

**Tennessee Valley Authority**  
**SMALL GENERATOR**  
**INTERCONNECTION PROCEDURES (SGIP)**  
**(For Generating Facilities No Larger Than 20 MW)**

**April 1, 2015**

## TABLE OF CONTENTS

	Page No.
<b>Section 1. Application</b> .....	- 4 -
1.1 Applicability .....	- 4 -
1.2 Pre-Application .....	- 5 -
1.3 Interconnection Request .....	- 5 -
1.4 Modification of the Interconnection Request .....	- 5 -
1.5 Site Control .....	- 5 -
1.6 Queue Position .....	- 6 -
1.7 Interconnection Requests Submitted Prior to the Effective Date of the SGIP ..	- 6 -
<b>Section 2. Fast Track Process</b> .....	- 6 -
2.1 Applicability .....	- 6 -
2.2 Initial Review .....	- 6 -
2.2.1 Screens .....	- 6 -
2.3 Customer Options Meeting .....	- 8 -
2.4 Supplemental Review .....	- 9 -
<b>Section 3. Study Process</b> .....	- 9 -
3.1 Applicability .....	- 9 -
3.2 Scoping Meeting .....	- 10 -
3.3 Feasibility Study .....	- 10 -
3.4 System Impact Study .....	- 10 -
3.5 Facilities Study .....	- 11 -
<b>Section 4. Provisions that Apply to All Interconnection Requests</b> .....	- 12 -
4.1 Reasonable Efforts .....	- 12 -
4.2 Disputes .....	- 12 -
4.3 Interconnection Metering .....	- 13 -
4.4 Commissioning .....	- 13 -
4.5 Confidentiality .....	- 13 -
4.6 Comparability .....	- 14 -
4.7 Record Retention .....	- 14 -
4.8 Interconnection Agreement .....	- 14 -
4.9 Coordination with Affected Systems .....	- 14 -
4.10 Capacity of the Small Generating Facility .....	- 14 -
<b>Attachment 1</b> – Glossary of Terms	
<b>Attachment 2</b> – Small Generator Interconnection Request	
<b>Attachment 3</b> – Certification Codes and Standards	
<b>Attachment 4</b> – Certification of Small Generator Equipment Packages	
<b>Attachment 5</b> – Application, Procedures, and Terms and Conditions for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than 10 kW ("10 kW Inverter Process")	
<b>Attachment 6</b> – Small Generator Feasibility Study Agreement	

**Attachment 7** – Small Generator System Impact Study Agreement  
**Attachment 8** – Small Generator Facilities Study Agreement

## Section 1. Application

### 1.1 Applicability

- 1.1.1 A request to interconnect a certified Small Generating Facility (See Attachments 3 and 4 for description of certification criteria.) no larger than 2 MW shall be evaluated under the **Fast Track Process** (Section 2). A request to interconnect a certified inverter-based Small Generating Facility no larger than 10 kW shall be evaluated under the **10 kW Inverter Process** (Attachment 5). A request to interconnect a Small Generating Facility larger than 2 MW but no larger than 20 MW or a Small Generating Facility that does not pass the Fast Track Process or the 10 kW Inverter Process shall be evaluated under the **Study Process** (Section 3).
- 1.1.2 Capitalized terms used herein shall have the meanings specified in the **Glossary of Terms** (Attachment 1) or the body of these procedures.
- 1.1.3 Neither these procedures nor the requirements included hereunder apply to Small Generating Facilities interconnected or approved for interconnection or in the study process prior to sixty (60) Business Days after the effective date of these procedures.
- 1.1.4 Prior to submitting its **Small Generator Interconnection Request** (Attachment 2), the Interconnection Customer may ask TVA's interconnection contact employee or office whether the proposed interconnection is subject to these procedures. TVA shall respond within fifteen (15) Business Days.
- 1.1.5 Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. The Federal Energy Regulatory Commission expects all Transmission Providers, market participants, and Interconnection Customers interconnected with electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and best practice recommendations from the electric reliability authority. All public utilities and public systems, including TVA, are expected to meet basic standards for electric system infrastructure and operational security, including physical, operational, and cyber-security practices.
- 1.1.6 References in these procedures to interconnection agreement are to TVA's interconnection agreement. In matters regarding a pending Interconnection Request, the provisions of the SGIP shall control. In matters provided for under an executed Interconnection Agreement, the terms, including the definitions, of the interconnection agreement shall control.
- 1.1.7 In order to protect the integrity of the Transmission System, TVA will study the impacts of any interconnecting Small Generating Facilities in the TVA balancing authority area, including those interconnecting to TVA power distributors and directly-served industrial customers.
- 1.1.8 Nothing in this SGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

1.2 Pre-Application

TVA has designated an employee from whom information on the application process and on an Affected System can be obtained through informal requests by the Interconnection Customer presenting a proposed project for a specific site. The name, telephone number, and e-mail address of the contact employee is available on TVA's Internet web site. Electric system information provided to the Interconnection Customer may include relevant system studies, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on TVA's Transmission System, to the extent such provision does not violate confidentiality provisions of prior agreements or critical infrastructure requirements. TVA shall comply with reasonable requests for such information.

1.3 Interconnection Request

The Interconnection Customer shall submit its Interconnection Request to TVA, together with the processing fee or deposit specified in the Interconnection Request. The Interconnection Request shall be date- and time-stamped upon receipt. The original date- and time-stamp applied to the Interconnection Request at the time of its original submission shall be accepted as the qualifying date- and time-stamp for the purposes of any timetable in these procedures. The Interconnection Customer shall be notified of receipt by TVA within three (3) Business Days of receiving the Interconnection Request. TVA shall notify the Interconnection Customer within ten (10) Business Days of the receipt of the Interconnection Request as to whether the Interconnection Request is complete or incomplete. If the Interconnection Request is incomplete, TVA shall provide, along with the notice that the Interconnection Request is incomplete, a written list detailing all information that must be provided to complete the Interconnection Request. The Interconnection Customer will have ten (10) Business Days after receipt of the notice to submit the listed information or to request an extension of time to provide such information. If the Interconnection Customer does not provide the listed information or a request for an extension of time within the deadline, the Interconnection Request will be deemed withdrawn. An Interconnection Request will be deemed complete upon submission of the listed information to TVA.

1.4 Modification of the Interconnection Request

Any modification to machine data or equipment configuration or to the interconnection site of the Small Generating Facility not agreed to in writing by TVA and the Interconnection Customer may be deemed a Material Modification resulting in withdrawal of the Interconnection Request and may require submission of a new Interconnection Request, unless proper notification of each Party by the other and a reasonable time to cure the problems created by the changes are undertaken.

1.5 Site Control

Documentation of site control must be submitted with the Interconnection Request. Site control may be demonstrated through:

1.5.1 Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Small Generating Facility;

1.5.2 An option to purchase or acquire a leasehold site for such purpose; or

1.5.3 An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant the Interconnection Customer the right to possess or occupy a site for such purpose.

1.6 Queue Position

TVA shall assign a Queue Position based upon the date- and time-stamp of the Interconnection Request. The Queue Position of each Interconnection Request will be used to determine the cost responsibility for the Upgrades necessary to accommodate the interconnection. At TVA's option, Interconnection Requests may be studied serially or in clusters for the purpose of the system impact study.

1.7 Interconnection Requests Submitted Prior to the Effective Date of the SGIP

Nothing in this SGIP affects an Interconnection Customer's Queue Position assigned before the effective date of this SGIP. The Parties agree to complete work on any interconnection study agreement executed prior to the effective date of this SGIP in accordance with the terms and conditions of that interconnection study agreement. Any new studies or other additional work will be completed pursuant to this SGIP.

## **Section 2. Fast Track Process**

2.1 Applicability

The Fast Track Process is available to an Interconnection Customer proposing to interconnect its Small Generating Facility with TVA's Transmission System if the Small Generating Facility is no larger than 2 MW and meets the codes, standards, and certification requirements of Attachments 3 and 4 of these procedures. At its option, TVA may approve an interconnection if it has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

2.2 Initial Review

Within fifteen (15) Business Days after TVA notifies the Interconnection Customer it has received a complete Interconnection Request, TVA shall perform an initial review using the screens set forth below, shall notify the Interconnection Customer of the results, and include with the notification copies of the analysis and data underlying TVA's determinations under the screens.

2.2.1 Screens

2.2.1.1 The proposed Small Generating Facility's Point of Interconnection must be on a portion of TVA's Transmission System that is subject to the TVA Transmission Service Guidelines.

2.2.1.2 For interconnection of a proposed Small Generating Facility to a **radial distribution circuit**, the aggregated generation, including the proposed Small Generating Facility, on the circuit shall not exceed 15% of the line section annual peak load as most recently measured at the substation. A line section is that portion of the electric system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line.

- 2.2.1.3 For interconnection of a proposed Small Generating Facility to the **load side of spot network protectors**, the proposed Small Generating Facility must utilize an inverter-based equipment package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5% of a spot network's maximum load or 50 kW.
- 2.2.1.4 The proposed Small Generating Facility, in aggregation with other generation on the distribution circuit, shall not contribute more than 10% to the distribution circuit's **maximum fault current** at the point on the high voltage (primary) level nearest the proposed Point of Interconnection.
- 2.2.1.5 The proposed Small Generating Facility, in aggregate with other generation on the distribution circuit, shall not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5% of the **short circuit interrupting capability**; nor shall the interconnection be proposed for a circuit that already exceeds 87.5% of the short circuit interrupting capability.
- 2.2.1.6 Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the Interconnection Customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on TVA's electric power system due to a loss of ground during the operating time of any anti-islanding function.

<b>Primary Distribution Line Type</b>	<b>Type of Interconnection to Primary Distribution Line</b>	<b>Result/Criteria</b>
3-phase, 3-wire	3-phase or single-phase, phase-to-phase	Pass screen
3-phase, 4-wire	Effectively-grounded 3-phase or single-phase, line-to-neutral	Pass screen

- 2.2.1.7 If the proposed Small Generating Facility is to be interconnected on single-phase **shared secondary**, the aggregate generation capacity on the shared secondary, including the proposed Small Generating Facility, shall not exceed 20 kW.
- 2.2.1.8 If the proposed Small Generating Facility is single-phase and is to be interconnected on a **center tap neutral of a 240 volt service**, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- 2.2.1.9 The Small Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer

feeding the circuit where the Small Generating Facility proposes to interconnect, shall not exceed 10 MW in an area where there are known, or posted, **transient stability limitations** to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the Point of Interconnection).

2.2.1.10 No construction of facilities by TVA on its own system shall be required to accommodate the Small Generating Facility.

2.2.2 If the proposed interconnection passes the screens, the Interconnection Request shall be approved and TVA will provide the Interconnection Customer an executable interconnection agreement within twenty (20) Business Days after the determination.

2.2.3 If the proposed interconnection fails the screens, but TVA determines that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards, TVA shall provide the Interconnection Customer an executable interconnection agreement within twenty (20) Business Days after the determination.

2.2.4 If the proposed interconnection fails the screens, but TVA does not or cannot determine from the initial review that the Small Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards unless the Interconnection Customer is willing to consider minor modifications or further study, TVA shall provide the Interconnection Customer with the opportunity to attend a customer options meeting.

### 2.3 Customer Options Meeting

If TVA determines the Interconnection Request cannot be approved without minor modifications at minimal cost; or a supplemental study or other additional studies or actions; or at significant cost to address safety, reliability, or power quality problems, within the five (5) Business Day period after the determination, TVA shall notify the Interconnection Customer and provide copies of all data and analyses underlying its conclusion. Within ten (10) Business Days of TVA's determination, TVA shall offer to convene a customer options meeting to review possible Interconnection Customer facility modifications or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of TVA's determination, or at the customer options meeting, TVA shall:

2.3.1 Offer to perform facility modifications or minor modifications to TVA's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to TVA's electric system; or

2.3.2 Offer to perform a supplemental review if TVA concludes that the supplemental review might determine that the Small Generating Facility could continue to qualify for interconnection pursuant to the Fast Track Process, and provide a non-binding good faith estimate of the costs of such review; or



- 2.3.3 Obtain the Interconnection Customer's agreement to continue evaluating the Interconnection Request under the Section 3 Study Process.

2.4 Supplemental Review

If the Interconnection Customer agrees to a supplemental review, the Interconnection Customer shall agree in writing within fifteen (15) Business Days of the offer, and submit a deposit for the estimated costs. The Interconnection Customer shall be responsible for TVA's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within twenty (20) Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, TVA will return such excess within twenty (20) Business Days of the invoice without interest.

- 2.4.1 Within ten (10) Business Days following receipt of the deposit for a supplemental review, TVA will determine if the Small Generating Facility can be interconnected safely and reliably.

- 2.4.1.1 If so, TVA shall forward an executable interconnection agreement to the Interconnection Customer within twenty (20) Business Days.

- 2.4.1.2 If so, and Interconnection Customer facility modifications are required to allow the Small Generating Facility to be interconnected consistent with safety, reliability, and power quality standards under these procedures, TVA shall forward an executable interconnection agreement to the Interconnection Customer within twenty (20) Business Days after confirmation that the Interconnection Customer has agreed to make the necessary changes at the Interconnection Customer's cost.

- 2.4.1.3 If so, and minor modifications to TVA's electric system are required to allow the Small Generating Facility to be interconnected consistent with safety, reliability, and power quality standards under the Fast Track Process, TVA shall forward an executable interconnection agreement to the Interconnection Customer within twenty (20) Business Days that requires the Interconnection Customer to pay the costs of such system modifications prior to interconnection.

- 2.4.1.4 If not, the Interconnection Request will continue to be evaluated under the Section 3 Study Process.

**Section 3. Study Process**

3.1 Applicability

The Study Process shall be used by an Interconnection Customer proposing to interconnect its Small Generating Facility with TVA's Transmission System if the Small Generating Facility (1) is larger than 2 MW but no larger than 20 MW, (2) is not certified, or (3) is certified but did not pass the Fast Track Process or the 10 kW Inverter Process.

### 3.2 Scoping Meeting

- 3.2.1 A scoping meeting will be held within ten (10) Business Days after the Interconnection Request is deemed complete, or as otherwise mutually agreed to by the Parties. TVA and the Interconnection Customer will bring to the meeting personnel, including system engineers, and other resources as may be reasonably required to accomplish the purpose of the meeting.
- 3.2.2 The purpose of the scoping meeting is to discuss the Interconnection Request and review existing studies relevant to the Interconnection Request. The Parties shall further discuss whether TVA should perform a feasibility study or proceed directly to a system impact study, or a facilities study, or an interconnection agreement. If the Parties agree that a feasibility study should be performed, TVA shall provide the Interconnection Customer, as soon as possible, but not later than five (5) Business Days after the scoping meeting, a feasibility study agreement (Attachment 6) including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.
- 3.2.3 The scoping meeting may be omitted by mutual agreement. In order to remain in consideration for interconnection, an Interconnection Customer who has requested a feasibility study must return the executed feasibility study agreement within fifteen (15) Business Days. If the Parties agree not to perform a feasibility study, TVA shall provide the Interconnection Customer, no later than five (5) Business Days after the scoping meeting, a system impact study agreement (Attachment 7) including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study.

### 3.3 Feasibility Study

- 3.3.1 The feasibility study shall identify any potential adverse system impacts that would result from the interconnection of the Small Generating Facility.
- 3.3.2 A deposit of \$1,000 is required from the Interconnection Customer.
- 3.3.3 The scope of and cost responsibilities for the feasibility study are described in the attached feasibility study agreement.
- 3.3.4 If the feasibility study shows no potential for adverse system impacts, TVA shall send the Interconnection Customer a facilities study agreement (Attachment 8), including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study. If no additional facilities are required, TVA shall send the Interconnection Customer an executable interconnection agreement within twenty (20) Business Days.
- 3.3.5 If the feasibility study shows the potential for adverse system impacts, the review process shall proceed to the appropriate system impact study(s).

### 3.4 System Impact Study

- 3.4.1 A system impact study shall identify and detail the electric system impacts that would result if the proposed Small Generating Facility were interconnected

without project modifications or electric system modifications, focusing on the adverse system impacts identified in the feasibility study, or to study potential impacts, including but not limited to those identified in the scoping meeting. A system impact study shall evaluate the impact of the proposed interconnection on the reliability of the electric system.

- 3.4.2 If no transmission system impact study is required, but potential electric power Distribution System adverse system impacts are identified in the scoping meeting or shown in the feasibility study on the system of either a distributor of TVA power or a directly-served customer of TVA (“TVA Customer”), TVA shall notify both the TVA Customer and the Interconnection Customer. It is recognized by the Parties that the TVA Customer may be required to perform a System Impact Study to determine the impacts of the facility on the TVA Customer’s system.
- 3.4.3 In instances where the feasibility study or a Distribution System impact study shows potential for transmission system adverse system impacts, within five (5) Business Days following transmittal of the feasibility study report, TVA shall send the Interconnection Customer a transmission system impact study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, if such a study is required.
- 3.4.4 If the feasibility study shows no potential for transmission system or Distribution System adverse system impacts, TVA shall send the Interconnection Customer either a facilities study agreement, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the study, or an executable interconnection agreement, as applicable.
- 3.4.5 In order to remain under consideration for interconnection, the Interconnection Customer must return executed system impact study agreements, if applicable, within thirty (30) Business Days.
- 3.4.6 A deposit of the good faith estimated costs for each system impact study may be required from the Interconnection Customer.
- 3.4.7 The scope of and cost responsibilities for a system impact study are described in the attached system impact study agreement.

### 3.5 Facilities Study

- 3.5.1 Once the required system impact study(s) is completed, a system impact study report shall be prepared and transmitted to the Interconnection Customer along with a facilities study agreement within five (5) Business Days, including an outline of the scope of the study and a non-binding good faith estimate of the cost to perform the facilities study. In the case where system impact studies are determined to be unnecessary, a notice of the fact shall be transmitted to the Interconnection Customer within the same timeframe.
- 3.5.2 In order to remain under consideration for interconnection, or, as appropriate, in TVA's interconnection queue, the Interconnection Customer must return the

executed facilities study agreement or a request for an extension of time within thirty (30) Business Days.

- 3.5.3 The facilities study shall specify and estimate the cost of the equipment, engineering, procurement and construction work (including overhead) needed to implement the conclusions of the system impact study(s).
- 3.5.4 Design for any required Interconnection Facilities and/or Upgrades shall be performed under the facilities study agreement. TVA may contract with consultants to perform activities required under the facilities study agreement. The Interconnection Customer and TVA may agree to allow the Interconnection Customer to separately arrange for the design of some of the Interconnection Facilities. In such cases, facilities design will be reviewed and/or modified prior to acceptance by TVA, under the provisions of the facilities study agreement. If the Parties agree to separately arrange for design and construction, and provided security and confidentiality requirements can be met, TVA shall make sufficient information available to the Interconnection Customer in accordance with confidentiality and critical infrastructure requirements to permit the Interconnection Customer to obtain an independent design and cost estimate for any necessary facilities.
- 3.5.5 A deposit of the good faith estimated costs for the facilities study may be required from the Interconnection Customer.
- 3.5.6 The scope of and cost responsibilities for the facilities study are described in the attached facilities study agreement.
- 3.5.7 Upon completion of the facilities study, and with the agreement of the Interconnection Customer to pay for Interconnection Facilities and Upgrades identified in the facilities study, TVA shall provide the Interconnection Customer an executable interconnection agreement within twenty (20) Business Days.

#### **Section 4. Provisions that Apply to All Interconnection Requests**

##### 4.1 Reasonable Efforts

TVA shall make reasonable efforts to meet all time frames provided in these procedures unless TVA and the Interconnection Customer agree to a different schedule. If TVA cannot meet a deadline provided herein, it shall notify the Interconnection Customer, explain the reason for the failure to meet the deadline, and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

##### 4.2 Disputes

- 4.2.1 Should any question, disagreement, or need for clarification or interpretation about a pending Interconnection Request arise (Dispute), the Parties agree to use their best efforts to resolve such matters informally at the lowest possible levels of management. Such matters not resolved at the working level within a sixty (60) day period shall be referred to higher levels of management of both the Interconnection Customer and TVA for resolution, if possible. The Parties further agree to develop and use consensual alternative dispute resolution

processes, such as mediation and facilitation, whenever necessary and appropriate.

4.2.2 Disputes related to the interconnection agreement will be handled in accordance with the terms of an executed interconnection agreement.

4.3 Interconnection Metering

Any metering necessitated by the use of the Small Generating Facility shall be installed at the Interconnection Customer's expense in accordance with TVA's specifications.

4.4 Commissioning

Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards. TVA must be given at least five (5) Business Days written notice, or as otherwise mutually agreed to by the Parties, of the tests and may be present to witness the commissioning tests.

4.5. Confidentiality

4.5.1 Confidential information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of these procedures all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed confidential information regardless of whether it is clearly marked or otherwise designated as such.

4.5.2 Confidential information does not include information previously in the public domain, required to be publicly submitted or divulged by governmental authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce these procedures. Each Party receiving confidential information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under these procedures, or to fulfill legal or regulatory requirements.

4.5.2.1 Each Party shall employ at least the same standard of care to protect confidential information obtained from the other Party as it employs to protect its own confidential information.

4.5.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of confidential information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.

4.5.3 In response to any Freedom of Information Act (FOIA) request for information received from or relating to the Interconnection Customer and designated by the Interconnection Customer as proprietary or confidential, TVA will evaluate the requested information and determine the applicability of any FOIA exemptions. TVA further agrees to consult with and seek the views of the Interconnection Customer regarding the application of FOIA exemptions to information

submitted by the Interconnection Customer, including, but not limited to 5 U.S.C. § 552(b)(4). Pursuant to its responsibilities under the FOIA, TVA must make the final determination on whether the requested information is legally exempt from disclosure under the FOIA and will notify the Interconnection Customer accordingly in advance of release of any of the information.

4.6 Comparability

TVA shall receive, process, and analyze all Interconnection Requests in a timely manner as set forth in this document. TVA shall use the same reasonable efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Small Generating Facility is owned or operated by TVA or others.

4.7 Record Retention

TVA shall maintain for three years records, subject to audit, of all Interconnection Requests received under these procedures, the times required to complete Interconnection Request approvals and disapprovals, and justification for the actions taken on the Interconnection Requests.

4.8 Interconnection Agreement

After receiving an interconnection agreement from TVA, the Interconnection Customer shall have thirty (30) Business Days or another mutually agreeable time frame to sign and return the interconnection agreement. If the Interconnection Customer does not sign the interconnection agreement within thirty (30) Business Days, the Interconnection Request shall be deemed withdrawn. After the interconnection agreement is signed by the Parties, the interconnection of the Small Generating Facility shall proceed under the provisions of the interconnection agreement.

4.9 Coordination with Affected Systems

TVA shall coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System operators and, if possible, include those results (if available) in its applicable interconnection study within the time frame specified in these procedures. TVA will include such Affected System operators, as appropriate, in meetings held with the Interconnection Customer as required by these procedures. The Interconnection Customer will cooperate with TVA in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider which may be an Affected System shall cooperate with TVA with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

4.10 Capacity of the Small Generating Facility

4.10.1 If the Interconnection Request is for an increase in capacity for an existing Small Generating Facility, the Interconnection Request shall be evaluated on the basis of the new total capacity of the Small Generating Facility.

4.10.2 If the Interconnection Request is for a Small Generating Facility that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single Point of Interconnection, the Interconnection Request shall be evaluated on the basis of the aggregate capacity of the multiple devices.

4.10.3 The Interconnection Request shall be evaluated using the maximum rated capacity of the Small Generating Facility.

## **Glossary of Terms**

**10 kW Inverter Process** – The procedure for evaluating an Interconnection Request for a certified inverter-based Small Generating Facility no larger than 10 kW that uses the Section 2 screens. The application process uses an all-in-one document that includes a simplified Interconnection Request, simplified procedures, and a brief set of terms and conditions. See SGIP Attachment 5.

**Affected System** – An electric system other than TVA's Transmission System that may be affected by the proposed interconnection.

**Business Day** – Monday through Friday, excluding Federal Holidays.

**Distribution System** – Facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

**Distribution Upgrades** – The additions, modifications, and upgrades to a Distribution System to accommodate the interconnection of the Small Generating Facility to the Distribution System and that enhance either the capacity or the reliability of the Distribution System. Distribution Upgrades do not include Interconnection Facilities.

**Fast Track Process** – The procedure for evaluating an Interconnection Request for a certified Small Generating Facility no larger than 2 MW that includes the Section 2 screens, customer options meeting, and optional supplemental review.

**Good Utility Practice** – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Interconnection Customer** – Any entity, including TVA, that proposes to interconnect its Small Generating Facility with TVA's Transmission System.

**Interconnection Facilities** – TVA's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection as well as any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to TVA's Transmission System. Interconnection Facilities are sole use facilities and shall not include Upgrades (either Distribution Upgrades or Network Upgrades).

**Interconnection Request** – The Interconnection Customer's request to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the



operating characteristics of, an existing Small Generating Facility that is interconnected with TVA's Transmission System.

**Material Modification** – A modification that has a material impact on the cost or timing of any Interconnection Request with a later queue priority date.

**Network Upgrades** – Additions, modifications, and upgrades to TVA's Transmission System required to accommodate the interconnection of the Small Generating Facility to TVA's Transmission System and that enhance either the capacity or the reliability of the Transmission System. Network Upgrades do not include Distribution Upgrades.

**Party or Parties** – TVA, Interconnection Customer or both.

**Point of Interconnection** – The point where the Interconnection Facilities connect to TVA's Transmission System.

**Queue Position** – The order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by TVA.

**Small Generating Facility** – The Interconnection Customer's device for the production of electricity identified in the Interconnection Request with a generating capacity of no more than 20 MW, but shall not include the Interconnection Customer's Interconnection Facilities.

**Study Process** – The procedure for evaluating an Interconnection Request that includes the Section 3 scoping meeting, feasibility study, system impact study, and facilities study.

**Transmission System** – The facilities owned, controlled or operated by TVA that are used to provide transmission service under the TVA Transmission Service Guidelines.

**TVA** – The Tennessee Valley Authority that owns, controls, and operates the Transmission System to which the Small Generating Facility is to be interconnected in accordance with the provisions of this Agreement.

**TVA Transmission Service Guidelines** - The terms and conditions through which open access transmission service is offered on the TVA Transmission System, and as amended or supplemented from time to time.

**Upgrades** – The required additions and modifications to TVA's Transmission System that enhance either the capacity or reliability of either the Distribution System or the Transmission System. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

*Note: The definitions used in the SGIP in no way supersede or modify an interconnection agreement between TVA and an Interconnection Customer or the meaning of any terms contained therein.*

**Small Generator Interconnection Request  
(Application Form)**

**Tennessee Valley Authority**

This Interconnection Request shall be submitted to the representative indicated below:

Jason L. Adams  
Tennessee Valley Authority  
1101 Market Street, MR 1B-C  
Chattanooga, TN 37402-2801  
423-751-7274 (phone)  
jladams1@tva.gov

An Interconnection Request is considered complete when it provides all applicable and correct information required below. Per SGIP Section 1.5, documentation of site control must be submitted with the Interconnection Request.

**Preamble and Instructions**

An Interconnection Customer who requests an interconnection must submit this Interconnection Request by hand delivery, mail, e-mail, or fax to TVA.

**Processing Fee or Deposit:**

If the Interconnection Request is submitted under the Fast Track Process, the non-refundable processing fee is \$500.

If the Interconnection Request is submitted under the Study Process, whether a new submission or an Interconnection Request that did not pass the Fast Track Process, the Interconnection Customer shall submit to TVA a deposit of \$1,000 towards the cost of the feasibility study.

**Interconnection Customer Information**

Legal Name of the Interconnection Customer (or, if an individual, individual's name)

Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Facility location (if different from above): \_\_\_\_\_

Telephone (day): \_\_\_\_\_ Telephone (evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Alternative contact information (if different from the Interconnection Customer)

Contact name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone (day): \_\_\_\_\_ Telephone (evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Application is for:     \_\_\_\_\_ New Small Generating Facility  
                                  \_\_\_\_\_ Capacity addition to existing Small Generating Facility

If capacity addition to existing facility, please describe: \_\_\_\_\_  
\_\_\_\_\_

Will the Small Generating Facility be used for any of the following?

Net metering? Yes \_\_\_ No \_\_\_  
To supply power to the Interconnection Customer? Yes \_\_\_ No \_\_\_  
To supply power to others? Yes \_\_\_ No \_\_\_

For installations at locations with existing electric service to which the proposed Small Generating Facility will interconnect, provide:

\_\_\_\_\_  
(Local electric service provider\*)

\_\_\_\_\_  
(Existing account number\*)

[\*To be provided by the Interconnection Customer if the local electric service provider is different from TVA]

Contact Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone (day): \_\_\_\_\_ Telephone (evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Requested Point of Interconnection: \_\_\_\_\_

Interconnection Customer's requested in-service date: \_\_\_\_\_

**Small Generating Facility Information**

Data apply only to the Small Generating Facility, not the Interconnection Facilities.

Energy Source: \_\_\_ Solar \_\_\_ Wind \_\_\_ Hydro \_\_\_ Hydro Type (e.g. run-of-river): \_\_\_  
Diesel \_\_\_ Natural Gas \_\_\_ Fuel Oil \_\_\_ Other (state type) \_\_\_\_\_

Prime Mover: \_\_\_ Fuel Cell \_\_\_ Recip. Engine \_\_\_ Gas Turbine \_\_\_ Steam Turbine  
\_\_\_ Microturbine \_\_\_ PV \_\_\_ Other

Type of Generator: \_\_\_ Synchronous \_\_\_ Induction \_\_\_ Inverter

Generator nameplate rating: \_\_\_\_\_ kW (typical) Generator nameplate kVAR: \_\_\_\_\_

Interconnection Customer or customer-site load: \_\_\_\_\_ kW (if none, so state)

Typical reactive load (if known): \_\_\_\_\_

Maximum physical export capability requested: \_\_\_\_\_ kW

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Is the prime mover compatible with the certified protective relay package? \_\_\_ Yes \_\_\_ No

Generator (or solar collector)  
Manufacturer, model name & number: \_\_\_\_\_  
Version number: \_\_\_\_\_

Nameplate output power rating in kW: (Summer) \_\_\_\_\_ (Winter) \_\_\_\_\_  
Nameplate output power rating in kVA: (Summer) \_\_\_\_\_ (Winter) \_\_\_\_\_

Individual generator power factor  
Rated power factor: Leading: \_\_\_\_\_ Lagging: \_\_\_\_\_

Total number of generators in wind farm to be interconnected pursuant to this  
Interconnection Request: \_\_\_\_\_ Elevation: \_\_\_\_\_ \_\_\_ Single-phase \_\_\_ 3-phase

Inverter manufacturer, model name & number (if used): \_\_\_\_\_

List of adjustable set points for the protective equipment or software: \_\_\_\_\_

*Note: A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request.*

Small Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current: \_\_\_\_\_ Instantaneous \_\_\_\_\_ or RMS? \_\_\_\_\_

Harmonics characteristics: \_\_\_\_\_

Start-up requirements: \_\_\_\_\_

Small Generating Facility Characteristic Data (for rotating machines)

RPM frequency: \_\_\_\_\_

(\*) Neutral grounding resistor (if applicable): \_\_\_\_\_

Synchronous Generators:

Direct axis synchronous reactance,  $X_d$ : \_\_\_\_\_ P.U.

Direct axis transient reactance,  $X'_d$ : \_\_\_\_\_ P.U.

Direct axis sub-transient reactance,  $X''_d$ : \_\_\_\_\_ P.U.

Negative sequence reactance,  $X_2$ : \_\_\_\_\_ P.U.

Zero sequence reactance,  $X_0$ : \_\_\_\_\_ P.U.

KVA base: \_\_\_\_\_

Field volts: \_\_\_\_\_

Field amperes: \_\_\_\_\_

Induction Generators:

Motoring power (kW): \_\_\_\_\_

$I_{2t}$  or K (heating time constant): \_\_\_\_\_

Rotor resistance,  $R_r$ : \_\_\_\_\_

Stator resistance,  $R_s$ : \_\_\_\_\_

Stator reactance,  $X_s$ : \_\_\_\_\_

Rotor reactance,  $X_r$ : \_\_\_\_\_

Magnetizing reactance,  $X_m$ : \_\_\_\_\_

Short circuit reactance,  $X_d''$ : \_\_\_\_\_

Exciting current: \_\_\_\_\_

Temperature rise: \_\_\_\_\_

Frame size: \_\_\_\_\_

Design letter: \_\_\_\_\_

Reactive power required in VARs (no load): \_\_\_\_\_

Reactive power required in VARs (full load): \_\_\_\_\_

Total rotating inertia, H: \_\_\_\_\_ per unit on kVA base

*Note: Please contact TVA prior to submitting the Interconnection Request to determine if the specified information above is required.*

Excitation and Governor System Data (for synchronous generators only)

Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the Southeastern Electric Reliability Council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

**Interconnection Facilities Information**

Will a transformer be used between the generator and the point of common coupling?  
\_\_Yes \_\_No

Will the transformer be provided by the Interconnection Customer? \_\_\_\_Yes \_\_\_\_No

Transformer Data (if applicable, for Interconnection Customer-owned transformer):

Is the transformer: \_\_\_\_single-phase \_\_\_\_3-phase? Size: \_\_\_\_\_kVA  
Transformer Impedance: \_\_\_\_\_% on \_\_\_\_\_kVA Base

If 3-phase:

Transformer primary: \_\_\_\_\_volts \_\_\_\_\_delta \_\_\_\_\_wye \_\_\_\_\_wye grounded

Transformer secondary: \_\_\_\_\_volts \_\_\_\_\_delta \_\_\_\_\_wye \_\_\_\_\_wye grounded

Transformer tertiary: \_\_\_\_\_volts \_\_\_\_\_delta \_\_\_\_\_wye \_\_\_\_\_wye grounded

Transformer Fuse Data (if applicable, for Interconnection Customer-owned fuse):

(Attach copy of fuse manufacturer's minimum melt and total clearing time-current curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Size: \_\_\_\_\_ Speed: \_\_\_\_\_

Interconnecting Circuit Breaker (if applicable):

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_

Load rating (amps): \_\_\_\_\_ Interrupting rating (amps): \_\_\_\_\_ Trip speed (cycles): \_\_\_\_\_

Interconnection Protective Relays (if applicable):

If Microprocessor-Controlled:

List of functions and adjustable set points for the protective equipment or software:

Setpoint Function	Minimum	Maximum
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

**If Discrete Components:**

(Enclose copy of any proposed time-overcurrent coordination curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/catalog no.: \_\_\_\_\_ Proposed setting: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/catalog no.: \_\_\_\_\_ Proposed setting: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/catalog no.: \_\_\_\_\_ Proposed setting: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/catalog no.: \_\_\_\_\_ Proposed setting: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/catalog no.: \_\_\_\_\_ Proposed setting: \_\_\_\_\_

**Current Transformer Data (if applicable):**

(Enclose copy of manufacturer's excitation and ratio correction curves)

Manufacturer: \_\_\_\_\_  
Type: \_\_\_\_\_ Accuracy class: \_\_\_\_\_ Proposed ratio connection: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Type: \_\_\_\_\_ Accuracy class: \_\_\_\_\_ Proposed ratio connection: \_\_\_\_\_

**Potential Transformer Data (if applicable):**

Manufacturer: \_\_\_\_\_  
Type: \_\_\_\_\_ Accuracy class: \_\_\_\_\_ Proposed ratio connection: \_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Type: \_\_\_\_\_ Accuracy class: \_\_\_\_\_ Proposed ratio connection: \_\_\_\_\_

**General Information**

Enclose copy of site electrical one-line diagram showing the configuration of all Small Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer if the Small Generating Facility is larger than 50 kW. Is One-Line Diagram Enclosed?  
\_\_\_\_ Yes \_\_\_\_ No

Enclose copy of any site documentation that indicates the precise physical location of the proposed Small Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Proposed location of protective interface equipment on property (include address if different from the Interconnection Customer's address)

\_\_\_\_\_

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is available documentation enclosed? \_\_\_\_ Yes \_\_\_\_ No

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable). Are schematic drawings enclosed? \_\_\_Yes \_\_\_No

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this Interconnection Request is true and correct.

Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_



**Certification Codes and Standards**

IEEE Std. 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE Std. 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

IEEE Std. 929-2000 IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

NFPA 70 (2005), National Electrical Code

IEEE Std. C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

IEEE Std. C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Std. C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers

IEEE Std. C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std. C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Std. C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Std. 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms

NEMA MG 1-1998, Motors and Small Resources, Revision 3

IEEE Std. 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

**Certification of Small Generator Equipment Packages**

- 1.0 Small Generating Facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in SGIP Attachment 3, (2) it has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.
- 2.0 The Interconnection Customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.
- 3.0 Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the parties to the interconnection nor follow-up production testing by the NRTL.
- 4.0 If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.
- 5.0 Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the customer side of the point of common coupling shall be required to meet the requirements of this interconnection procedure.
- 6.0 An equipment package does not include equipment provided by the utility.
- 7.0 Any equipment package approved and listed in a state by that state's regulatory body for interconnected operation in that state prior to the effective date of these small generator interconnection procedures shall be considered certified under these procedures for use in that state.

**Application, Procedures, and Terms and Conditions for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger Than 10 kW ("10 kW Inverter Process")**

- 1.0 The Interconnection Customer ("Customer") completes the Interconnection Request ("Application") and submits it to TVA.
- 2.0 TVA acknowledges to the Customer receipt of the Application within three (3) Business Days of receipt.
- 3.0 TVA evaluates the Application for completeness and notifies the Customer within ten (10) Business Days of receipt that the Application is or is not complete and, if not, advises what material is missing.
- 4.0 TVA verifies that the Small Generating Facility can be interconnected safely and reliably using the screens contained in the Fast Track Process in the Small Generator Interconnection Procedures (SGIP). TVA has fifteen (15) Business Days to complete this process. Unless TVA determines and demonstrates that the Small Generating Facility cannot be interconnected safely and reliably, TVA approves the Application and returns it to the Customer.
- 5.0 After installation, the Customer returns the Certificate of Completion to TVA.
- 6.0 Prior to parallel operation, TVA may inspect the Small Generating Facility for compliance with standards which may include a witness test, and may schedule appropriate metering replacement, if necessary. TVA is obligated to complete this witness test within ten (10) Business Days of the receipt of the Certificate of Completion. If TVA does not inspect within ten (10) Business Days or by mutual agreement of the Parties, the witness test is deemed waived. If the witness test is not satisfactory, TVA has the right to disconnect the Small Generating Facility. The Customer may not operate in parallel until a witness test has been performed, or previously waived on the Application.
- 7.0 Contact Information – The Customer must provide the contact information for the legal applicant (i.e., the Interconnection Customer). If another entity is responsible for interfacing with TVA, that contact information must be provided on the Application.
- 8.0 Ownership Information – Enter the legal names of the owner(s) of the Small Generating Facility. Include the percentage ownership (if any) by any utility or public utility holding company, or by any entity owned by either.
- 9.0 UL1741 Listed – This standard ("Inverters, Converters, and Controllers for Use in Independent Power Systems") addresses the electrical interconnection design of various forms of generating equipment. Many manufacturers submit their equipment to a Nationally Recognized Testing Laboratory (NRTL) that verifies compliance with UL1741. This "listing" is then marked on the equipment and supporting documentation.

## **Application for Interconnecting a Certified Inverter-Based Small Generating Facility No Larger Than 10 kW**

This Application is considered complete when it provides all applicable and correct information required below. Per SGIP Section 1.5, documentation of site control must be submitted with the Interconnection Request. Additional information to evaluate the Application may be required.

### Processing Fee

A non-refundable processing fee of \$100 must accompany this Application.

### Interconnection Customer

Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone (day): \_\_\_\_\_ (evening): \_\_\_\_\_  
Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

### Contact (if different from Interconnection Customer)

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone (day): \_\_\_\_\_ (evening): \_\_\_\_\_  
Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Owner of the facility (include % ownership by any electric utility): \_\_\_\_\_

### Small Generating Facility Information

Location (if different from above): \_\_\_\_\_  
Electric service company: \_\_\_\_\_  
Account number: \_\_\_\_\_  
Inverter manufacturer: \_\_\_\_\_ Model \_\_\_\_\_  
Nameplate rating: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA) \_\_\_\_\_ (AC Volts)  
Single-phase \_\_\_\_\_ 3-phase \_\_\_\_\_  
System design capacity: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA)  
Prime mover: Photovoltaic  Reciprocating Engine  Fuel Cell   
Turbine  Other \_\_\_\_\_  
Energy source: Solar  Wind  Hydro  Diesel  Natural Gas   
Fuel Oil  other (describe) \_\_\_\_\_  
Is the equipment UL1741 listed? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, attach manufacturer's cut-sheet showing UL1741 listing  
Estimated installation date: \_\_\_\_\_ Estimated in-service date: \_\_\_\_\_

The 10 kW Inverter Process is available only for inverter-based Small Generating Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of Attachments 3 and 4 of the Small Generator Interconnection Procedures (SGIP), or TVA has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10 kW and return the Certificate of Completion when the Small Generating Facility has been installed.

Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Contingent Approval to Interconnect the Small Generating Facility

(For TVA use only)

Interconnection of the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW and return of the Certificate of Completion.

By: \_\_\_\_\_

[ \_\_\_\_\_ ]

Vice President

Transmission and Reliability

Date: \_\_\_\_\_

Application ID number: \_\_\_\_\_

TVA waives inspection/witness test? Yes\_\_\_No\_\_\_

## Small Generating Facility Certificate of Completion

Is the Small Generating Facility owner-installed? Yes \_\_\_\_\_ No \_\_\_\_\_

Interconnection Customer: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_

Location of the Small Generating Facility (if different from above): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (day): \_\_\_\_\_ (evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

### Electrician:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (day): \_\_\_\_\_ (evening): \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail address: \_\_\_\_\_

License number: \_\_\_\_\_

Date approval to install facility granted by TVA: \_\_\_\_\_

Application ID number: \_\_\_\_\_

### Inspection:

The Small Generating Facility has been installed and inspected in compliance with the local building/electrical code of \_\_\_\_\_

Signed (local electrical wiring inspector, or attach signed electrical inspection):

\_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

As a condition of interconnection, you are required to send/fax a copy of this form along with a copy of the signed electrical permit to:

Jason L. Adams  
Tennessee Valley Authority  
1101 Market Street, MR 1B-C  
Chattanooga, TN 37402-2801  
423-751-7274 (phone)  
jladams1@tva.gov

Approval to Energize the Small Generating Facility (For TVA use only)

Energizing the Small Generating Facility is approved, contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10kW.

By: \_\_\_\_\_

[ \_\_\_\_\_ ]

Vice President  
Transmission and Reliability

Date: \_\_\_\_\_

## **Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger Than 10 kW**

### **1.0 Construction of the Facility**

The Interconnection Customer (the "Customer") may proceed to construct (including operational testing not to exceed two hours) the Small Generating Facility when TVA approves the Interconnection Request (the "Application") and returns it to the Customer.

### **2.0 Interconnection and Operation**

The Customer may operate Small Generating Facility and interconnect with TVA's electric system once all of the following have occurred:

- 2.1 Upon completing construction, the Customer will cause the Small Generating Facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and
- 2.2 The Customer returns the Certificate of Completion to TVA, and
- 2.3 TVA has either:
  - 2.3.1 Completed its inspection of the Small Generating Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes. All inspections must be conducted by TVA, at its own expense, within ten (10) Business Days after receipt of the Certificate of Completion and shall take place at a time agreeable to the Parties. TVA shall provide a written statement that the Small Generating Facility has passed inspection or shall notify the Customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place; or
  - 2.3.2 If TVA does not schedule an inspection of the Small Generating Facility within ten (10) Business Days after receiving the Certificate of Completion, the witness test is deemed waived (unless the Parties agree otherwise); or
  - 2.3.3 TVA waives the right to inspect the Small Generating Facility.
- 2.4 TVA has the right to disconnect the Small Generating Facility in the event of improper installation or failure to return the Certificate of Completion.
- 2.5 Revenue quality metering equipment must be installed and tested in accordance with applicable ANSI standards.

### **3.0 Safe Operations and Maintenance**

The Customer shall be fully responsible to operate, maintain, and repair the Small Generating Facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.



- 4.0 **Access**  
TVA shall have access to the disconnect switch (if the disconnect switch is required) and metering equipment of the Small Generating Facility at all times. TVA shall provide reasonable notice to the Customer, when possible, prior to using its right of access.
- 5.0 **Disconnection**  
TVA may temporarily disconnect the Small Generating Facility upon the following conditions:
- 5.1 For scheduled outages upon reasonable notice.
  - 5.2 For unscheduled outages or emergency conditions.
  - 5.3 If the Small Generating Facility does not operate in the manner consistent with these Terms and Conditions.
  - 5.4 TVA shall inform the Customer in advance of any scheduled disconnection or, as is reasonable, after an unscheduled disconnection.
- 6.0 **Indemnification**  
The Parties shall at all times indemnify, defend, and save the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 7.0 **Insurance**  
The Parties agree to follow all applicable insurance requirements imposed by the state in which the Point of Interconnection is located. All insurance policies must be maintained with insurers authorized to do business in that state.
- 8.0 **Limitation of Liability**  
Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under paragraph 6.0.
- 9.0 **Termination**  
The agreement to operate in parallel may be terminated under the following conditions:
- 9.1 **By the Customer**  
By providing written notice to TVA.
  - 9.2 **By TVA**  
If the Small Generating Facility fails to operate for any consecutive 12 month period or the Customer fails to remedy a violation of these Terms and Conditions.

9.3 **Permanent Disconnection**

In the event this Agreement is terminated, TVA shall have the right to disconnect its facilities or direct the Customer to disconnect its Small Generating Facility.

9.4 **Survival Rights**

This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arose under the Agreement.

10.0 **Assignment/Transfer of Ownership of the Facility**

This Agreement shall survive the transfer of ownership of the Small Generating Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies TVA.

**SMALL GENERATOR FEASIBILITY STUDY AGREEMENT  
BETWEEN  
TENNESSEE VALLEY AUTHORITY  
AND**

[ ]

**THIS AGREEMENT**, made and entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by and between Tennessee Valley Authority ("TVA"), a corporation created by and existing under and by virtue of the Tennessee Valley Authority Act of 1933, as amended, and [ ], a \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_. TVA and [ ] are also hereinafter sometimes referred to individually as "Party" and collectively as "Parties."

**RECITALS**

**WHEREAS**, [ ] is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Interconnection Request dated \_\_\_\_\_; and

**WHEREAS**, [ ] desires to interconnect the Small Generating Facility with the TVA Transmission System; and

**WHEREAS**, [ ] has requested TVA to perform a Feasibility Study to assess the feasibility of interconnecting the proposed Small Generating Facility to the TVA Transmission System, and of any Affected Systems;

**NOW, THEREFORE**, the Parties agree as follows:

1. [ ] elects and TVA shall cause to be performed a Feasibility Study consistent with the SGIP.
2. The scope of the Feasibility Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
3. The Feasibility Study shall be based on the technical information provided by [ ] in the Interconnection Request, as may be modified as the result of the Scoping Meeting. TVA reserves the right to request additional technical information from [ ] as may reasonably become necessary consistent with Good Utility Practice during the course of the Feasibility Study and as designated in accordance with the SGIP. Barring unusual circumstances, the Feasibility Study will be completed and the Study Report transmitted within thirty (30) Business Days of the Interconnection Customer's execution of this Agreement. If, after the designation of the Point of Interconnection pursuant to the SGIP, [ ] modifies its Interconnection Request, the time to complete the Feasibility Study may be extended.

4. The Feasibility Study report shall provide the following information:
- Preliminary identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
  - Preliminary identification of any thermal overload or voltage limit violations resulting from the interconnection; and
  - Preliminary description and non-bonding estimated cost of facilities required to interconnect the Small Generating Facility to the TVA Transmission System and to address the identified short circuit and power flow issues.
5. Concurrent with its execution of this Agreement, [ ] shall remit to TVA by electronic transfer \$1,000 (“Upfront Payment”). The Upfront Payment shall be applied (as specified in Section 6) to [ ]’s reimbursement to TVA for TVA’s actual costs, including applicable overheads, incurred by TVA in performing the Study. The Upfront Payment shall be made via the Automated Clearing House (ACH) to the following account:

Cash Link-ACH Receiver  
 401 14th Street, S.W.  
 Washington, D.C. 20227  
 Routing Transit No. 051036706  
 Account No. 349000, for the credit of  
 Tennessee Valley Authority  
 Contact (865) 632-8125 with any questions

6. [ ] shall reimburse TVA for its actual costs, including applicable overheads, incurred in performing the Study. Said reimbursement is estimated, for convenience only, to be approximately \$ \_\_\_\_\_. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study exceed the total of the Deposit and the Upfront Payment, TVA shall, as soon as practicable after completion of the Study, submit to [ ] a written invoice for the excess amount. Such invoice shall be due and payable thirty (30) Calendar Days after the date of the invoice. If the due date falls on a non-business day, then the payment shall be due on the next following Business Day. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study are less than the total of the Deposit and the Upfront Payment, TVA shall refund the difference to [ ]. Any payments due under this Section 6 shall be made by electronic transfer to an appropriate account designated by the Party to whom the payment is owed.

If [ ] fails to pay the amount of TVA’s invoice when due, then [ ] shall pay interest, calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii), on the amount that is not paid from the date that such amount is due through the date on which TVA receives payment. TVA shall submit an invoice to [ ] for such added charge, which shall be due and payable upon receipt.

In case any portion of any invoice is the subject of a bona fide dispute, the undisputed amount shall be payable when due as described above. Any disputed amount subsequently determined to be owed shall be paid promptly after such determination, with interest at the rate specified above from the date such amount would have been due in the absence of any dispute.

Invoices shall be mailed by TVA to [ ] at the address indicated below:

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7. If, while performing the Study, TVA identifies any potential impacts on the system of either a distributor of TVA power or a directly-served customer of TVA (“TVA Customer”), TVA shall notify both the TVA Customer and [ ] that TVA has determined that the Facility has the potential to impact the TVA Customer’s system. It is recognized by the Parties that the TVA Customer may be required to perform a System Impact Study to determine the impacts of the Facility on the TVA Customer’s system. In such case, TVA shall enter into a separate letter agreement with the TVA Customer which letter agreement shall include, among other things, provisions governing the TVA Customer’s invoicing TVA for the cost of performing the Study and TVA’s release of confidential information to the TVA Customer. [ ] shall reimburse TVA for all payments made by TVA to the TVA Customer as compensation for the costs incurred by the TVA Customer in performing the Study. The provisions of Section 6 shall apply to invoices issued by TVA under this Section 7.
8. If, while performing the Study, TVA identifies any potential impacts on the system of a neighboring utility, TVA shall notify both said neighboring utility and [ ] that TVA has determined that the Facility has the potential to impact the system of said neighboring utility. [ ] and said neighboring utility shall enter into the contractual arrangements that said neighboring utility deems necessary for said neighboring utility to perform its own Study to determine the impacts of the Facility on its system.
9. The Parties agree that any data provided pursuant to this Agreement and designated confidential by the providing Party shall be kept confidential, to the extent permitted by law, and that neither Party shall disclose such designated data, except as required by law; provided, however, that either Party may disclose such confidential designated data in any manner consistent with a written consent to such disclosure obtained from the providing Party prior to such disclosure or as provided below. Such consent shall not be unreasonably withheld. Notwithstanding the foregoing, TVA may disclose such confidential designated data on a strict need-to-know basis to third party(s) assisting TVA in performing the Study or to TVA Customer(s) as provided for in Section 8, provided, that said third party(s) and TVA Customer(s) have agreed to keep the designated data confidential. The Parties hereby consider this Agreement confidential and agree that, to the extent permitted by law, it shall also be kept confidential in accordance with this Section 9.

Data or information shall not be deemed confidential information where:

- (a) It becomes public information or is otherwise generally available to the public through no action or fault of the receiving Party;
- (b) It is already in the receiving Party's possession prior to the effective date of this Agreement and was not received directly or indirectly from the providing Party;
- (c) It is lawfully received by the receiving Party from a person who did not receive the same information directly or indirectly from the providing Party; or
- (d) It is at any time independently developed by employees or consultants of the receiving Party who have not had access to the confidential information in the possession of the receiving Party.

In the event that one Party is required by a State or Federal regulatory authority or court to disclose data previously provided in connection with the Study by the other Party under a confidentiality designation, the Party subject to such requirement shall exercise reasonable efforts to obtain a confidentiality agreement with or appropriate protective order from such State or Federal authority or court, as applicable, to preserve the confidentiality of the designated data to be disclosed. Further, upon receipt of such a demand for the data, the receiving Party shall promptly notify the other Party.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be signed by their respective duly authorized representatives.

[ \_\_\_\_\_ ]

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

TENNESSEE VALLEY AUTHORITY

By: \_\_\_\_\_  
[ \_\_\_\_\_ ]  
Vice President  
Transmission and Reliability

**Attachment A to Small Generator  
Feasibility Study Agreement**

**Assumptions Used in Conducting the Feasibility Study**

The feasibility study will be based upon the information set forth in the Interconnection Request and agreed upon in the scoping meeting held on \_\_\_\_\_:

- (1) Designation of Point of Interconnection and configuration to be studied.
  
- (2) Designation of alternative Points of Interconnection and configuration.

Items (1) and (2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and TVA.

**SMALL GENERATOR SYSTEM IMPACT STUDY AGREEMENT  
BETWEEN  
TENNESSEE VALLEY AUTHORITY  
AND**

[ ]

**THIS AGREEMENT**, made and entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by and between Tennessee Valley Authority ("TVA"), a corporation created by and existing under and by virtue of the Tennessee Valley Authority Act of 1933, as amended, and [ \_\_\_\_\_ ], a \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_. TVA and [ \_\_\_\_\_ ] are also hereinafter sometimes referred to individually as "Party" and collectively as "Parties."

**RECITALS**

**WHEREAS**, [ \_\_\_\_\_ ] is proposing to develop a \_\_\_\_\_-MW Small Generating Facility to be located in \_\_\_\_\_, \_\_\_\_\_ ("Facility"); and

**WHEREAS**, the Facility is to be located near TVA's \_\_\_\_\_; and

**WHEREAS**, [ \_\_\_\_\_ ] is currently proposing to establish a \_\_\_\_\_-kV interconnection with the TVA transmission system at TVA's \_\_\_\_\_ in order to transmit power and energy from the Facility; and

**WHEREAS**, TVA has determined that a System Impact Study ("Study") will need to be performed to determine the impact of the interconnection of the Facility to the TVA transmission system;

**NOW, THEREFORE**, the Parties agree as follows:

1. TVA shall perform a Study to identify those impacts that interconnection of the Facility could reasonably be anticipated to have on the operation and reliability of the TVA transmission system. The Study shall include load flow studies to identify thermal overloads and reactive problems, fault analysis to identify equipment overstressed due to increased fault levels, and transient stability studies to determine if the transmission system can absorb the Facility electrical output. The report summarizing the Study results shall identify any system constraints and the need for any modifications to TVA's transmission system (including Interconnection Facilities and Network Upgrades) that are required to connect the Facility to the TVA system. Said report shall also include preliminary cost estimates for any such modifications identified by the Study. The Study shall use Good Utility Practice, engineering and operating principles, and standards, guidelines, and criteria of TVA, SERC Reliability Corp., and NERC Corp. The Study shall be performed utilizing the information specified in [ \_\_\_\_\_ ]'s request for interconnection dated \_\_\_\_\_. Within the framework of the scope of the Study that has been agreed upon as discussed above, TVA shall use its sole discretion as to the details and methods used to perform the Study, including the use by TVA of third party(s) to assist TVA in performing the Study. The Study shall include all transmission system additions and/or modifications, if any, that



TVA plans to install whether or not [ ] constructs the Facility. The Study shall be performed jointly with other utilities where appropriate.

2. In performing the Study, TVA shall rely on existing transmission planning studies to the extent reasonably practicable. [ ] shall not be assessed a charge for such existing studies; however, [ ] shall be fully responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Facility on the TVA transmission system. The Study shall be performed to assess the adequacy of TVA system facilities, not [ ]'s facilities. TVA shall proceed with the Study based on the technical information contained in the Interconnection Request referenced in Section 1 of this Agreement. If additional information is required by TVA to perform the Study, TVA shall request the information and [ ] shall provide it as soon as reasonably possible.

If [ ] materially modifies data or other information previously provided by [ ] to TVA for the Study, which modifications will significantly prolong the time or increase the effort required by TVA to perform any ongoing or pending system impact study of a third party, TVA may, upon seven (7) Business Days' prior written notice, terminate this Agreement and the request for interconnection shall be considered by TVA to be withdrawn; provided, however, [ ] shall reimburse TVA, in accordance with the provisions of Section 7, for TVA's actual costs, including applicable overheads, incurred by TVA in performing the Study through the date of termination. During such 7 Business Day notice period, [ ] may elect to refashion such modifications in a manner that will avoid such time and effort impacts to TVA's satisfaction, or [ ] may retract such modifications; in either such event TVA's termination notice shall be deemed withdrawn. Any modifications suggested by TVA or requested as a result of analysis performed by TVA as part of the Study or otherwise shall not trigger TVA's termination rights under this Section 2. Any termination and withdrawal under this Section 2 shall not affect [ ]'s ability to submit a new request for interconnection using the materially modified data or other information. Any such new request shall be treated in all respects as a new request, however, including assignment of a new interconnection priority based on the date of the new request.

3. Barring unusual circumstances, the System Impact Study will be completed and the Study Report transmitted within forty-five (45) Business Days of the Interconnection Customer's execution of this Agreement. In the event TVA is unable to complete the Study within such time period, it shall so notify [ ] and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the Study. Upon completion of the Study, TVA shall provide a report summarizing the Study results to [ ].
4. THE STUDY SHALL EVALUATE ONLY THE IMPACTS OF INTERCONNECTING THE FACILITY TO THE TVA TRANSMISSION SYSTEM AND SHALL NOT ADDRESS THE ABILITY OF THE TVA TRANSMISSION SYSTEM TO TRANSFER POWER OR ENERGY FROM THE FACILITY TO ANY SPECIFIC LOAD EITHER ON THE TVA SYSTEM OR OFF SYSTEM. Any transmission service request must be submitted to TVA separately. The procedures and deadlines in TVA's Transmission Service Guidelines ("Guidelines") shall govern processing requests for transmission service. If the entity

purchasing or selling the Facility electrical output requests firm transmission service, TVA will perform a transmission system impact study as provided under the Guidelines in order to determine the capability of the transmission system to deliver power from the Facility to the identified loads. The entity purchasing or selling the Facility electrical output shall arrange for and be solely responsible for any necessary transmission of the Facility electrical output to third parties, in accordance with the Guidelines.

5. As a part of [ ]'s request for interconnection, [ ] submitted to TVA a deposit of the equivalent of the good faith estimated cost of the Study ("Deposit"). The Deposit, if not applied previously to a Feasibility Study, shall be applied (as specified in Section 7) to [ ]'s reimbursement to TVA for TVA's actual costs, including applicable overheads, incurred by TVA in performing the Study.
6. Concurrent with its execution of this Agreement, [ ] shall remit to TVA by electronic transfer the Deposit ("Upfront Payment"). The Upfront Payment shall be applied (as specified in Section 7) to [ ]'s reimbursement to TVA for TVA's actual costs, including applicable overheads, incurred by TVA in performing the Study. The Upfront Payment shall be made via the Automated Clearing House (ACH) to the following account:

Cash Link-ACH Receiver  
401 14th Street, S.W.  
Washington, D.C. 20227  
Routing Transit No. 051036706  
Account No. 349000, for the credit of  
Tennessee Valley Authority  
Contact (865) 632-8125 with any questions

7. [ ] shall reimburse TVA for its actual costs, including applicable overheads, incurred in performing the Study. Said reimbursement is estimated, for convenience only, to be approximately \$\_\_\_\_\_. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study exceed the total of the Deposit and the Upfront Payment, TVA shall, as soon as practicable after completion of the Study, submit to [ ] a written invoice for the excess amount. Such invoice shall be due and payable thirty (30) Calendar Days after the date of the invoice. If the due date falls on a non-business day, then the payment shall be due on the next following Business Day. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study are less than the total of the Deposit and the Upfront Payment, TVA shall refund the difference to [ ]. Any payments due under this Section 7 shall be made by electronic transfer to an appropriate account designated by the Party to whom the payment is owed.

If [ ] fails to pay the amount of TVA's invoice when due, then [ ] shall pay interest, calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii), on the amount that is not paid from the date that such amount is due through the date on which TVA receives payment. TVA shall submit an invoice to [ ] for such added charge, which shall be due and payable upon receipt.

In case any portion of any invoice is the subject of a bona fide dispute, the undisputed amount shall be payable when due as described above. Any disputed amount subsequently determined to be owed shall be paid promptly after such determination, with interest at the rate specified above from the date such amount would have been due in the absence of any dispute.

Invoices shall be mailed by TVA to [ \_\_\_\_\_ ] at the address indicated below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. If, while performing the Study, TVA identifies any potential impacts on the system of either a distributor of TVA power or a directly-served customer of TVA (“TVA Customer”), TVA shall notify both the TVA Customer and [ \_\_\_\_\_ ] that TVA has determined that the Facility has the potential to impact the TVA Customer’s system. It is recognized by the Parties that the TVA Customer may be required to perform a system impact study to determine the impacts of the Facility on the TVA Customer’s system. In such case, TVA shall enter into a separate letter agreement with the TVA Customer which letter agreement shall include, among other things, provisions governing the TVA Customer’s invoicing TVA for the cost of performing the system impact study and TVA’s release of confidential information to the TVA Customer. [ \_\_\_\_\_ ] shall reimburse TVA for all payments made by TVA to the TVA Customer as compensation for the costs incurred by the TVA Customer in performing the system impact study. The provisions of Section 7 shall apply to invoices issued by TVA under this Section 8.
9. If, while performing the Study, TVA identifies any potential impacts on the system of a neighboring utility, TVA shall notify both said neighboring utility and [ \_\_\_\_\_ ] that TVA has determined that the Facility has the potential to impact the system of said neighboring utility. [ \_\_\_\_\_ ] and said neighboring utility shall enter into the contractual arrangements that said neighboring utility deems necessary for said neighboring utility to perform its own system impact study to determine the impacts of the Facility on its system.
10. The Parties agree that any data provided pursuant to this Agreement and designated confidential by the providing Party shall be kept confidential, to the extent permitted by law, and that neither Party shall disclose such designated data, except as required by law; provided, however, that either Party may disclose such confidential designated data in any manner consistent with a written consent to such disclosure obtained from the providing Party prior to such disclosure or as provided below. Such consent shall not be unreasonably withheld. Notwithstanding the foregoing, TVA may disclose such confidential designated data on a strict need-to-know basis to third party(s) assisting TVA in performing the Study or to TVA Customer(s) as provided for in Section 8, provided, that said third party(s) and TVA Customer(s) have agreed to keep the designated data confidential. The Parties hereby consider this Agreement confidential and agree that, to the extent permitted by law, it shall also be kept confidential in accordance with this Section 10.

Data or information shall not be deemed confidential information where:

- (a) It becomes public information or is otherwise generally available to the public through no action or fault of the receiving Party;
- (b) It is already in the receiving Party's possession prior to the effective date of this Agreement and was not received directly or indirectly from the providing Party;
- (c) It is lawfully received by the receiving Party from a person who did not receive the same information directly or indirectly from the providing Party; or
- (d) It is at any time independently developed by employees or consultants of the receiving Party who have not had access to the confidential information in the possession of the receiving Party.

In the event that one Party is required by a State or Federal regulatory authority or court to disclose data previously provided in connection with the Study by the other Party under a confidentiality designation, the Party subject to such requirement shall exercise reasonable efforts to obtain a confidentiality agreement with or appropriate protective order from such State or Federal authority or court, as applicable, to preserve the confidentiality of the designated data to be disclosed. Further, upon receipt of such a demand for the data, the receiving Party shall promptly notify the other Party.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be signed by their respective duly authorized representatives.

[ \_\_\_\_\_ ]

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

TENNESSEE VALLEY AUTHORITY

By: \_\_\_\_\_  
[ \_\_\_\_\_ ]  
Vice President  
Transmission and Reliability

## **Attachment A to Small Generator System Impact Study Agreement**

### **Assumptions Used in Conducting the System Impact Study**

The system impact study shall be based upon the results of the feasibility study, subject to any modifications in accordance with the standard Small Generator Interconnection Procedures, and the following assumptions:

- (1) Designation of Point of Interconnection and configuration to be studied.
  
- (2) Designation of alternative Points of Interconnection and configuration.

Items (1) and (2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and TVA.

**SMALL GENERATOR FACILITIES STUDY AGREEMENT  
BETWEEN  
TENNESSEE VALLEY AUTHORITY  
AND**

[ ]

**THIS AGREEMENT**, made and entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by and between Tennessee Valley Authority ("TVA"), a corporation created by and existing under and by virtue of the Tennessee Valley Authority Act of 1933, as amended, and [ ], a \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_. TVA and [ ] are also hereinafter sometimes referred to individually as "Party" and collectively as "Parties."

**RECITALS**

**WHEREAS**, [ ] is proposing to develop a \_\_\_\_\_-MW generating facility to be located in \_\_\_\_\_, \_\_\_\_\_ ("Facility"); and

**WHEREAS**, the Facility is to be located near TVA's \_\_\_\_\_; and

**WHEREAS**, [ ] is currently proposing to establish a \_\_\_\_\_-kV interconnection with the TVA transmission system at TVA's \_\_\_\_\_ in order to transmit power and energy from the Facility; and

**WHEREAS**, TVA has completed a System Impact Study to determine the impact of the interconnection of the Facility to the TVA transmission system; and

**WHEREAS**, TVA's interconnection process requires that TVA perform a Facilities Study ("Study") in conjunction with the interconnection of the Facility to the TVA transmission system;

**NOW, THEREFORE**, the Parties agree as follows:

1. In accordance with [ ]'s interconnection request, TVA shall perform, at [ ]'s expense, a detailed Study, which Study shall include a Project Scoping Workshop ("Workshop") and, if necessary, transmission line siting studies. The Study to be performed by TVA is an engineering study that includes, among other things, a cost estimate for the modifications needed to interconnect the Facility with the TVA transmission system and an estimated scheduled completion date by which TVA anticipates completing the design, construction, installation, inspection, and testing of said modifications. As a part of the Study, TVA shall perform a site inspection prior to the Workshop. Upon TVA's request, [ ] shall ensure that qualified personnel from [ ] or its contractors accompany TVA on the site inspection. [ ] shall provide free access to its property to TVA and its agents to the extent necessary for TVA to complete the site inspection. TVA may, in its sole discretion, use third party(s) to assist TVA in performing the Study. The Study shall be performed jointly with other utilities where appropriate.

2. THE STUDY SHALL EVALUATE ONLY THE IMPACTS OF INTERCONNECTING THE FACILITY TO THE TVA TRANSMISSION SYSTEM AND SHALL NOT ADDRESS THE ABILITY OF THE TVA TRANSMISSION SYSTEM TO TRANSFER POWER OR ENERGY FROM THE FACILITY TO ANY SPECIFIC LOAD EITHER ON THE TVA SYSTEM OR OFF SYSTEM. Any transmission service request must be submitted to TVA separately. The procedures and deadlines in TVA's Transmission Service Guidelines ("Guidelines") shall govern processing requests for transmission service. If the entity purchasing or selling the Facility electrical output requests firm transmission service, TVA will perform a transmission system impact study as provided under the Guidelines in order to determine the capability of the transmission system to deliver power from the Facility to the identified loads. The entity purchasing or selling the Facility electrical output shall arrange for and be solely responsible for any necessary transmission of the Facility electrical output to third parties, in accordance with the Guidelines.
3. An integral part of performing the Study will be the Workshop. The Workshop is a joint effort between the Parties to develop a detailed scope of the work activities required for the interconnection of the Facility to the TVA transmission system, including, but not limited to, preliminary design specifications, construction schedules, and cost estimates. After consultation with [ ], TVA shall notify [ ] of the date, time, and location of the Workshop. A checklist of activities to be completed in preparation for and during the Workshop is attached hereto as Exhibit A. To ensure the successful completion of the Workshop, it is necessary that qualified personnel from [ ] or its contractors attend the Workshop and bring to the Workshop any information, including but not limited to drawings, diagrams, and equipment specifications necessary to complete the activities referred to on Exhibit A. Such qualified personnel attending the Workshop shall have the necessary power and authority to make decisions and commitments on behalf of [ ] that are integral to satisfactorily completing the Workshop. If TVA, in its sole reasonable judgment, determines that [ ] has failed to provide the information and qualified personnel required for the Workshop as provided for under this Section 3, TVA may, upon seven (7) Business Days' prior written notice, terminate this Agreement and [ ]'s request for interconnection shall be considered by TVA to be withdrawn; provided, however, [ ] shall reimburse TVA, in accordance with the provisions of Section 6, for TVA's actual costs, including applicable overheads, incurred by TVA in performing the Study through the date of termination. Any termination under this Section 3 shall not affect [ ]'s ability to submit a new request for interconnection. Any such new request shall be treated in all respects as a new request, however, including assignment of a new interconnection priority based on the date of the new request.
4. Following the completion of the Study, TVA will prepare and send to [ ] a Project Scoping Package ("Package"), which constitutes the completion of the Study. The contents of a standard Package are attached hereto as Exhibit B. It is recognized by the Parties that any costs and construction schedules provided by TVA in the Package are estimates only, and such estimates shall not be binding on TVA. Barring unusual circumstances, the Facilities Study will be completed and the Study Report transmitted within forty-five (45) Business Days of the Interconnection Customer's execution of this Agreement. In the event TVA is unable to complete the Study within such time period, it shall so notify [ ] and provide an estimated completion date along

with an explanation of the reasons why additional time is required to complete the Study.

5. Concurrent with its execution of this Agreement, [ ] shall remit to TVA by electronic transfer a deposit equivalent to the good faith estimated Study costs (“Upfront Payment”). The Upfront Payment shall be applied (as specified in Section 6) to [ ]’s reimbursement to TVA for TVA’s actual costs, including applicable overheads, incurred by TVA in performing the Study. The Upfront Payment shall be made via the Automated Clearing House (“ACH”) to the following account:

Cash Link-ACH Receiver  
401 14th Street, S.W.  
Washington, D.C. 20227  
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Account No. 349000, for the credit of  
Tennessee Valley Authority  
Contact (865) 632-8125 with any questions

6. [ ] shall reimburse TVA for its actual costs, including applicable overheads, incurred in performing the Study. Said reimbursement is estimated, for convenience only, to be approximately \$\_\_\_\_\_. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study exceed the Upfront Payment, TVA shall, as soon as practicable after completion of the Study, submit to [ ] a written invoice for the excess amount. Such invoice shall be due and payable thirty (30) Calendar Days after the date of the invoice. If the due date falls on a non-business day, then the payment shall be due on the next following Business Day. If the total actual costs, including applicable overheads, incurred by TVA in performing the Study are less than the Upfront Payment, TVA shall refund the difference to [ ]. Any payments due under this Section 6 shall be made by electronic transfer to an appropriate account designated by the Party to whom the payment is owed.

If [ ] fails to pay the amount of TVA’s invoice when due, then [ ] shall pay interest, calculated in accordance with the methodology specified for interest on refunds in FERC’s regulations at 18 CFR § 35.19a(a)(2)(iii), on the amount that is not paid from the date that such amount is due through the date on which TVA receives payment. TVA shall submit an invoice to [ ] for such added charge, which shall be due and payable upon receipt.

In case any portion of any invoice is the subject of a bona fide dispute, the undisputed amount shall be payable when due as described above. Any disputed amount subsequently determined to be owed shall be paid promptly after such determination, with interest at the rate specified above from the date such amount would have been due in the absence of any dispute.



Invoices shall be mailed by TVA to [ ] at the address indicated below:

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7. It is recognized by the Parties that a distributor of TVA power or a directly served customer of TVA (“TVA Customer”) may be required to perform a facilities study as a result of the interconnection of the Facility to the TVA transmission system. In such case, TVA shall enter into a separate letter agreement with the TVA Customer which letter agreement shall include, among other things, provisions governing the TVA Customer’s invoicing TVA for the cost of performing the facilities study and TVA’s release of confidential information to the TVA Customer. [ ] shall reimburse TVA for all payments made by TVA to the TVA Customer as compensation for the costs incurred by the TVA Customer in performing the facilities study. The provisions of Section 6 shall apply to invoices issued by TVA under this Section 7.
8. If the system of a neighboring utility other than a TVA Customer is affected by the interconnection of the Facility to the TVA transmission system, [ ] and said neighboring utility shall enter into the contractual arrangements that said neighboring utility deems necessary for said neighboring utility to perform its own facilities study.
9. The Parties agree that any data provided pursuant to this Agreement and designated confidential by the providing Party shall be kept confidential, to the extent permitted by law, and that neither Party shall disclose such designated data, except as required by law; provided, however, that either Party may disclose such confidential designated data in any manner consistent with a written consent to such disclosure obtained from the providing Party prior to such disclosure or as provided below. Such consent shall not be unreasonably withheld. Notwithstanding the foregoing, TVA may disclose such confidential designated data on a strict need-to-know basis to third party(s) assisting TVA in performing the Study or to TVA Customer(s) as provided for in Section 7, provided, that said third party(s) and TVA Customer(s) have agreed to keep the designated data confidential. The Parties hereby consider this Agreement confidential and agree that, to the extent permitted by law, it shall also be kept confidential in accordance with this Section 9.

Data or information shall not be deemed confidential information where:

- (a) It becomes public information or is otherwise generally available to the public through no action or fault of the receiving Party;
- (b) It is already in the receiving Party’s possession prior to the effective date of this Agreement and was not received directly or indirectly from the providing Party;
- (c) It is lawfully received by the receiving Party from a person who did not receive the same information directly or indirectly from the providing Party; or

(d) It is at any time independently developed by employees or consultants of the receiving Party who have not had access to the confidential information in the possession of the receiving Party.

In the event that one Party is required by a State or Federal regulatory authority or court to disclose data previously provided in connection with the Study by the other Party under a confidentiality designation, the Party subject to such requirement shall exercise reasonable efforts to obtain a confidentiality agreement with or appropriate protective order from such State or Federal authority or court, as applicable, to preserve the confidentiality of the designated data to be disclosed. Further, upon receipt of such a demand for the data, the receiving Party shall promptly notify the other Party.

Notwithstanding the provisions of this Section 9, if TVA determines that transmission line siting will be needed as result of the interconnection of the Facility to the TVA transmission system, [ ] authorizes TVA to publicly release any information about the Facility required for any transmission line siting studies to be performed by TVA.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be signed by their respective duly authorized representatives.

[ ]

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

TENNESSEE VALLEY AUTHORITY

By: \_\_\_\_\_  
[ ]  
Vice President  
Transmission and Reliability

**Attachment A to Small Generator  
Facilities Study Agreement**

**Data to Be Provided by the Interconnection Customer  
With the Facilities Study Agreement**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

On the one-line diagram, indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one-line diagram, indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

One set of metering is required for each generation connection to the new ring bus or existing TVA station. Number of generation connections: \_\_\_\_\_

Will an alternate source of auxiliary power be available during CT/PT maintenance?  
Yes \_\_\_\_\_ No \_\_\_\_\_

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes \_\_\_\_\_ No \_\_\_\_\_  
(Please indicate on the one-line diagram).

What type of control system or PLC will be located at the Small Generating Facility?

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What protocol does the control system or PLC use?

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Please provide a 7.5-minute quadrangle map of the site. Indicate the plant, station, transmission line, and property lines.

Physical dimensions of the proposed interconnection station:

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Bus length from generation to interconnection station:

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Line length from interconnection station to TVA's Transmission System.

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Tower number observed in the field. (Painted on tower leg)\*:

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Number of third party easements required for transmission lines\*:

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\* To be completed in coordination with TVA.

Is the Small Generating Facility located in TVA's service area?

Yes \_\_\_\_\_ No \_\_\_\_\_ If no, please provide name of local provider:

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Please provide the following proposed schedule dates:

Begin Construction Date: \_\_\_\_\_

Generator step-up transformers  
receive back feed power Date: \_\_\_\_\_

Generation Testing Date: \_\_\_\_\_

Commercial Operation Date: \_\_\_\_\_