

Information on the New Standards

The Public Utility Regulatory Policies Act, or PURPA, was passed by Congress in 1978. The act was designed to encourage:

- Energy conservation
- Efficient use of facilities and resources by electric utilities
- Equitable rates for customers.

NEW STANDARDS

In the Energy Policy Act of 2005, Congress amended PURPA to propose five new standards. These standards may affect consumers that receive electric power generated by TVA and sold through local power distributors. The standards currently under consideration relate to how customers' bills are calculated and how power is exchanged with customers that generate some of their own power.

THE REVIEW PROCESS

TVA's Board of Directors must decide whether it is appropriate to adopt the new standards in whole or in part. TVA is considering three of the five standards at this time and wishes to obtain public input on adopting them. The

proposed standards would make three services available to consumers:

- Time-based rates and metering
- Net metering services
- Interconnection services for consumers that generate electricity.

The other two standards, on fuel diversity and fossil-fuel generation efficiency, will be considered at a later date.

After reviewing public input, TVA staff members will make recommendations on the standards, which will become part of the record. The public will have an opportunity to comment on those recommendations. After the record is fully developed, the TVA Board will consider the standards and make its decisions based on that record.

MORE INFORMATION

To learn more about PURPA and to submit comments, go to www.tva.com/purpa. The deadline for comments on smart metering is December 1, 2006. For net metering and interconnection of consumer generation, the deadline is March 1, 2007.

The Interconnection Standard

In the Energy Policy Act of 2005, Congress amended the Public Utility Regulatory Policies Act, or PURPA, to propose five new standards. These standards may affect consumers that receive electric power generated by TVA and sold through local power distributors.

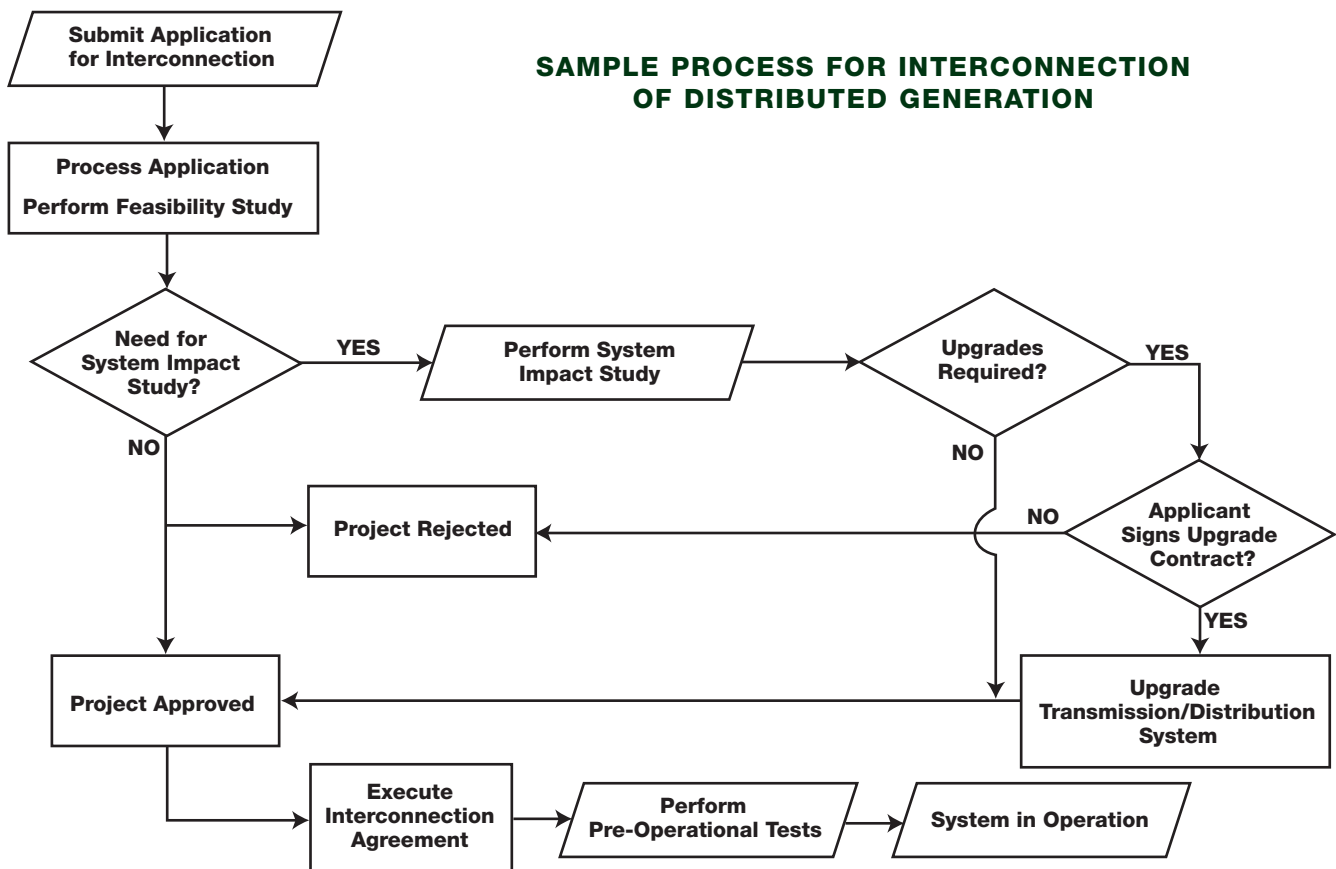
The Interconnection Standard directs utility companies to make interconnection service available to all customers. Interconnection service is the process by which a generating facility maintained on a consumer's premises is connected to the local electricity distribution system. Such generating facilities are commonly referred to as distributed generation.

THE INTERCONNECTION STANDARD SEEKS TO:

- Facilitate the availability of interconnection services to distributed generators.

- Promote the safe and reliable operation of the interconnection through the use of best practices.
- Establish a more standardized approach to providing such services.

Distributed generation may enable utilities to delay or eliminate expensive investments in transmission and distribution system upgrades, delay the need to build new lines, and provide customers with more reliable energy service. If the standard is adopted, more consumers might be willing to set up on-site generating sources. That expansion could potentially benefit all consumers of a utility through reduced costs and greater reliability. If the standard is not adopted, connection of consumer generation would continue through any existing standards that may apply.



The illustration shows a sample process that a utility might use for connecting a consumer's on-site generation system.

WHAT TVA DOES

- TVA already has a Large Generator Interconnection Procedure for generating facilities with an output of more than 20 megawatts.
- TVA is currently developing an interconnection procedure for smaller generators.
- Standard interconnection procedures have not generally been adopted by power distributors in the Tennessee Valley. Arrangements are handled on a case-by-case basis, sometimes with the indirect involvement of TVA.

IEEE STANDARD 1547

Since the reverse flow of electricity from consumer to utility has the potential to create hazards for utility personnel working on the system or to jeopardize the reliable operation of the grid, protective measures need to be in place. Interconnection service would be based on Standard 1547, developed by the Institute of Electrical and Electronics Engineers. The standard covers areas such as operation, safety, and maintenance, as summarized below, and parts of it are still in draft form.

- **IEEE 1547.1 (2005).** The Standard for Conformance Tests Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

Specifies the type, production, and commissioning tests that will be performed to demonstrate that the functions and equipment of a distributed source conform to Standard 1547.

- **IEEE 1547.2.** Draft Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems

Provides technical background and details to support the understanding of IEEE 1547.

- **IEEE 1547.3.** Draft Guide for Monitoring, Information Exchange, and Control of Distributed Resources Interconnected with Electric Power Systems

Provides guidelines on monitoring, information exchange, and control of distributed resources interconnected with electric power systems.

- **IEEE 1547.4.** Draft Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems

Provides alternative approaches and good practices for the design, operation, and integration of distributed resource island systems with electric power systems.

- **IEEE P1547.5.** Draft Technical Guidelines for Interconnection of Electric Power Sources Greater than 10 MVA to the Power Transmission Grid

Provides guidelines regarding the technical requirements for interconnecting dispatchable electric power sources with a capacity of more than 10 MVA to a bulk power transmission grid.

- **IEEE P1547.6.** Draft Recommended Practice for Interconnecting Distributed Resources with Electric Power System Distribution Secondary Networks

Establishes recommended criteria, requirements, and tests and provides guidance for interconnecting distribution secondary network types of area electric power systems with distributed resources that provide generation to local electric power systems.

MORE INFORMATION

To learn more about PURPA and to submit comments on any of the standards, go to www.tva.com/purpa. The deadline for comments on the Interconnection Standard is March 1, 2007.

The Net Metering Standard

In the Energy Policy Act of 2005, Congress amended the Public Utility Regulatory Policies Act, or PURPA, to propose five new standards. These standards may affect consumers that receive electric power generated by TVA and sold through local power distributors.

The Net Metering Standard applies to consumers that have eligible on-site generating facilities that are connected to the local distribution system. It allows these interconnected customers to be compensated for the electricity their systems deliver to the local distribution system.

THE NET METERING STANDARD SEEKS TO:

- Assist utility customers willing to invest in eligible generation sources by compensating them for their excess electricity.
- Allow consumers to provide generation from environmentally desirable sources.
- Offset the need for a utility to build additional generation and distribution infrastructure.

TYPES OF NET METERING

Several utilities across the country have implemented net metering in different ways:

- In its simplest form, when the consumer's generating system is producing more electricity than the consumer can use, the electricity flows onto the local utility grid. This reduces the amount of energy consumption from the local utility that is registered by the consumer's meter.
- Other arrangements use more sophisticated meters or multiple meters that precisely measure the inflow and outflow of electricity and allow for different types of payment arrangements.

Since the reverse flow of electricity from consumer to utility has the potential to create hazards for utility personnel working on the system or to disrupt the flow of electricity on the grid, protective measures must be in place.

WHAT TVA DOES

TVA encourages the development of consumer generation systems that use renewable resources. One way it does so is through a demonstration project called Green Power Switch Generation Partners®. Here's how it works:

- TVA pays participating consumers for the energy generated by solar photovoltaic or wind turbine sources, up to 50 kilowatts.
- The project uses a dual-metering arrangement, and TVA pays for all the energy generated by the consumer.
- This payment is made in the form of a credit on the customer's utility bill of 15 cents per kilowatt-hour generated.
- TVA reimburses the distributor for the total amount of the credit given to the customer.

In addition, through its Dispersed Power Production program, TVA buys larger and more diverse quantities of excess generation in conjunction with local power distributors.

MORE INFORMATION

To learn more about PURPA and to submit comments on any of the standards, go to www.tva.com/purpa. The deadline for comments on the Net Generation Standard is March 1, 2007.

The Smart Metering Standard

In the Energy Policy Act of 2005, Congress amended the Public Utility Regulatory Policies Act, or PURPA, to propose five new standards. These standards may affect consumers that receive electric power generated by TVA and sold through local power distributors.

The Smart Metering Standard is designed to help consumers manage their energy use and costs. It directs utility companies to offer their customers a time-based rate schedule under which electricity rates will vary during different time periods according to the utility's costs for generating and purchasing electricity.

Most meters in use today measure only the total amount of electricity flowing into a home or business. A smart meter can measure the varying use of electricity at different times of day and transmit that information to the distributor.

THE SMART METERING STANDARD SEEKS TO:

- Allow utilities to set prices that reflect their cost of supplying electricity throughout the day.
- Allow consumers to save on utility bills by shifting their power usage to lower-priced periods.
- Generate information that distributors can use to improve the efficiency of their power operations.

TYPES OF RATE SCHEDULES

Utilities may offer different types of time-based rate schedules, including the following:

- Time-of-use pricing. Electricity prices are set in advance for a specific time period and typically change only once or twice a year.
- Critical peak pricing. Time-of-use prices are in effect except for certain peak days, when consumers may receive additional discounts for reducing consumption during high-demand periods.
- Real-time pricing. Electricity prices are set in advance for a specific time period and may change as often as hourly.
- Consumer credits. Customers with large loads may enter into peak load-reduction agreements.

WHAT TVA DOES

- TVA already offers time-based metering for wholesale electricity sales to power distributors.
- It also offers time-based metering for retail power sales to its directly served industrial customers.
- More than 20 power distributors have taken steps to make smart metering available to their customers.
- TVA is now investigating how it can develop time-based pricing structures that distributors can use with their retail customers.

MORE INFORMATION

To learn more about PURPA and to submit comments on any of the standards, go to www.tva.com/purpa. The deadline for comments on the Smart Metering Standard is December 1, 2006.