	11/5/21				JVL	RSG					DEM
	ADDED BESS DETAIL. ADD AGC RTU. ADD DPU ETH MODULES										
1	2/25/21				JVL	JVL	JHB				DEM
	AS SCOPED										

DOC CLASS	DOC TYPE	DOC STATUS	TO	TSC	CONST. AREA	CONTROL	STATION NUMBER

SCALE	LATEST SUBMITTED	LATEST APPROVED	SHEET
			4

CSD-L-5136 R2

L-5136-1 R2 VONORE BESS AUTOCAD 1
JVLEONAR 9/24/2021 8:23 AM

CAD SYSTEM ORIGINAL DO NOT CHANGE MANUALLY

Attachment B - Responses to Public Comments

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Attachment B – Public and Agency Comments Received on the Draft EA and TVA's Response to Comments

A draft of the Environmental Assessment (EA) was released for public review and comment on October 18, 2021. The availability of the draft EA and request for comments was announced in newspapers that serve the Blount and Monroe Counties area, and the draft EA was posted on the Tennessee Valley Authority's (TVA) website. TVA's agency involvement included notification of the availability of the draft EA to local, state, and federal agencies and federally recognized tribes. Comments were accepted through November 17, 2021, via TVA's website, mail, and e-mail.

TVA received five comment letters from members of the public via TVA's website, and one each from the Tennessee Department of Environment and Conservation (TDEC) and the U.S. Environmental Protection Agency (USEPA). TVA carefully reviewed all comments raised during the comment period and has provided responses below. A copy of each of the comment submittals is included at the end of this section.

A. Comments Related to Public Health and Safety

1. *…Would there be any potential danger for residents residing within a 10-mile radius of this battery station?... Is it environmentally safe for humans and animals?... (Commenter: Chris Robbins)*

2. *…We and all the residents who surround this lake, which are thousands, and all the people that rely on this water for drinking, bathing and recreation feel that there has not been a thorough risk assessment and a long-term planning process for the safety of this project... (Commenter: Raymond Wallace)*

TVA Response: As detailed in Section 1.1 of the EA, the Lithium-ion batteries would be housed on racks, inside fully enclosed metal containers, atop a concrete slab, within the fenced TVA-managed facility. The chemistries that comprise lithium-ion batteries generally consist of lithium cobalt oxide, lithium manganese oxide, lithium iron phosphate, lithium nickel manganese cobalt oxide, and others. Extensive research regarding long-term offsite environmental contamination of Battery Energy Storage System (BESS) facilities, or lack thereof, is not readily available for review. It has been shown, however, that these facilities typically would pose a fire concern, but not typically for soil, surface water, or groundwater contamination. Lithium pollution often relates to its production and manufacturing locations. Due to the various levels of containment surrounding the batteries, soil, surface (including storm or waste) water, and groundwater contamination would have a low risk of contamination resulting from leakage.

TVA would perform regular operational maintenance of this facility, and inspect the batteries for leakage, potential fire hazards, and other potential environmental concerns. In addition, the site would operate in conjunction with federal, state, and local guidelines to minimize the potential for environmental contamination onsite or offsite; specifically, in accordance with the Solid and Hazardous Waste Rules and Regulations of the State (Rule 0400, Chapters 11 and 12, respectively). TVA would immediately take measures to correct any identified issues.

3. *…Would it emit any cancer causing elements or frequency?...(Commenter: Chris Robbins)*

TVA Response: Power frequency (60 Hz) electric and magnetic fields (EMF) are present wherever electricity is generated, transmitted, or used, including utility installations such as substations and transmission lines, and typical household electrical appliances such as hairdryers and microwave ovens. The health effects of 60 Hz EMF have been the subject of extensive research since the late 1950s and no studies report adverse health cause and effect related to power frequency EMF. Further information on Electric and Magnetic fields associated with electrical power is available on TVA's website at *tva.com/emf*.

In rare cases, electrical equipment may also be a source of Radio Frequency (RF) signals that can interfere with communication technologies like broadband cable or broadcast radio and television. In the unlikely event that the Vonore BESS is identified as a source of RF interference, measures would be taken by TVA to correct the issue.

The Vonore BESS site would be designed and constructed to meet or exceed applicable industry safety codes and standards. The equipment being used consists of components already in widespread use throughout TVA and other power utilities. EMF and RF emissions would be no different from a typical power delivery substation and the BESS site area is sized such that EMF and RF would be negligible at the site fence perimeter area. Highest levels of EMF and RF would be present inside the fence perimeter which is not accessible to the general public or those without training for working in areas of elevated EMF and RF.

B. Comments Related to Alternatives

1. *…The EA only lists a build or no build option without consideration to other locations of the battery storage site. As was demonstrated in court cases, such as California v. Block, a sufficient range of viable alternatives should be considered in an EA or EIS. TVA already owns property off Highway 72 that is an industrial park. Why was constructing the battery storage site on this TVA industrial property between 1-2 miles not an alternative to procuring additional land on the EA?... (Commenter: James Brewer)*

2. *…We also know that TRDA has offered a better location in the Tellico West Industrial Park. In the park the land is flatter if you use a holding system for wastewater and hopefully you can choose a plat that is not near the Island Creek that flows through the Industrial Park into the reservoir. This location would be a more appropriate than the current site that is more environmentally sensitive… (Commenter: Raymond Wallace)*

TVA Response: TVA evaluated numerous alternative locations across the Tennessee Valley with unique energy needs that could support a BESS pilot project. The additional information on the other locations has been added to Section 2.1 of the EA.

With regard to the ownership of the Tellico West Industrial Park site, according to the Monroe County Assessor's database, TVA is listed as the parcel owner of record for Parcel No. 028-019.01 (Tellico Industrial Park). However, this parcel is actually owned by the TRDA as detailed in TRDA maps and special warranty deed.

C. Comments Related to Visual Impacts

1. *…The EA states that the aesthetic impact to area will be a long term, yet minor adverse impact. However, for the locals that live in the area, the installation may have a more significant impact on their property, possibly affecting property value, as industrial sites have*

been shown to do. The EA states that vegetative screening will be used. What type of vegetative screening will be used, and will it be sufficient to preserve the aesthetic view of the surrounding properties? Are there other considerations to mitigate the impact on the landscape and character of the surrounding community?... (Commenter: James Brewer)

TVA Response: As detailed in Section 3.7 of the EA, the area directly surrounding the proposed project site consists of numerous industrial facilities, a gasoline filling station, an improved highway, and a storage facility; therefore, it is unlikely that significant long-term effects would result from this change in visual landscape. However, as detailed in Section 3.7 of the EA, TVA has committed to minimizing the visual landscape change by planting ornamental shrubs that would be approximately 8 to 10 feet in height around the perimeter of the 6-foot chain link fence that is visible to the public. The shrubs would be of a similar height as the components within the facility to minimize the effects of the landscape change.

D. Comments Related to Water Resources

1. *…Our concern for the BESS project arises from its proximity to the mouth of Bat Creek where runoff from the proposed site joins the creek to enter the reservoir near the Rarity Bay community...While operation of BESS and associated equipment appear to pose low environmental concerns, one known danger is the potential of fire due to battery overheating. If a fire does occur, water and/or proprietary chemistry for fire suppression and cooling would be contaminated with battery component. If allowed to enter the watershed this waste could inflict significant harm to the reservoir. We would like assurances that rigorous SOPs would be in place to address this contingency and that containment of sufficient volume be constructed to prevent contact water from leaving the site without proper treatment... (Commenter: William R. Waldrop, WATeR)*

2. *…are very concerned about what we feel is a short sidedness on the decision to put this "test" project so close to a tributary that flows a short distance into Bat Creek. Not only does that short distance matter but the creek itself is right there on the west side of all those trees. The people who have homes among those trees sit right on the water. From that location if one follows the current you come to all the homes of Rarity Bay that sit at the water's edge…We know you know this as the natural run off from the sharp hill helps your "wastewater" to run into the creek…Why would you want "wastewater" to directly go into the creek without at least running it through a natural filter like a holding basen or strong riparian barrier?...That waste water has to have chemicals in it…We do not have to go into all the other issues of destruction that will happen when a fire occurs. What is your plan for an event like that. Such an incident not only puts lithium in the air and soil it adds the tainted water and/or proprietary chemistry from fire suppression and cooling to be contaminated with battery components. My question is how fast do these chemicals flow into this reservoir, an hour, a day and how long does the water stay poisoned?... (Commenter: Raymond Wallace)*

TVA Response: As detailed in Section 1.1 of the EA, and Comment A above, due to the various levels of containment surrounding the batteries, soil, surface (including storm or waste) water, and groundwater contamination would have a low risk of contamination resulting from leakage.

A health and safety plan, maintained onsite, would provide guidance if a fire, spill, etc. should occur. TVA would perform regular operational maintenance of this facility. Operational maintenance would include inspections of the batteries for leakage, potential fire hazards, and

other potential environmental concerns. In addition, the site would operate in conjunction with federal, state, and local guidelines to minimize the potential for environmental contamination onsite or offsite. It is unlikely that the chemicals that make up lithium-ion batteries would migrate to a nearby offsite waterway. However, TVA would immediately take measures to correct potential offsite contamination migration issues.

In the case of fire, local fire departments would likely contact the Tennessee Emergency Management Agency (TEMA) to address any potential hazardous material spill. TEMA would then notify local and state agencies to address any potentially hazardous waste clean-up. TVA would develop a Standard Operating Procedure for fire response, in conjunction with the local fire department at this location.

3. *…We assume that any potential impact from site construction should be addressed and properly managed by the required SWPPP. However, there is very little detail about anticipated runoff or accidental releases during plan operation…(Commenter: William R. Waldrop, WATeR)*

TVA Response: Section 1.7 of the EA states TVA would prepare and acquire all necessary permits, permit modifications, licenses, and approvals, including specifically the development and approval of the Stormwater Pollution Prevention Plan (SWPPP) to minimize impacts to water quality, prior to commencement of construction, and updated throughout construction. In addition, best management practices, such as those described in TVA's *A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activitie*s, would be put in place to further minimize and reduce potential offsite migration of contaminants from storm- and wastewater discharges from the site.

4. *…As TVA notes in the Draft EA, a Construction Stormwater Permit (CGP) and a Surface Water Pollution Prevention Plan (SWPPP) will be required for the storage facility as it will disturb more than one acre of land. Construction of the ten-acre slab-on-grade pad will likely encounter sinkholes which may complicate its construction. The site is in the mature karst of the Knox Group Dolomites and there are numerous large sinkholes indicated along strike on the topographic map, which likely only captures a small percentage of the actual sinkholes present. Steps should be taken to avoid direct injection of concrete into open throat sinkholes, which could impact the groundwater and necessitate additional support to protect the slab from collapse. TVA also notes that the fiber cable installation will require the crossing of Gallagher Creek and unnamed tributaries, making an Aquatic Resource Alteration Permit (ARAP) necessary. TDEC encourages TVA to reflect these considerations in the Final EA. ...(Commenter: Bryan Davidson,TDEC)*

TVA Response: Comments noted. Section 1.7 of the EA states TVA would prepare and acquire all necessary permits, permit modifications, licenses, and approvals. A geotechnical investigation did not identify sinkholes within the proposed project area.

E. Comments Related to Wetlands

1. *…**Wetlands**: Section 3.5.1.3 of the DEA states that no wetlands occur within the proposed BESS and substation site. Additionally, the DEA notes 0.27 acres of wetlands within the proposed ADSS fiber upgrade corridor. TVA anticipates that the proposed project activities will avoid all wetlands.*

Recommendation*: The EPA recommends any contractor working on-site use best management practices and address any potential impacts to off-site streams and waterways. The EPA also recommends that site grading, excavation, and construction plans should include implementable measures to prevent erosion and sediment runoff from the project site during and after construction…(Commenter: Amanetta Somerville, USEPA)*

TVA Response: Comment noted. TVA would ensure best management practices are implemented, such as those described in TVA's *A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activitie*s.

F. Comments Related to Endangered Species

1. *…**Endangered Species**: Section 3.6.2.2 of the DEA states that in April 2018, TVA addressed several activities in programmatic consultation with the US Fish and Wildlife Service (FWS) on routine actions and federally listed bats in accordance with Endangered Species Act Section 7(a)(2). For those activities with the potential to affect bats, TVA committed to implementing specific conservation measures. TVA further stated that activities and associated conservation measures would be reviewed/implemented as part of the proposed project.*

   Recommendation*: The EPA principally defers to the FWS regarding compliance with the Endangered Species Act. The EPA recommends that any additional conservation measures identified by the FWS during consultation be included in the Final EA and/or Finding of No Significant Impact…(Commenter: Amanetta Somerville, USEPA)*

TVA Response: Comment noted.

G. Comments Related to Solid Waste

1. *…During the course of construction and site operations, all materials determined to be wastes should be evaluated (e.g., waste determinations) and managed (e.g., inspections, container requirements, permitted transport, and disposal) in accordance with the Solid and Hazardous Wastes Rules and Regulations of the State (TDEC DSWM Rule 0400 Chapters 11 and 12, respectively) in addition to other applicable TVA best management practices. TDEC recommends that the Final EA include reference to applicable state regulations...(Commenter: Bryan Davidson,TDEC)*

TVA Response: Comments noted, and the reference has been included in Section 3.13.2 of the EA.

H. Comments Related to Transportation and Emissions

1. *…Transportation: Section 3.11 of the DEA identified that onsite construction activities for the proposed BESS facility in Vonore, Tennessee, would result in a negligible increase of traffic on local and state roadways in the vicinity of the transport and delivery of the three transformers, twelve containers, and lithium-ion batteries required for the project site.*

   Recommendation*: The EPA notes that throughout the proposed project construction, the presence of diesel equipment will result in an increase in diesel emissions from construction equipment. The EPA recommends using diesel emission controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil*

movement, or other project activities to maintain healthy air quality…(Commenter: Amanetta Somerville, USEPA)

TVA Response: Comment noted.

I. Comments Related to Future Site Expansion

1. *…We note that the actual plant site would comprise a small area of the property in question. While some of this may be for security, we wonder if there might be consideration for expansion of plant capacity at some later date that could increase any environmental impacts… (Commenter: William R. Waldrop, WATeR)*

TVA Response: No foreseeable expansion of this facility is planned as of the date of this document.

J. Comments Related to Project Support

1. *Agree with your plan B! (Commenter: Ed Frahme)*

2. *We support efforts of TVA to prepare for a renewable energy future to lessen the impact of climate change. We just want to be assured that the water quality of the Tellico Reservoir is maintained as a valuable resource for Blount, Monroe and Loudon counties…(Commenter: William R. Waldrop, WATeR)*

TVA Response: Comment noted.

K. Comments Related to Project Opposition

1. *Now is the time to rethink the location of this "test" project. (Commenter: Raymond Wallace)*

TVA Response: Comment noted.

From: Chris Robbins
To: Davis, Brooke Alison
Subject: Battery station in Vonore
Date: Friday, October 22, 2021 8:42:44 AM

Would there be any potential danger for residents residing within a 10 mile radius of this battery station? Would it emit any cancer causing elements or frequency?
Is it environmentally safe for humans and animals?

Thank you
Chris A. Robbins
[redacted]

From: Judy Frahme
To: nepa
Subject: Alternative B
Date: Wednesday, October 27, 2021 11:33:01 AM

Agree with your plan B! Ed FRAHME, [redacted]

Sent from my iPhone

From: Wufoo
To: nepa
Subject: NEPA Comments - Vonore Battery Energy Storage [#1]
Date: Sunday, November 7, 2021 1:56:23 PM

Name	James Brewer
City	[redacted]
State	[redacted]
Email	[redacted]
Phone Number	[redacted]

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

I would like to submit the following questions and comments regarding the proposed Vonore Battery Energy Storage facility:

1. The EA only lists a build or no build option without consideration to other locations of the battery storage site. As was demonstrated in court cases, such as California v. Block, a sufficient range of viable alternatives should be considered in an EA or EIS. TVA already owns property off Highway 72 that is an industrial park. Why was constructing the battery storage site on this TVA industrial property between 1–2 miles not an alternative to procuring additional land on the EA?

2. The EA states that the aesthetic impact to area will be a long term, yet minor adverse impact. However, for the locals that live in the area, the installation may have a more significant impact on their property, possibly affecting property value, as industrial sites have been shown to do. The EA states that vegetative screening will be used. What type of vegetative screening will be used, and will it be sufficient to preserve the aesthetic view of the surrounding properties? Are there other considerations to mitigate the impact on the landscape and character of the surrounding community?

Thank you for addressing these questions.

From: r_aldro_@aol.com
To: Davis, Brooke Alison
Subject: Comments to BESS Draft EA
Date: Saturday November 13 2021 12:08:08 PM

WATeR
Watershed Association of the Tellico Reservoir
www.tellicowater.org
tellicowater@aol.com

November 11, 2021

Brooke Davis
NEPA Specialist
badavis13@tva.gov
400 West Summit Hill Drive, WT 11B
Knoxville, TN 37902

Re: Proposed Battery Energy Storage System – Vonore, TN (Project 2021-22)

Dear Ms. Davis,

The Watershed Association of the Tellico Reservoir (WATeR) has as its main goal the protection of water quality of the Tellico Reservoir and its watershed. We are recognized for our proactive advocacy which began shortly after we organized 21 years ago. Our concern for the BESS project arises from its proximity to the mouth of Bat Creek where runoff from the proposed site joins the creek to enter the reservoir near the Rarity Bay community.

We assume that any potential impact from site construction should be addressed and properly managed by the required SWPPP. However, there is very little detail about anticipated runoff or accidental releases during plant operation. While operation of BESS and associated equipment appear to pose low environmental concerns, one known danger is the potential of fire due to battery overheating. If a fire does occur, water and/or proprietary chemistry for fire suppression and cooling would be contaminated with battery components. If allowed to enter the watershed this waste could inflict significant harm to the reservoir. We would like assurances that rigorous SOPs would be in place to address this contingency and that containment of sufficient volume be constructed to prevent contact water from leaving the site without proper treatment.

We note that the actual plant site would comprise a small area of the property in question. While some of this may be for security, we wonder if there might be consideration for expansion of plant capacity at some later date that could increase any environmental impacts.

We support efforts of TVA to prepare for a renewable energy future to lessen the impact of climate change. We just want to be assured that the water quality of the Tellico Reservoir is maintained as a valuable resource for Blount, Monroe and Loudon counties.

Regards,

W. R. Waldrop

William R. Waldrop, Ph.D., P.E. (Retired)

Chairman
Water Quality Improvement Committee
WATeR

From: PW
To: Davis, Brooke Alison
Subject: Proposed Battery Storage System-Vonore TN (project 2021-22)
Date: Monday, November 15, 2021 10:39:43 PM

November 15, 2021

Brooke Davis
NEPA Specialist
badavis13@tva.gov
400 West Summit Hill Drive, WT 11B
Knoxville, TN 37902

Re: Proposed Battery Energy Storage System – Vonore, TN (Project 2021-22)

Dear Ms. Davis,

We, Mr. and Mrs. Raymond Wallace [redacted] are very concerned about what we feel is a short sidedness on the decision to put this "test" project so close to a tributary that flows a short distance into Bat Creek. Not only does that short distance matter but the creek itself is right there on the west side of all those trees. The people who have homes among those trees sit right on the water. From that location if one follows the current you come to all the homes of Rarity Bay that sit at the water's edge.

We know you know this as the natural run off from the sharp hill helps your "wastewater" to run into the creek.

Why would you want "wastewater" to directly go into the creek with out at least running it through a natural filter like a holding basen or strong riparian barrier?

That waste water has to have chemicals in it.

We do not have to go into all the other issues of destruction that will happen when a fire occurs. What is your plan for an event like that. Such an incident not only puts lithium in the air and soil it adds the tainted water and/or proprietary chemistry from fire suppression and cooling to be contaminated with battery components. My question is how fast do these chemicals flow into this reservoir, an hour, a day and how long does the water stay poisoned?

We and all the residents who surround this lake, which are thousands, and all the people that rely on this water for drinking, bathing and recreation feel that there has not been a thorough risk assessment and a long-term planning process for the safety of this project.

We also know that TRDA has offered a better location in the Tellico West Industrial Park. In the park the land is flatter if you use a holding system for waste water and hopefully you can choose a plat that is not near the Island Creek that flows through the Industrial Park into the reservoir. This location would be a more appropriate than the current site that is more

environmentally sensitive.

I understand that WATeR has asked for rigorous SOPs. Frankly due to the true sensitivity of this current location is one of those situations that “best Laid Plans” should not be relied upon.

Now is the time to rethink the location of this “test” project.

Regards,

Raymond Wallace

[redacted]

[redacted]

[redacted]

From:	Somerville, Amanetta
To:	Davis, Brooke Alison
Cc:	Kajumba, Ntale; Somerville, Amanetta
Subject:	Re: EPA Comments on the Draft Environmental Assessment for the Vonore Battery Energy Storage System and Associated Substation in Monroe and Blount Counties, Tennessee
Date:	Tuesday, November 16, 2021 1:25:18 PM
Attachments:	EPA Enclosure for Vonore TN BESS.docx

Dear Ms. Davis:

The United States Environmental Protection Agency (EPA) has reviewed the referenced document in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The purpose of this Draft Environmental Assessment (DEA) is for the Tennessee Valley Authority (TVA) to construct a Battery Energy Storage System (BESS) as a pilot study. The BESS would generate 20 megawatts (MW) with a storage capacity of 40 MW hours and would be located west of State Highway 72 in Vonore, Tennessee, in Monroe County. Additionally, TVA's proposed action will construct an onsite 161-kV substation in Monroe County, Tennessee, and install 0.4-mile of new all dielectric self-supporting (ADSS) fiber cable on the Fort Loudon to Alcoa No. 1 161-kV transmission line in Blount County, Tennessee.

The EPA has reviewed the DEA and the Proposed Action Alternative in addition to the No Action Alternative. Under the No Action Alternative, TVA would not construct the BESS pilot project facility, the proposed substation, nor install the ADSS fiber line in Blount County. Under the Proposed Action Alternative, TVA proposes implementing and constructing a BESS capable of generating 20 MW with a storage capacity of 40 MW hours at a 10-15-acre property located to the west of State Highway 72 in Vonore within Monroe County, Tennessee. TVA will construct a new 161-kV substation in Monroe County, Tennessee, and install 0.4-miles of new ADSS fiber cable from Structures 53 to 55 on the Fort Loudon to Alcoa's No. 1 161-kV transmission line in Blount, Tennessee. The installation of the ADSS fiber cables on existing overhead transmission lines would be within the existing ROW.

The EPA understands that TVA's preferred alternative is the Proposed Action Alternative. The EPA has not identified any significant environmental impacts to the proposed action that would require substantive changes to the DEA or require the TVA's consideration of alternatives for the location of the proposed BESS facility and substation. The EPA has enclosed detailed technical comments for your consideration (See enclosure).

The EPA appreciates the opportunity to review the DEA for the Vonore Battery Energy Storage System and Associated Substation. If you have questions regarding our comments, please contact Ms. Amanetta Somerville, Project Manager in the NEPA Section, at 404-562-9025 or by e-mail at somerville.amanetta@epa.gov.

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

[redacted]

Enclosure

EPA comments on the Draft Environmental Assessment for the Tennessee Valley Authority Vonore Battery Energy Storage System and Associated Substation in Monroe and Blount Counties, Tennessee

Wetlands: Section 3.5.1.3 of the DEA states that no wetlands occur within the proposed BESS and substation site. Additionally, the DEA notes 0.27 acres of wetlands within the proposed ADSS fiber upgrade corridor. TVA anticipates that the proposed project activities will avoid all wetlands.

Recommendation: The EPA recommends any contractor working on-site use best management practices and address any potential impacts to off-site streams and waterways. The EPA also recommends that site grading, excavation, and construction plans should include implementable measures to prevent erosion and sediment runoff from the project site during and after construction.

Endangered Species: Section 3.6.2.2 of the DEA states that in April 2018, TVA addressed several activities in programmatic consultation with the US Fish and Wildlife Service (FWS) on routine actions and federally listed bats in accordance with Endangered Species Act Section 7(a)(2). For those activities with the potential to affect bats, TVA committed to implementing specific conservation measures. TVA further stated that activities and associated conservation measures would be reviewed/implemented as part of the proposed project.

Recommendation: The EPA principally defers to the FWS regarding compliance with the Endangered Species Act. The EPA recommends that any additional conservation measures identified by the FWS during consultation be included in the Final EA and/or Finding of No Significant Impact.

Transportation: Section 3.11 of the DEA identified that onsite construction activities for the proposed BESS facility in Vonore, Tennessee, would result in a negligible increase of traffic on local and state roadways in the vicinity of the transport and delivery of the three transformers, twelve containers, and lithium-ion batteries required for the project site.

Recommendation: The EPA notes that throughout the proposed project construction, the presence of diesel equipment will result in an increase in diesel emissions from construction equipment. The EPA recommends using diesel emission controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other project activities to maintain healthy air quality.

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

DAVID W. SALYERS, P.E.
COMMISSIONER

BILL LEE
GOVERNOR

November 17, 2021

Via Electronic Mail to nepa@tva.gov
Brooke Davis
NEPA Compliance Specialist
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Dear Ms. Davis:

The Tennessee Department of Environment and Conservation (TDEC) appreciates the opportunity to provide comments on the Tennessee Valley Authority (TVA) *Vonore Battery Energy Storage System and Associated Substation Draft Environmental Assessment* (Draft EA). TVA is proposing to construct a Battery Energy Storage System (BESS) and associated substation pilot study project capable of generating 20 megawatts with a storage capacity of 40 megawatt hours. The project site would be located west of State Highway 72 in Vonore, Tennessee in Monroe County. The proposed 15-acre pilot study site would require an approximate ten-acre slab-on-grade pad for the BESS, its attendant features, and an associated new Vonore 161-(kilovolt) kV Substation. The BESS would be comprised of twelve containers to house the lithium-ion (Li-ion) batteries. Each container would be 40-feet-long by 10-feet-wide and 8-feet in height. To support the BESS pilot project, roughly one-half mile of new, all dielectric self-supporting fiber cable would need to be installed on the existing Fort Loudon to Alcoa No. 1 transmission line, just east of Friendsville, in Blount County, Tennessee. The Draft EA evaluates the following two alternatives, and the anticipated environmental impacts associated with the proposed BESS facility, substation, and fiber line upgrade:

- Alternative A: The No Action Alternative – Do Not Construct the BESS Facility, a New Substation, or Install the ADSS Fiber Upgrade
- Alternative B: The Action Alternative - Construct the BESS Facility, a New Substation, or Install the ADSS Fiber Upgrade

TDEC is the environmental and natural resource regulatory agency in Tennessee with delegated responsibility from the U.S. Environmental Protection Agency (EPA) to regulate sources of air pollution; solid and hazardous waste; radiological health issues; underground storage tanks; and water resources. TDEC has reviewed the Draft EA and has the following comments regarding the proposed action:

Solid Waste

During the course of construction and site operations, all materials determined to be wastes should be evaluated (e.g., waste determinations) and managed (e.g., inspections, container requirements, permitted transport, and disposal) in accordance with the Solid and Hazardous Wastes Rules and Regulations of the State (TDEC DSWM

Rule 0400 Chapters 11 and 12, respectively) in addition to other applicable TVA best management practices. TDEC recommends that the Final EA include reference to applicable state regulations.

Water Resources

As TVA notes in the Draft EA, a Construction Stormwater Permit (CGP) and a Surface Water Pollution Prevention Plan (SWPPP) will be required for the storage facility as it will disturb more than one acre of land. Construction of the ten-acre slab-on-grade pad will likely encounter sinkholes which may complicate its construction. The site is in the mature karst of the Knox Group Dolomites and there are numerous large sinkholes indicated along strike on the topographic map, which likely only captures a small percentage of the actual sinkholes present. Steps should be taken to avoid direct injection of concrete into open throat sinkholes, which could impact the groundwater and necessitate additional support to protect the slab from collapse. TVA also notes that the fiber cable installation will require the crossing of Gallagher Creek and unnamed tributaries, making an Aquatic Resource Alteration Permit (ARAP) necessary. TDEC encourages TVA to reflect these considerations in the Final EA.

TDEC appreciates the opportunity to comment on this Draft EA. Please note that these comments are not indicative of approval or disapproval of the proposed action, nor should they be interpreted as an indication regarding future permitting decisions by TDEC. Please contact me should you have any questions regarding these comments.

Sincerely,

Bryan Davidson | Policy Analyst
Office of Policy and Sustainable Practices, TDEC
William R. Snodgrass Tennessee Tower
312 Rosa L Parks Ave, 2nd Floor
Nashville, TN 37243
Email: Bryan.Davidson@tn.gov
Phone: 901-233-7079

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Attachment C – Prime Farmland Forms for U.S. Department of Agriculture-Natural Resources Conservation Service Consultation

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request 07/20/21	
Name of Project Vonore BESS and Assoc. Substation		Federal Agency Involved TVA	
Proposed Land Use Battery storage and substation		County and State Monroe County, TN	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 8/19/2021	Person Completing Form: Anthony Khiel

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated 0	Average Farm Size 129
Major Crop(s) corn	Farmable Land In Govt. Jurisdiction Acres: 144,027 % 34.5	Amount of Farmland As Defined in FPPA Acres: 35,347 % 8.5	
Name of Land Evaluation System Used Monroe County TN	Name of State or Local Site Assessment System n/a	Date Land Evaluation Returned by NRCS 8/19/2021	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	38.2			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	38.2			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	1.1			
B. Total Acres Statewide Important or Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.003			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	7			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	51			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	5			
2. Perimeter In Non-urban Use	(10)	5			
3. Percent Of Site Being Farmed	(20)	18			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	1			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	0			
8. Creation Of Non-farmable Farmland	(10)	0			
9. Availability Of Farm Support Services	(5)	0			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	29	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	51	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	29	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	80	0	0	0

Site Selected: Site A	Date Of Selection 08/20/2021	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

Site A received 80/260 total site assessment points. Therefore, the conversion of onsite farmland would not have significant impact on the surrounding area.

Name of Federal agency representative completing this form: Brooke Davis	Date: 08/20/2021

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

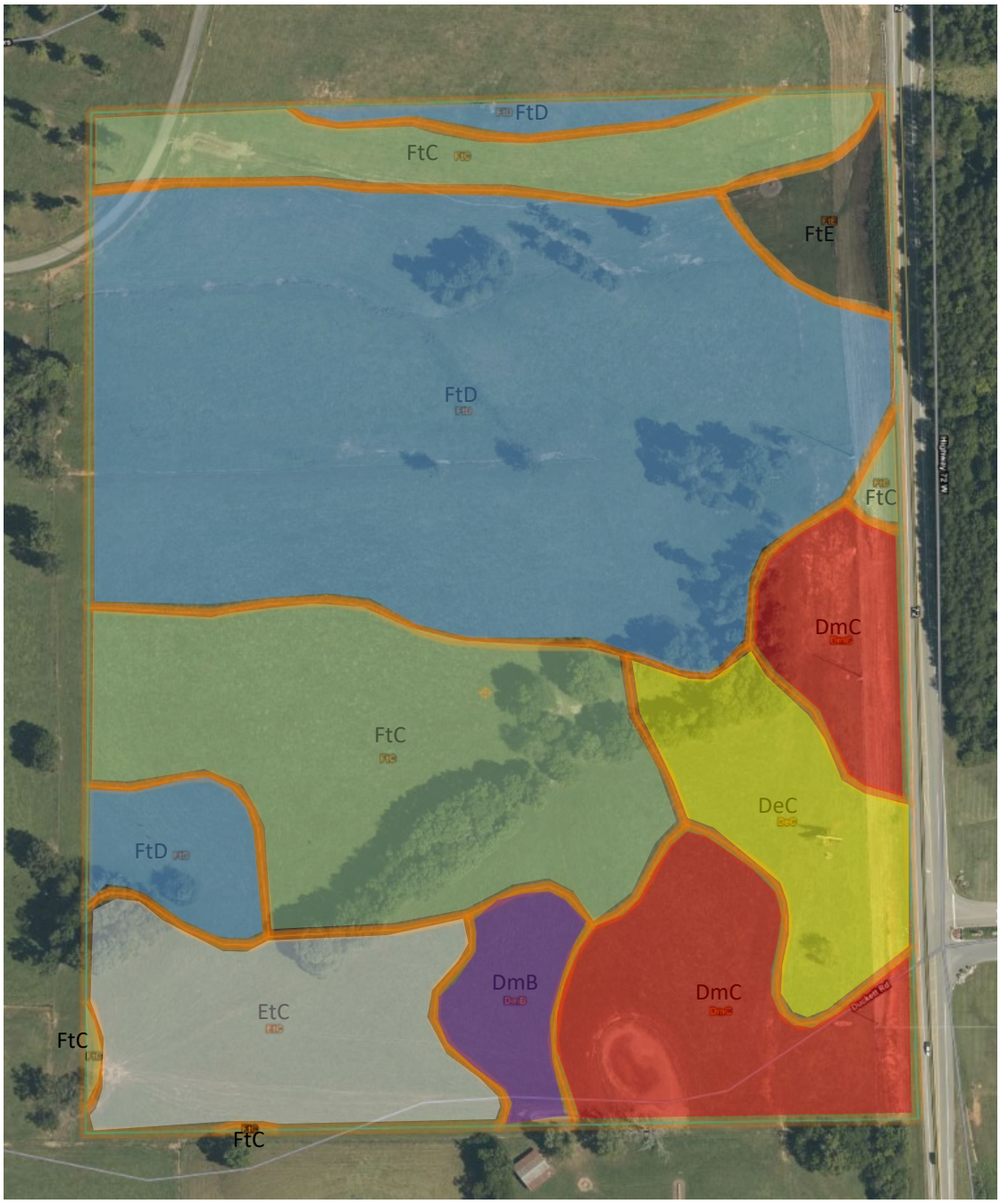
$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Figure 1
Site Vicinity Map
Vonore Battery Energy Storage System and Associated Substation

Scale: Not to Scale	**Drawn By:** BDavis
Date: July 6, 2021	**Map Citation:** Google Earth, 2019



Monroe County, Tennessee (TN123)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DeC	Dewey silt loam, 6 to 15 percent slopes	2.5	6.5%
DmB	Dunmore silt loam, 2 to 5 percent slopes	1.1	2.8%
DmC	Dunmore silt loam, 5 to 12 percent slopes	4.7	12.3%
EtC	Etowah silt loam, 6 to 12 percent slopes	3.5	9.1%
FtC	Fullerton gravelly silt loam, 5 to 12 percent slopes	9.2	24.1%
FtD	Fullerton gravelly silt loam, 15 to 25 percent slopes	16.3	42.8%
FtE	Fullerton cherty silt loam, 20 to 40 percent slopes	0.9	2.5%

Note:
***DmB: Prime Farmland (<3%)**

Figure 2
Soils – Proposed BESS Site
Vonore Battery Energy Storage System and Associated Substation

Scale: Not to Scale	**Drawn By:** BDavis
Date: July 14, 2021	**Map Citation:** Google Earth, 2019

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Attachment D - TVA Bat Strategy Project Screening Forms for the Vonore Battery Energy Storage System and Associated Substation

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Attachment D. TVA Bat Strategy Project Screening Forms for the Vonore Battery Energy Storage System and Associated Substation Project

Project Review Form - TVA Bat Strategy *(06/2019)*

*This form should **only** be completed if project includes activities in Tables 2 or 3 (STEP 2 below). This form is not required if project activities are limited to Table 1 (STEP 2) or otherwise determined to have no effect on federally listed bats. If so, include the following statement in your environmental compliance document (e.g., add as a comment in the project CEC): "Project activities limited to Bat Strategy Table 1 or otherwise determined to have no effect on federally listed bats. Bat Strategy Project Review Form NOT required." This form is to assist in determining required conservation measures per TVA's ESA Section 7 programmatic consultation for routine actions and federally listed bats.*[1]

Project Name: Vonore, TN 69-kV Battery Energy Storage System **Date:** Feb 27, 2021

Contact(s): Will Martin (Env.)/Eric Murrell (PM) **CEC#:** 44913 **Project ID:** 529775

Project Location (City, County, State): Vonore, TN (Monroe County)

Project Description:

TVA proposes to construct the Vonore Battery Energy Storage System (BESS). The BESS will have the generating capability of 20 MVA and storage capacity of 40 MW hours. A loop connection point will be installed between strs 108 and 109 on Loudon - TRDA (L5875) 69-kV Transmission Line (TL). Approximately 10-15 acres of property will be required for the BESS and substation.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

STEP 1) Select TVA Action. If none are applicable, contact environmental support staff, Environmental Project Lead, or Terrestrial Zoologist to discuss whether form (i.e., application of Bat Programmatic Consultation) is appropriate for project:

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

STEP 2) Select all activities from Tables 1, 2, and 3 below that are included in the proposed project.

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.

☐ 1. Loans and/or grant awards	☐ 8. Sale of TVA property	☐ 19. Site-specific enhancements in streams and reservoirs for aquatic animals
☒ 2. Purchase of property	☐ 9. Lease of TVA property	☐ 20. Nesting platforms
☐ 3. Purchase of equipment for industrial facilities	☐ 10. Deed modification associated with TVA rights or TVA property	☐ 41. Minor water-based structures (this does not include boat docks, boat slips or piers)
☐ 4. Environmental education	☐ 11. Abandonment of TVA retained rights	☐ 42. Internal renovation or internal expansion of an existing facility
☐ 5. Transfer of ROW easement and/or ROW equipment	☐ 12. Sufferance agreement	☐ 43. Replacement or removal of TL poles
☐ 6. Property and/or equipment transfer	☒ 13. Engineering or environmental planning or studies	☒ 44. Conductor and overhead ground wire installation and replacement
☐ 7. Easement on TVA property	☐ 14. Harbor limits delineation	☐ 49. Non-navigable houseboats

Project Review Form - TVA Bat Strategy *(06/2019)*

TABLE 2. Activities not likely to adversely affect bats with implementation of conservation measures. Conservation measures and completion of bat strategy project review form REQUIRED; review of bat records in proximity to project NOT required.		
☑ 18. Erosion control, minor	☐ 57. Water intake - non-industrial	☐ 79. Swimming pools/associated equipment
☑ 24. Tree planting	☐ 58. Wastewater outfalls	☐ 81. Water intakes – industrial
☐ 30. Dredging and excavation; recessed harbor areas	☐ 59. Marine fueling facilities	☐ 84. On-site/off-site public utility relocation or construction or extension
☐ 39. Berm development	☐ 60. Commercial water-use facilities (e.g., marinas)	☐ 85. Playground equipment - land-based
☐ 40. Closed loop heat exchangers (heat pumps)	☑ 61. Septic fields	☐ 87. Aboveground storage tanks
☐ 45. Stream monitoring equipment - placement and use	☐ 66. Private, residential docks, piers, boathouses	☐ 88. Underground storage tanks
☐ 46. Floating boat slips within approved harbor limits	☑ 67. Siting of temporary office trailers	☐ 90. Pond closure
☑ 48. Laydown areas	☐ 68. Financing for speculative building construction	☐ 93. Standard License
☐ 50. Minor land based structures	☐ 72. Ferry landings/service operations	☐ 94. Special Use License
☐ 51. Signage installation	☐ 74. Recreational vehicle campsites	☐ 95. Recreation License
☐ 53. Mooring buoys or posts	☐ 75. Utility lines/light poles	☐ 96. Land Use Permit
☑ 56. Culverts	☐ 76. Concrete sidewalks	

Table 3: Activities that may adversely affect federally listed bats. Conservation measures AND completion of bat strategy project review form REQUIRED; review of bat records in proximity of project REQUIRED by OSAR/Heritage eMap reviewer or Terrestrial Zoologist.		
☐ 15. Windshield and ground surveys for archaeological resources	☑ 34. Mechanical vegetation removal, includes trees or tree branches > 3 inches in diameter	☑ 69. Renovation of existing structures
☑ 16. Drilling	☑ 35. Stabilization (major erosion control)	☐ 70. Lock maintenance/ construction
☑ 17. Mechanical vegetation removal, does not include trees or branches > 3" in diameter (in Table 3 due to potential for woody burn piles)	☑ 36. Grading	☐ 71. Concrete dam modification
☐ 21. Herbicide use	☐ 37. Installation of soil improvements	☐ 73. Boat launching ramps
☑ 22. Grubbing	☐ 38. Drain installations for ponds	☐ 77. Construction or expansion of land-based buildings
☐ 23. Prescribed burns	☑ 47. Conduit installation	☐ 78. Wastewater treatment plants
☐ 25. Maintenance, improvement or construction of pedestrian or vehicular access corridors	☐ 52. Floating buildings	☐ 80. Barge fleeting areas
☐ 26. Maintenance/construction of access control measures	☐ 54. Maintenance of water control structures (dewatering units, spillways, levees)	☐ 82. Construction of dam/weirs/ levees
☐ 27. Restoration of sites following human use and abuse	☐ 55. Solar panels	☐ 83. Submarine pipeline, directional boring operations
☐ 28. Removal of debris (e.g., dump sites, hazardous material, unauthorized structures)	☐ 62. Blasting	☐ 86. Landfill construction
☑ 29. Acquisition and use of fill/borrow material	☑ 63. Foundation installation for transmission support	☐ 89. Structure demolition
☐ 31. Stream/wetland crossings	☑ 64. Installation of steel structure, overhead bus, equipment, etc.	☐ 91. Bridge replacement
☐ 32. Clean-up following storm damage	☑ 65. Pole and/or tower installation and/or extension	☐ 92. Return of archaeological remains to former burial sites
☐ 33. Removal of hazardous trees/tree branches		

STEP 3) Project includes one or more activities in Table 3? ◉ **YES (Go to Step 4)** ○ **NO (Go to Step 13)**

Project Review Form - TVA Bat Strategy *(06/2019)*

STEP 4) Answer questions *a* through *e* below (applies to projects with activities from Table 3 ONLY)

a) Will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)?
- (•) **NO** (NV2 does not apply)
- ( ) **YES** (NV2 applies, subject to records review)

b) Will project involve entry into/survey of cave?
- (•) **NO** (HP1/HP2 do not apply)
- ( ) **YES** (HP1/HP2 applies, subject to review of bat records)

c) If conducting **prescribed burning** (**activity 23**), estimated acreage: [ ] and timeframe(s) below; [■] **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 31	■ Apr 1 - May 31, Aug 1- Oct 14	☐ Jun 1 - Jul 31
VA	☐ Sep 16 - Nov 15	☐ Nov 16 - Apr 14	☐ Apr 15 - May 31, Aug 1 – Sept 15	☐ Jun 1 - Jul 31
AL	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 15	☐ Mar 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
NC	☐ Oct 15 - Nov 14	☐ Nov 15 - Apr 15	☐ Apr 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
MS	☐ Oct 1 - Nov 14	☐ Nov 15 - Apr 14	☐ Apr 15 - May 31, Aug 1 – Sept 30	☐ Jun 1 - Jul 31

d) Will the project involve vegetation piling/burning?
- ( ) **NO** (SSPC4/ SHF7/SHF8 do not apply)
- (•) **YES** (SSPC4/SHF7/SHF8 applies, subject to review of bat records)

e) If **tree removal (activity 33 or 34)**, estimated amount: [2] (•)**ac** ( )**trees** ( )**N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 31	■ Apr 1 - May 31, Aug 1- Oct 14	☐ Jun 1 - Jul 31
VA	☐ Sep 16 - Nov 15	☐ Nov 16 - Apr 14	☐ Apr 15 - May 31, Aug 1 – Sept 15	☐ Jun 1 - Jul 31
AL	☐ Oct 15 - Nov 14	☐ Nov 15 - Mar 15	☐ Mar 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
NC	☐ Oct 15 - Nov 14	☐ Nov 15 - Apr 15	☐ Apr 16 - May 31, Aug 1 - Oct 14	☐ Jun 1 - Jul 31
MS	☐ Oct 1 - Nov 14	☐ Nov 15 - Apr 14	☐ Apr 15 - May 31, Aug 1 – Sept 30	☐ Jun 1 - Jul 31

If warranted, does project have flexibility for bat surveys (May 15-Aug 15): (•) **MAYBE** ( ) **YES** ( ) **NO**

**** For **PROJECT LEADS** whose projects will be reviewed by a Heritage Reviewer (Natural Resources Organization only), **STOP HERE**. Click File/ Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information. Otherwise continue to Step 5. ****

SECTION 2: REVIEW OF BAT RECORDS (applies to projects with activities from Table 3 ONLY)

STEP 5) Review of bat/cave records conducted by Heritage/OSAR reviewer?

( ) **YES** ( ) **NO** (Go to Step 13)

Info below completed by:
- ☐ **Heritage Reviewer** (name) [ ] Date [ ]
- ☐ **OSAR Reviewer** (name) [ ] Date [ ]
- ■ **Terrestrial Zoologist** (name) [Jesse Troxler] Date [Jul 6, 2021]

Gray bat records: ☒ None ☐ Within 3 miles* ☐ Within a cave* ☐ Within the County

Indiana bat records: ☐ None ☒ Within 10 miles* ☐ Within a cave* ☒ Capture/roost tree* ☒ Within the County

Northern long-eared bat records: ☐ None ☐ Within 5 miles* ☐ Within a cave* ☒ Capture/roost tree* ☒ Within the County

Virginia big-eared bat records: ☒ None ☐ Within 6 miles* ☐ Within the County

Caves: ☐ None within 3 mi ☒ Within 3 miles but > 0.5 mi ☐ Within 0.5 mi but > 0.25 mi* ☐ Within 0.25 mi but > 200 feet* ☐ Within 200 feet*

Bat Habitat Inspection Sheet completed? (•) **NO** ( ) **YES**

Amount of SUITABLE habitat to be removed/burned (may differ from STEP 4e): [1.3] **(**(•)**ac** ( )**trees)*** ( )**N/A**

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STEP 6) Provide any additional notes resulting from Heritage Reviewer records review in Notes box below then . . . . . Go to Step 13

Notes from Bat Records Review (e.g., historic record; bats not on landscape during action; DOT bridge survey with negative results):

1.3 acres surveyed for CEC 44804 was not cleared, instead it will be cleared for this project which contains the footprint of 44804.

STEPS 7-12 To be Completed by Terrestrial Zoologist (if warranted):

STEP 7) Project will involve:

- ☐ Removal of suitable trees within 0.5 mile of P1-P2 Indiana bat hibernacula or 0.25 mile of P3-P4 Indiana bat hibernacula or any NLEB hibernacula.
- ☐ Removal of suitable trees within 10 miles of documented Indiana bat (or within 5 miles of NLEB) hibernacula.
- ☒ Removal of suitable trees > 10 miles from documented Indiana bat (> 5 miles from NLEB) hibernacula.
- ☐ Removal of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.
- ☐ Removal of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.
- ☒ Removal of suitable trees > 2.5 miles from Indiana bat roost trees or > 5 miles from Indiana bat capture sites.
- ☐ Removal of documented Indiana bat or NLEB roost tree, if still suitable.
- ☐ N/A

STEP 8) Presence/absence surveys were/will be conducted: ○ **YES** ◉ **NO** ○ **TBD**

STEP 9) Presence/absence survey results, on _____ ○ **NEGATIVE** ○ **POSITIVE** ◉ **N/A**

STEP 10) Project ◉ **WILL** ○ **WILL NOT** require use of Incidental Take in the amount of 1.3 ◉ **acres or** ○ **trees** proposed to be used during the ○ **WINTER** ◉ **VOLANT SEASON** ○ **NON-VOLANT SEASON** ○ **N/A**

STEP 11) Available Incidental Take (prior to accounting for this project) as of Jul 6, 2021

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
8 Expand or Construct New Electric Transmission Assets	11,543.42	6,975.24	2,282.53	2,285.7

STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion: $ 650 OR ○ **N/A**

TERRESTRIAL ZOOLOGISTS, after completing SECTION 2, review Table 4, modify as needed, and then complete section for Terrestrial Zoologists at end of form.

SECTION 3: REQUIRED CONSERVATION MEASURES

STEP 13) Review Conservation Measures in Table 4 and ensure those selected are relevant to the project. If not, manually override and uncheck irrelevant measures, and explain why in ADDITIONAL NOTES below Table 4.

Did review of Table 4 result in ANY remaining Conservation Measures in RED?

- ○ **NO** (Go to Step 14)
- ◉ **YES** (STOP HERE; Submit for Terrestrial Zoology Review. Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information).

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☐	69, 77, 89, 91	**AR1** - 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: ○ 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: • Location in relatively warm areas • 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: • 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
☐	69, 77, 89, 91	**AR2** - Additional bat P/A surveys (e.g., emergence counts) conducted if warranted (i.e., when AR1 indicates that bats may be present).

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▣	16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 56, 61, 62, 63, 64, 65, 67, 69, 84, 89	**SSPC1** (**Transmission only**) - 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: ○ BMPs 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: • 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 paths with appropriate road BMPs to manage runoff. • 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 & after significant rain. • Re-vegetate and mulch disturbed areas as soon as practical. ○ Specific guidelines regarding sensitive resources and buffer zones: • 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, unique/ important habitat (e.g., cave buffers, restricted herbicide use, seasonal clearing of suitable habitat).
▣	16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90	**SSPC2** - 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.
▣	17, 22, 32, 33, 34, 35, 36	**SSPC4** (**Transmission only**) - 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.
▣	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	**L1** - Direct temporary lighting away from suitable habitat during the active season.
▣	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	**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).

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[1]Bats 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).

Hide All Unchecked Conservation Measures

- (•) HIDE
- ( ) UNHIDE

Hide Table 4 Columns 1 and 2 to Facilitate Clean Copy and Paste

- ( ) HIDE
- ( ) UNHIDE

NOTES (additional info from field review, explanation of no impact or removal of conservation measures).

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STEP 14) Save completed form (Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to batstrategy@tva.gov
Submission of this form indicates that Project Lead/Applicant:

Eric Murrell (PM) (name) is (or will be made) aware of the requirements below.

- Implementation of conservation measures identified in Table 4 is required to comply with TVA's Endangered Species Act programmatic bat consultation.
- TVA may conduct post-project monitoring to determine if conservation measures were effective in minimizing or avoiding impacts to federally listed bats.

For Use by Terrestrial Zoologist Only

☒ Terrestrial Zoologist acknowledges that Project Lead/Contact (name) Will Martin has been informed of any relevant conservation measures and/or provided a copy of this form.

☐ For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take 1.3 ◉ ac ○ trees and that use of Take will require $ 650 contribution to TVA's Conservation Fund upon completion of activity (amount entered should be $0 if cleared in winter).

For Terrestrial Zoology Use Only. Finalize and Print to Noneditable PDF.

Project Review Form - TVA Bat Strategy *(06/2019)*

Table 4. TVA's ESA Section 7 Programmatic Bat Consultation Required Conservation Measures

The Conservation Measures in Table 4 are automatically selected based on your choices in Tables 2 and 3 but can be manually overridden, if necessary. To Manually override, press the button and enter your name.

Manual Override

Name: Jesse Troxler

Check if Applies to Project	Activities Subject To Conservation Measure	Conservation Measure Description
☑	15, 16, 17, 18, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96	**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.
☑	17, 23, 34	**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.
☑	33, 34	**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.
☑	33, 34	**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.
☑	33, 34	**TR7** (**Existing Transmission ROW only**) - **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.
☑	33, 34	**TR8** (**TVA Reservoir Land only**) - 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.
☑	33, 34	**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 carrying out TVA's broad mission and responsibilities.

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