RESPONSES BY THE GAS COMPANY, LLC
TO INFORMATION REQUESTS
BY HAWAII RENEWABLE ENERGY ALLIANCE

HREA-TGC-IR-1 (Impact: Issue 4) Referencing page 6 of TGC's SOP, does HREA understand correctly that TGC is not taking a position on whether DG will have a positive impact on the utility's T&D systems, e.g., to reduce line losses, off-set T&D upgrades and defer and/or offset new generation?

TGC Response: TGC believes that the impact on an electric utility's T&D system will vary depending on the type of DG installation, for example, whether the user will require backup or standby service, whether the user can be reasonably expected to deliver power into the grid, and whether the DG installation is located in an area of the grid that can support and accept the power delivered. As a result, TGC cannot categorically state that all DG will have a positive impact on a utility's T&D system. In fact, DG installations taken individually could have positive, negative or no effects on the electric utility's T&D systems.

To illustrate this, TGC has identified some of the general DG installation types, based on the type of electric utility services the users may require:

Distributed Generation Installation Types	User-sited Distributed Generation				Takes Firm Electric Utility Service
	Inter-connected to Grid	Require Utility Standby Service	Designed to Feed into Grid	Serves All Or Part Of User's Load	
Emergency Generator	No	No	No	Only during emergency	Yes
Off-Grid Load 1	No	No	No	Yes	No
Off-Grid Load 2	No	No	No	Yes	Yes
DG Service 1	Yes	Yes	No	Yes	Yes
DG Service 2	Yes	Yes	Yes	Yes	Yes
IPP/Utility-Sited	Yes	--	Yes	--	--

Emergency Generator

This type of DG installation would be intended to provide electric energy for the user when normal service from the utility grid is not available. The user may choose to have all or only a portion of his load served by the DG installation. Under normal grid conditions, the user would be taking full service from the electric utility, with the distributed generator being run only for testing and emergency backup purposes, isolated from the grid. Thus, there would be load contribution but no generation contribution to the electric utility grid.

Under this scenario, it is TGC's understanding that the electric utility would need to plan its generation, transmission and distribution system to serve this as any other firm load, regardless of the amount of emergency generation available on the premises, because the load itself is generally indistinguishable from other firm load that does not have on-site emergency generation.

Off-Grid Load Type 1

This type of DG installation would be intended to provide all of the electric energy needed by the user with no connection or reliance on the electric utility grid at all. Thus, there would be no load or generation contribution to the electric grid.

Off-Grid Load Type 2

This type of DG installation would be intended to provide a portion of the electric energy needed by the user, with the balance of load being served by the electric utility. The load and generator would be an off-grid operation with no connection or reliance on the grid. Thus, for that specific load, there would be no load or generation contribution to the electric grid. The net load contribution to the grid would be the remaining balance of load.

DG Service Type 1

This type of DG installation was the focus of TGC's Preliminary Statement of Position, that is, distributed generation designed and used to provide electric energy for the user's premises, but not designed or used to deliver power to the electric grid. Under normal conditions for both the DG installation and the grid, all or a portion of the user's load would be served by the DG installation while under a planned or unplanned DG outage, the user would expect his entire load to be served by the grid. Thus, there would be no generation contribution to the grid while the load

contribution could range from none (depending on the load the installation is designed to serve) to full load.

In order to provide uninterrupted electric service to the user when the DG installation is shut down for either a planned or unplanned outage, the DG installation would need to be interconnected to the grid and therefore must meet all interconnection standards in effect. It is TGC's understanding that unless there are specific provisions for bypassing the user's load and overriding any devices and/or protective schemes for preventing power flow from this installation into the grid, this DG installation cannot be expected to feed power into the grid.

DG Service Type 2

This type of DG installation is similar to DG Service Type 1 except that the installation is designed and operated to deliver excess generation to the electric utility grid. Under normal conditions for both the DG installation and the grid, the load contribution to the grid could range from none to the difference between the user's demand and the DG's output (if its output at the time is less than the user's demand). Generation contribution to the grid, also under normal conditions, could range from none to the difference between the user's demand and the DG's output (if its output at the time is greater than the user's demand). Under a planned or unplanned DG outage, the user would expect his entire load to be served by the grid. Thus the load contribution to the grid could range from none (depending on the load the installation is designed to

serve) to full user load while the generation contribution would range from none to the instantaneous difference between the DG's output and the user's demand.

IPP/Utility-Sited

This type of DG installation is intended to deliver its entire output to the grid for sale to electric utility customers. It can range from a non-utility generator on private property to a generator(s) located on utility property, such as HELCO's substation-sited dispersed generators and MECO's Hana generators.

HREA-TGC-IR-2 (Implementation: Issue 11). Referencing page 9, in IRP would TGC agree that implementation of DG would benefit from the utility specification of areas and amounts of DG that would provide positive impacts to the utility system, e.g., to reduce line losses, to off-set new T&D upgrades, and defer offset new generation?

TGC Response: Please see response to HREA-TGC-IR-1. TGC believes that certain types of DG installations would benefit from the utility specification, in its IRP, of areas and amounts of DG that could provide system benefits. These DG installations may be limited to only those that can contribute or add value to the metrics used in the electric utility's planning criteria, i.e., most likely independent power producers selling their output to the electric utility. TGC is not aware of the generation, transmission and distribution planning criteria currently used by the electric utilities, other than the criteria that were filed in earlier IRP submissions.

HREA-TGC-IR-3 (Implementation Issue 11). As follow-up to HREA-TGC-IR-2, would TGC support implementation of a CHP via a competitive bidding process with potential DG customers and ONLY non-utility energy service providers? Specifically, only an unregulated utility entity would be allowed to compete with other non-utility entities? If not, why not?

TGC Response: TGC would not oppose implementation of a competitive bidding process with potential DG customers and only non-utility energy service providers.