Resilience 360° Environmental Screening Checklist

The goal of this program is to improve and enhance resiliency during events that challenge the transmission of power on the grid. TVA will review this checklist and follow up with the Program Participant as appropriate, in accordance with TVA's legal and policy requirements associated with this program.

Please provide the following information to TVA program management staff via email (Resilience360@tva.gov) at least six (6) months before any ground disturbing activities are scheduled to begin. TVA's final environmental review and site approval must be completed before any construction activities begin. Review and approval could take approximately 6 weeks and up to 6 months.

In general, if the proposed Resilience 360° site is located within previously developed areas, such as: parking lots, recently graded land, sites situated on fill material, sites situated on high ground relative to the remainder of the property, or other similar low impact situations; and associated activities such as installation of signage, construction of new utility distribution poles or underground utilities, etc. are completely within previously disturbed areas, reviews should be more expeditious.

The Program Participant (Vendor) should complete sections 1.0, 2.0, 3.0, and 4.0 of the Checklist.

1.0 General Project Description

Vendor Name: _____

Proposed Customer Facility (Host Site): _____

Proposed Site Address (or lat/long): _____

_____

Property Landowner: _____

2.0 Project Attachments

Attach/submit the following to/with this checklist:

- ☐ Labeled pictures showing the proposed project location and surrounding environment including:
  - from a variety of angles (at a minimum of four photos looking in each of the cardinal directions looking at the site)
  - the area surrounding the installation (looking outward away from the site) capturing all neighboring facilities
  - any structures proposed for modification or demolition (external and internal if possible)
  - any vegetation proposed for clearing from multiple angles (see Attachment A for guidance)
  - tops of nearby utility poles, lights, or other tall structures adjacent to the proposed site
  - any visible nests
  - any areas on or near the site where water ponds frequently
  - interconnection point to existing transmission

- interconnection point to nearest existing gas supply

- ☐ Aerial map/diagram of the proposed site with an imposed project footprint identifying (including shapefiles, kmz, and/or CAD files):
  - the project location
  - laydown area(s)
  - nearest gas pipeline access point/existing lines
  - access route(s) to the project location
  - the associated facility (including but not limited to gas units, BESS, proposed utilities, parking, grading, excavation, storage sheds, tanks, and fill)
  - interconnection point(s) to existing transmission
  - interconnection point(s) to existing gas supply
  - trenching locations/layout
  - overall site layout plan showing locations of all proposed new facilities
- ☐ Any documentation showing past disturbance at the proposed site (previous construction maps, grading diagrams, historic photographs, survey reports, etc.) including any evidence of the depth of previous disturbance
- ☐ Phase I Environmental Site Assessment(s) if available
- ☐ Attachments associated with the checklist in Section 4.0:
  - 4.6 Air Quality & Climate: US Environmental Protection Agency Green Book Current Nonattainment Area Counties for All Criteria Pollutants | US EPA (https://www3.epa.gov/airquality/greenbook/astate.html
  - 4.6 Air Quality & Climate: US Environmental Protection Agency List of Areas Protected by the Regional Haze Program | US EPA (https://www.epa.gov/visibility/list-areas-protected-regional-haze-program

3.0 Project Characteristics

Project Characteristic	**Site-Specific Detail**
Facility land use (i.e. commercial, industrial, medical, etc.)	
Facility function (i.e. water treatment, server farm, chemical manufacturing, etc.)	
Resilience 360 Unit Generation Type (Gas or BESS)	
Minimum generation at the site	
Maximum generation at the site	
Maximum disturbance area (including laydown up to 2 acres)	
Maximum trenching depth	
Anticipated new build facilities/structures (e.g. buildings, tanks, storage, parking, new utility poles, etc.)	
Total number of natural gas/battery units at the site (both existing and new)	Existing (if any) – New –

Project Characteristic	**Site-Specific Detail**
Maximum height of new build facilities/structures (including any new utility poles)	
Maximum emissions for all relevant criteria pollutants (in pounds per Megawatt hour [lb/MWh]), *not applicable for BESS units*	NOx – CO – VOC – PM – SO2 –
Foundation Characteristics	Style (pad, piers, piles, etc.) – Depth of foundation –
Anticipated required permits and the dates those permits would be expected to be acquired	
New distribution equipment required	
Anticipated construction duration (including anticipated construction start)	
Anticipated daily construction truck traffic needs (not including worker vehicles)	
Anticipated types of construction equipment (particularly consider whether pile drivers or other higher decibel equipment may be needed)	
Approximate maximum number of construction workers expected to be needed	
Approximate maximum number of full-time employees during operations	
Anticipated commencement of operations date	
Anticipated types and estimated quantities of construction waste (including but not limited to any hazardous wastes)	
Anticipated types and estimated quantities of operational waste (including but not limited to any hazardous wastes)	

4.0 Project Checklist

TVA subject matter experts (SMEs) will review the specific resources potentially affected. Based on the SME review(s), further review of environmental impacts by TVA or by the Program Participant, as directed by TVA (such as site visits and/or field surveys), or specific best management practices (BMPs), may be required. If the answer to any question is *YES*, consider reconfiguring the site or locating another site that avoids these potential impacts and reach out to TVA to understand additional review responsibilities, potential longer review times, and costs.

Consider the entire site footprint/disturbance area, including laydown areas and interconnection points, when answering the questions below.

4.1 General	
□ Yes □ No	Would the installation (including the interconnect to utility/gas) or operation of the proposed unit(s) require ground disturbance? If yes, what is the maximum depth of excavation? _____ feet below ground surface and identify excavation areas on the provided maps/diagrams
□ Yes □ No	If yes to the above question, would the ground disturbance affect previously undisturbed soils/areas? If yes, show the area including undisturbed soils on the attached aerial map(s).
□ Yes □ No	Would the installation of the unit(s) require the demolition or alteration of any structure or building? If yes, list/describe the affected structures (including the date the structure was constructed) and the modifications needed:
□ Yes □ No	Would best management practices including use of dust suppression measures and covering of equipment carrying loose material (such as borrow/fill) be utilized? If yes, describe: If no, describe why these measures would not be necessary:
□ Yes □ No	Would drilling, blasting, or pile driving be required? If yes, describe the planned actions including anticipated duration:
□ Yes □ No	Would anticipated noise levels exceed Occupational Safety and Health Administration limits, local ordinances, and/or 65 dBA at the site boundary during either construction or operations? If yes, provide additional details:
□ Yes □ No	Would offsite borrow material be required? If yes, what is the maximum that would be needed and from where would this material be procured:

□ Yes □ No	Would soil/rock be removed from the site to an offsite disposal area? If yes, how much and where would this material be disposed:
□ Yes □ No	Would all equipment and facilities be removed upon future decommissioning? If no, what facilities or structures would need to be left in place?
4.2 Water Resources (including Wetlands)	
□ Yes □ No	Would development of the site require disturbance to known wetlands, streams, rivers, reservoirs, or jurisdictional features or to onsite areas where water is currently present or ponds frequently? If yes, please provide additional description:
□ Yes □ No	Is there or would there be a Stormwater Pollution Prevention Plan (SWPPP) in place? In no, describe the onsite stormwater management system in relation to the proposed action.
4.3 Floodplains	
□ Yes □ No	Is the proposed site (including any gas units, BESS, temporary and/or permanent laydown areas, buildings, enclosed sheds, tanks, storage areas, as well as fill for any of these facilities) located below the 100-year flood elevation at the proposed site (if the 100-year flood elevation is known) or within the 100-year floodplain or floodway?
4.4 Ecological Resources	
□ Yes □ No	Would removal of trees with a trunk diameter greater than 3 inches at breast height be necessary? If so, how many trees or acres of trees would be cleared? _____ trees/acres If yes, how would the cleared trees be disposed (i.e. sold, hauled offsite, mulched, burned, etc.): _____
□ Yes □ No	Can the project commit to tree clearing only within a winter window (approximately October 15-March 31 dates may vary depending on site location)?
□ Yes □ No	Are there any visible caves, rock ledges, overhangs, sinkholes, or large springs in view of the host site?
4.5 Cultural Resources	
□ Yes □ No	Is the associated host site facility greater than 50 years of age? If yes, what was the year the facility was constructed:
4.6 Air Quality and Climate	
□ Yes □ No	Are the new generation units replacing older generation units? If yes, describe the older units:
□ Yes □ No	Is the site located in a county that is in a non-attainment status for any criteria pollutant per the US Environmental Protection Agency Green Book Current Nonattainment Area Counties for All

	Criteria Pollutants | US EPA (https://www3.epa.gov/airquality/greenbook/astate.html)? Attach the state nonattainment areas report to this checklist.
□ Yes □ No	Is this site located within 0.5 mile of a Class I area per the US Environmental Protection Agency List of Areas Protected by the Regional Haze Program | US EPA (https://www.epa.gov/visibility/list-areas-protected-regional-haze-program)? Attach the Class I areas list to this checklist.
□ Yes □ No	Would a construction permit be required to construct the proposed units at the specific host site? If so, provide details and attach the supporting information for the permit:
□ Yes □ No	Would an air permit be required to operate the proposed units at the specific host site? If so, provide details and attach the supporting information for the air permit:
□ Yes □ No	Would emissions from construction or operations of the proposed action lead to concentrations of any pollutants exceeding National Ambient Air Quality Standards (NAAQS)? If yes, provide additional details regarding which pollutants are exceeded and mitigation measures that would be applied:
4.7 Health and Safety	
□ Yes □ No	Is the edge of the facility property located more than 0.1 mile from a gas supply line? If yes, provide the distance from the facility boundary to the interconnection point and the landownership/easement information necessary to access that interconnection point.
□ Yes □ No	Has there been prior contamination at the proposed site, or is there potential for contamination? (ex. previously used for other industry, disturbance, or fill issues on-site). If yes, provide applicable documentation along with the Phase I Environmental Site Survey in the attachments.

This form must be completed and signed by an authorized representative or agent for the Program Participant, an individual who can certify, under penalty of law, and based on information and belief formed after reasonable inquiry and appropriate training or licensing, that the statements and information contained in this Environmental Screening Checklist are true, accurate and complete.

Vendor Representative (Signature): _____ Date: _____
(or Designated Agent)

Vendor Representative (Name, Title): _____
(or Designated Agent)

5.0 TVA Acceptance Review

TVA subject matter experts reviewed the material presented in this checklist. Documentation of their review is attached.

In accordance with the National Environmental Policy Act (NEPA), TVA must evaluate and document whether the proposed action described within this document is already covered under an existing NEPA review. The following questions record the evaluation of four criteria for making this determination.

Determination of NEPA Adequacy	
□ Yes □ No	Are there significant circumstances or information relevant to site-specific environmental concerns that would substantially change the analysis in the Resilience 360° PEA? If yes, describe:
□ Yes □ No	Are there effects that would result from the site-specific proposed action that were not addressed in the Resilience 360° PEA? If yes, describe:
□ Yes □ No	Is additional site-specific NEPA necessary? If yes, explain:

Based on the evaluation documented herein, I conclude that the Resilience 360° Programmatic Environmental Assessment (PEA) and Finding of No Significant Impact (FONSI) fully covers the proposed site-specific action and constitutes TVA's compliance with the requirements of NEPA. The site-specific project does not present significant changes to the proposed action or significant new circumstances or information relevant to environmental concerns that would require supplemental analysis. Impacts associated with the proposed action would be minor to moderate and are bounded by the conclusions of the Final PEA and FONSI and the information in the Determination of NEPA Adequacy section of this form. This form documents TVA's compliance with the National Environmental Policy Act for this site-specific action. The completed form will be transmitted to Resilience360@tva.gov.

_____ _____

NAME
Manager, NEPA Program
Project Support
Tennessee Valley Authority

Date Signed

Photographing Trees to Determine Suitability for Indiana & Northern Long-eared Bats

Definition of Suitable Habitat*:*

Suitable summer habitat consists of forested/wooded areas where Indiana bats (*Myotis sodalis*) and northern long-eared bats (*Myotis septentrionalis*) roost, forage, and travel, and may also include adjacent and interspersed non-forested habitats (e.g., emergent wetlands, adjacent edges of agricultural fields, old fields, pastures). This includes forests and woodlots containing potential roosts (i.e., live and dead trees ≥ 3 inches in diameter at breast height (7.62 centimeter) that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features (e.g., fencerows, riparian forests, other wooded corridors). Wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other suitable trees.

Characteristics of Suitable Roost Trees:

Physical characteristics we look for to determine if trees are suitable (need to be able to make these determinations from pictures provided):

- **Trees can be alive or dead (snags).**
- **Trees are typically greater than or equal to 3 inches in diameter at breast height (DBH) using a diameter tape. If you do not have a diameter tape, a standard measuring tape can be used to measure the circumference of the tree at breast height, then divide that number by 3.14 to find diameter.**
    - Ex. A standard tape measure shows a tree is 10 inches in circumference, the diameter would be 10 ÷ 3.14 = 3.18 inches.
- **Trees must have bark that is separated from the tree (exfoliating), or cracks, crevices and hollows where the bats can hide. These bats are about as long as a lighter and weigh about the same as a pencil.**
    - Indiana bats are approximately 1.5-2” long and only weigh about 7 grams.
    - Northern long-eared bats are approximately 3-3.7” long and weigh between 5-8 grams
- **Live trees that often have suitable bark are shagbark hickory and white oak.**
    - Bachelor bats (and non-reproductive females) that roost alone or in small numbers are more likely to use these.
    - Other species of live tree have been used by these bats in the past.
- **Snags of any species can be used if bark is suitable.**
    - In the southeast, maternity roosts have been found in snags of loblolly pine, white pine, shortleaf pine, table mountain pine, pitch pine, eastern hemlock, red maple, & tulip poplar.

To Photograph a Tree for Suitability Determination (see example photos below):

- Stand at the base of the tree, point the camera up the trunk of the tree and photograph the tree on two sides to show the quality of the bark
- Stand about 4 feet from the tree and take a picture of the tree from the ground to about midway up the trunk.
- Stand about 4 feet from the tree and take a picture showing the canopy of the tree from about midway up the trunk to the top.
- Do not take backlit pictures (where the sun is shining in the background) as this will silhouette the tree and we will not be able to determine suitability.
- Take the picture so the sun is beside or behind YOU and illuminates the tree.
- Please provide at least 3-4 pictures of each tree for best results.

Examples of exfoliating bark on known Indiana bat maternity roost trees:

Photos: TVA staff, Cherokee National Forest, Spring 2013

Examples of exfoliating bark on known Indiana bat maternity roost trees:

This piece of bark fell off a maternity roost snag. Researchers estimate up to 40 Indiana bats could roost under this piece of bark when it was still on the tree.

Examples of exfoliating bark on live trees that offer potential roosts for Indiana bats and northern long-eared bats:

Shag bark hickory

White oak