

Memo:

To: MN DG Tariff Work Group and Electric Utilities' Representatives

From: John Bailey (Institute for Local Self-Reliance), John Jaffray (Praire Gen LLC), Rafi Sohail (Minnegasco)

Date: 9/27/02

RE: DG Installation Scenarios for Cost Analysis by Electric Utilities

Per our discussions at the September 18, 2002 meeting of the MN DG Tariff Work Group, below are a handful of hypothetical situations of a proposed DG installations interconnected to the electrical distribution system. The Work Group would like to see from the various electric utilities what the breakdown is on an annual basis (or indicate monthly, one-time fees, etc.) of the costs/charges/deductions associated with DG installations under your current tariffs and rate schedules (as of September 2002). Some possible services that may have charges/credits associated with them that we can think of are: study fees, standby fees, supplemental service fees, meter charges, basic service charges, backup charges, maintenance charges (unscheduled/scheduled), capacity charges, net metered energy, energy buyback (peak/off-peak).

We understand that some charges and fees are bundled together. If so, a specific breakdown of the costs that are contained in the bundled charge would be helpful for the Work Group's understanding. There may also be a variable charge depending on what time of year or what time of day it is. Please point out these variables as necessary.

Each scenario should have the following information:

On-site Load (Megawatts or kilowatts)

On-site Distributed Generation (Megawatts or kilowatts)

Energy Purchased by DG Customer from the utility: Yes or No

Energy Produced by DG Customer sold back to the utility: Yes or No

Hours of scheduled maintenance per year:

Hours of unscheduled maintenance per year

If you have questions or need additional information in order to complete your analyses please contact John Bailey at bailey@ilsr.org or by phone at 612-379-3815. Questions can also be posted to the DG Tariff Group's electronic mailing list: dgtariff@yahoo.com

This memo is also posted on the web in MS Word and PDF formats on the DG Tariff Work Group web site at <http://www.newrules.org/dgtariff/>

Thanks.

DG Installation Scenarios

a). 1 MW - natural gas-fired DG

On-site Load:	1 MW
On-site Distributed Generation:	1 MW (natural gas)
Energy Purchased by DG Customer from the utility:	no
Energy Produced by DG Customer sold back to the utility:	yes
Hours of scheduled maintenance per year:	40 hours
Hours of unscheduled maintenance per year:	10 hours

b) 1-2 MW (variable load) - natural gas-fired DG

On-site Load:	5 MW
On-site Distributed Generation:	1-2 MW (natural gas)
Energy Purchased by DG Customer from the utility:	yes
Energy Produced by DG Customer sold back to the utility:	no
Hours of scheduled maintenance per year:	40 hours
Hours of unscheduled maintenance per year:	10 hours

c) 1.9 MW - wind energy DG

On-site Load:	250 kW
On-site Distributed Generation:	1 MW (wind energy)
Energy Purchased by DG Customer from the utility:	yes
Energy Produced by DG Customer sold back to the utility:	yes
Hours of scheduled maintenance per year:	40 hours
Hours of unscheduled maintenance per year:	10 hours
Annual capacity factor of wind project	34 percent

d) 10 MW - natural gas DG

On-site Load:	5 MW
On-site Distributed Generation:	10 MW
Energy Purchased by DG Customer from the utility:	no
Energy Produced by DG Customer sold back to the utility:	yes
Hours of scheduled maintenance per year:	40 hours
Hours of unscheduled maintenance per year:	10 hours

e) 3 kW - solar photovoltaics DG

On-site Load:	1 kW
On-site Distributed Generation:	3 KW (photovoltaics)

Energy Purchased by DG Customer from the utility:	yes
Energy Produced by DG Customer sold back to the utility:	yes
Hours of scheduled maintenance per year:	5 hours
Hours of unscheduled maintenance per year:	0 hours

f) Multiple DG Installation: 3 30-kW (natural gas)

On-site Load:	500 kW
On-site Distributed Generation:	3 30-kW (natural gas)
Energy Purchased by DG Customer from the utility:	Yes
Energy Produced by DG Customer sold back to the utility:	No
Hours of scheduled maintenance per year:	40
Hours of unscheduled maintenance per year:	10