GULF POWER COMPANY

PART VII
GENERAL STANDARDS FOR
SAFETY AND INTERCONNECTION
OF COGENERATION AND SMALL POWER PRODUCTION FACILITIES
TO THE ELECTRIC UTILITY SYSTEM

7.0 GENERAL

7.0.1 PURPOSE. The purpose of these standards is to provide a fair and equitable method for Customers who have generators to interconnect with the Company and to promote the development and use of renewable resources in an economical manner. All interconnections are to comply with the statutes, ordinances, codes, rules and regulations of all Governmental units, bodies and agencies.

These guidelines include the minimum engineering, operating, and protective requirements for safe and reliable operation of both the Company's system and the Customer's system. These standards provide a uniform policy to be used, but the Company will review each interconnection separately for specific needs according to the particular set of conditions and situations involved in each case.

7.0.2 RESPONSIBILITY. It will be the responsibility of the Customer requesting the interconnection to design and install an adequate protection and control system to meet:

(a) The requirements of this policy;

(b) All applicable electrical and safety standards and codes; and

(c) The criteria of all licensing authorities.

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7.0.3 REQUIREMENTS. These standards include such items as:

-Personal safety

-Responsibility and Liability

-Protection and operation

-Quality of service

-Metering

-Cost Responsibility

If an installation fails to meet any requirement herein, the Company may refuse to connect or reconnect the installation. The Company reserves the right to alter the requirements herein by special agreement to ensure safe and acceptable operation of its distribution system and service to other customers.

A Customer shall not operate electric generating equipment in parallel with the Company's electric system without the prior written consent of the Company.

7.0.4 APPLICATION FOR INTERCONNECTION. Formal application for interconnection shall be made by the Customer prior to the installation of any generation related equipment. This application shall be accompanied by the following:

(a) Physical layout drawings, including dimensions;

(b) All associated equipment specifications and characteristics including, but not limited to, technical parameters, ratings, basic impulse levels, electrical main one-line diagrams, schematic diagrams, system protections, frequency, voltage, current and interconnection distance;

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(c) Functional and logic diagrams, control and meter diagrams, conductor sizes and length, and any other relevant data which might be necessary to understand the proposed system and to be able to make a coordinated system;

(d) Power requirements in watts and vars;

(e) Expected radio-noise, harmonic generation and telephone interference factor;

(f) Synchronizing methods; and

(g) Operating/instruction manuals.

Any subsequent change in the system must also be submitted for review and written approval prior to actual modification.

The above mentioned review, recommendations and approval by the Company do not relieve the Customer from the complete responsibility for the adequate engineering design, construction and operation of the Customer's equipment and for any liability for injuries to property or persons associated with any failure to perform in a proper and safe manner for any reason.

7.1 PERSONNEL SAFETY

7.1.1 GENERAL. The foremost concern is safety. It must be recognized that the Company's electrical system and the electrical system of the Customer will interact through interconnection of the Customer's generation system.

Adequate protection and safe operational procedures must be followed by the joint system. The Customer shall be required

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to furnish, install, operate and maintain in good order and repair, and be solely responsible for, without cost to the Company, all facilities required for the safe operation of the generation system in parallel with the Company's system.

The Customer shall permit the Company's employees to enter upon his property at any reasonable time for the purpose of inspecting and/or testing the Customer's equipment, facilities or apparatus. Such inspections shall not relieve the Customer from his obligation to maintain his equipment in safe and satisfactory operating condition.

The Company's approval of isolating devices used by the Customer will be required in order to ensure that these will comply with the Company's switching and tagging procedure for safe working clearances.

7.1.2 DISCONNECT SWITCH. A manual disconnecting switch, of the visible load break type, to provide a separation point between the Customer's generation system and the Company's system, shall be required. The Company will specify the location of the disconnect switch. The switch shall be mounted separate from the meter socket and shall be readily accessible to the Company and be capable of being locked in the open position with a Company padlock. The Company reserves the right to open the switch (i.e. isolating the Customer's generation system) without prior notice to the Customer.

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Any of the following conditions shall be cause for disconnection:

(a) Company system emergencies and/or maintenance requirements determined by the Company;

(b) Hazardous conditions existing on the Customer's generating or protective equipment as determined by the Company;

(c) Adverse effects of Customer's generation to the Company's other electric consumers and/or system as determined by the Company;

(d) Failure of Customer to maintain any required insurance, or;

(e) Failure of Customer to comply with any existing or future regulations, rules, orders or decisions of any governmental or regulatory authority having jurisdiction over the Customer's electric generating equipment or the operation of such equipment.

7.1.3 RESPONSIBILITY AND LIABILITY. The Company shall be responsible for Company owned facilities. The Customer shall likewise be responsible for the Customer's entire system, ensuring adequate safeguards for other Customers, Company personnel and equipment and for the protection of his own generation system. The Customer shall indemnify and save the Company harmless from any and all claims, demands, costs, or expenses for loss, damage, or injury to persons or property (including the Customer's generation system and the Company's system) caused by, arising out of, or resulting from:

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(a) Any act or omission by the Customer, or Customer contractors, agents, servants and employees in connection with the installation or operation of the Customer's generation system or the operation thereof in connection with the Company's system;

(b) Any defect in, failure of, or fault related to the Customer's generation system;

(c) Customer's negligence or negligence of Customer's contractors, agents, servants and employees; or

(d) Any other event or act that is the result of, or proximately caused by the Customer or the Customer's facilities.

7.1.4 INSURANCE. It is understood and agreed that the Customer will deliver to the Company, at least fifteen days prior to the start of any interconnection work a certified copy or duplicate original of a liability insurance policy issued by a reputable insurance company authorized to do business in the State of Florida, jointly protecting and indemnifying the Customer and the Company, its officers, employees, and representatives against all liability and expense on account of claims and suits for injuries or damages to persons or property arising out of the interconnection to the Customer, or caused by operation of any of the Customer's equipment or by the Customer's failure to maintain the Customer's equipment in satisfactory and safe operating condition.

The policy providing such coverage shall provide public liability insurance, including property damage, in an amount not less than $300,000 for each occurrence. More insurance may be required as deemed necessary by the Company. In addition, the above required policy shall be endorsed with a provision whereby the insurance company will notify the Company thirty days prior to the effective date of cancellation or material change in the policy.

The Customer agrees to pay all premiums and other charges due on said policy and keep said policy in force during the entire life of this contract.

7.2 PROTECTION AND OPERATION

7.2.1 GENERAL. The protection and operation of the interconnection between the Customer's generation system and the Company's distribution and transmission system depends on the size, type and location of the facility within the Company's electric system. It will be the responsibility of the Customer to provide all devices necessary to protect the Customer's equipment from damage by the abnormal conditions and operations which occur on the Company's system that result in interruptions and restorations of service by the Company's equipment and personnel. The Customer shall protect its generator and associated equipment from:

(a) Overvoltage;

(b) Undervoltage;

(c) Overload;

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(d) Short circuits (including ground fault condition);

(e) Open circuits;

(f) Phase unbalance and reversal;

(g) Over or under frequency condition;

(h) Other injurious electrical conditions that may arise on the Company's system; and

(I) Any reclose attempt by the Company.

The Company reserves the right to perform such tests as it deems necessary to ensure safe and efficient protection and operation of the Customers's facilities.

7.2.2 LOSS OF SOURCE. The Customer shall provide, or the Company will provide at the Customer's expense, approved protective equipment necessary to immediately, completely, and automatically disconnect the Customer-owned generation from the Company's system in the event of a fault on the Company's system, a fault on the Customer's system, or loss of source on the Company's system. Disconnection must be completed within the time specified by the Company in its standard operating procedure for its electric system for loss of source on the Company's system. This automatic disconnecting device may be of the manual or automatic reclose type and shall not be capable of reclosing until after service is restored by the Company. The type and size of the device shall be approved by the Company depending upon the installation. Adequate test data or technical proof that the device meets the above criteria must be supplied by the Customer to the

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Company. The Company will endeavor to approve a device that will perform the above functions at minimal capital and operating costs to the Customer.

7.2.3 COORDINATION AND SYNCHRONIZATION. The Customer shall be responsible for coordination and synchronization of the Customer's equipment with the Company's electrical system, and assumes all responsibility for damage that may occur from improper coordination or synchronization of the generator with the Company's system. Details of frequency and voltage synchronization can be found in the Quality of Service section of these rules.

7.2.4 ELECTRICAL CHARACTERISTICS. Single phase generator interconnections with the Company are permitted at power levels up to 20 KW. For power levels exceeding 20 KW, a three phase balanced interconnection will normally be required. For the purpose of calculating connected generation, 1 horsepower equals 1 kilowatt. The Customer shall interconnect with the Company at the voltage of the available distribution or transmission line of the Company for the locality of the interconnection, and shall utilize one of the standard connections (single phase, three phase, wye, delta).

The Company reserves the right to require a separate transformation and/or service for a Customer's generation system, at the Customer's expense. The Customer shall bond all neutrals of the Customer's system

to the Company's neutral, and shall install a separate driven ground with a resistance value which should be determined by the Company and bond this ground to the Customer's system neutral.

7.2.5 EXCEPTIONS. Customer generators having capacity ratings that can:

1. Produce power in excess of 1/2 of the minimum customer requirements of the interconnected distribution or transmission circuit;
2. Produce power flows approaching or exceeding the thermal capacity of the connected Company distribution and transmission lines or transformers;
3. Adversely affect the operation of the Company or other customer's voltage, frequency or overcurrent control and protection devices;
4. Adversely affect the quality of service to other customers;
5. Interconnect at voltage levels greater than distribution voltages;

will require more complex interconnection facilities as deemed necessary by the Company.

7.3 QUALITY OF SERVICE

7.3.1 GENERAL. It is the policy of the Company to allow only those interconnections which can be achieved without reducing the quality of service to other customers and to disconnect such interconnections should unforeseen difficulties arise which impair quality of service.

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The Customer's generation system must be of sound engineering design, of quality workmanship, shall have safe and reliable operating characteristics, shall meet all applicable codes, and shall be approved by all Governmental authorities having jurisdiction. The system shall be designed or approved by a licensed and registered electrical engineer of the State of Florida. The Company reserves the right to perform such tests as it deems necessary to ensure the quality of service. The quality of the Customer's generated electricity shall meet the following minimum guidelines:

7.3.2 FREQUENCY. The governor control on the prime mover shall be capable of maintaining the generator output frequency within limits for loads from no-load up to rated output. The limits for frequency shall be 60 hertz (cycles per second) plus or minus, an instantaneous variation of less than 1%.

7.3.3 VOLTAGE. The regulator control shall be capable on maintaining the generator output voltage within limits for loads from no-loads up to rated output. The limits for voltage shall be the nominal operating voltage level, plus or minus 5%.

7.3.4 HARMONICS. The output sine wave distortion shall be deemed acceptable when it does not have a higher content (root mean square) of harmonics than the Company's normal harmonic content at the interconnection point.

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7.3.5 POWER FACTOR. The Customer's generation system shall be designed, operated and controlled to provide reactive power requirements from 0.85 lagging to 0.85 leading power factor. Induction generators shall have static capacitors that provide at least 85% of the magnetizing current requirements of the induction generator field. (Capacitors shall not be so large as to permit self-excitation of Customer's generator field).

7.3.6 DC GENERATORS. Direct current generators may be operated in parallel with the Company's system through a synchronous inverter. The inverter must meet all criteria in these rules.

7.4 METERING

The actual metering equipment required, its voltage rating, number of phases, size, current transformers, potential transformers, number of inputs and associated memory is dependent on the type, size and location of the electric service provided. In situations where power may flow both in and out of the Customer's system, power flowing into the Customer's system will be measured separately from power flowing out of the Customer's system.

The Company will provide at no additional cost to the Customer, the metering equipment necessary to measure capacity and energy deliveries to the Customer. The Company will provide, at the Customer's expense, the necessary additional metering equipment to measure energy deliveries by the Customer to the Company.

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7.5 COST RESPONSIBILITY

The Customer is required to bear all costs associated with protective devices, transformers, lines, services, meters, switches, and associated equipment and devices beyond that which would be required to provide normal service to the Customer if no cogeneration were involved. These costs shall be paid by the Customer to the Company for all material and labor that is required. The Company shall supply the Customer with a written cost estimate of all its required materials and labor prior to any work being done. The Company shall also provide project timing and feasibility information to the Customer. The cost of meters and metering equipment may be paid at the time of interconnection or through the monthly customer charge.

Billing and/or payment for cogenerated electricity shall be in accordance with tariffs or contracts (as applicable) filed with and accepted by the FPSC. All such tariffs and contracts shall comply with the guidelines set forth by the FPSC in accordance with the requirements of the Public Utility Regulatory Policies Act.