PJM Generator Interconnection U4-015 Rock Springs 8.7 MW Feasibility / Impact Study

February 2009

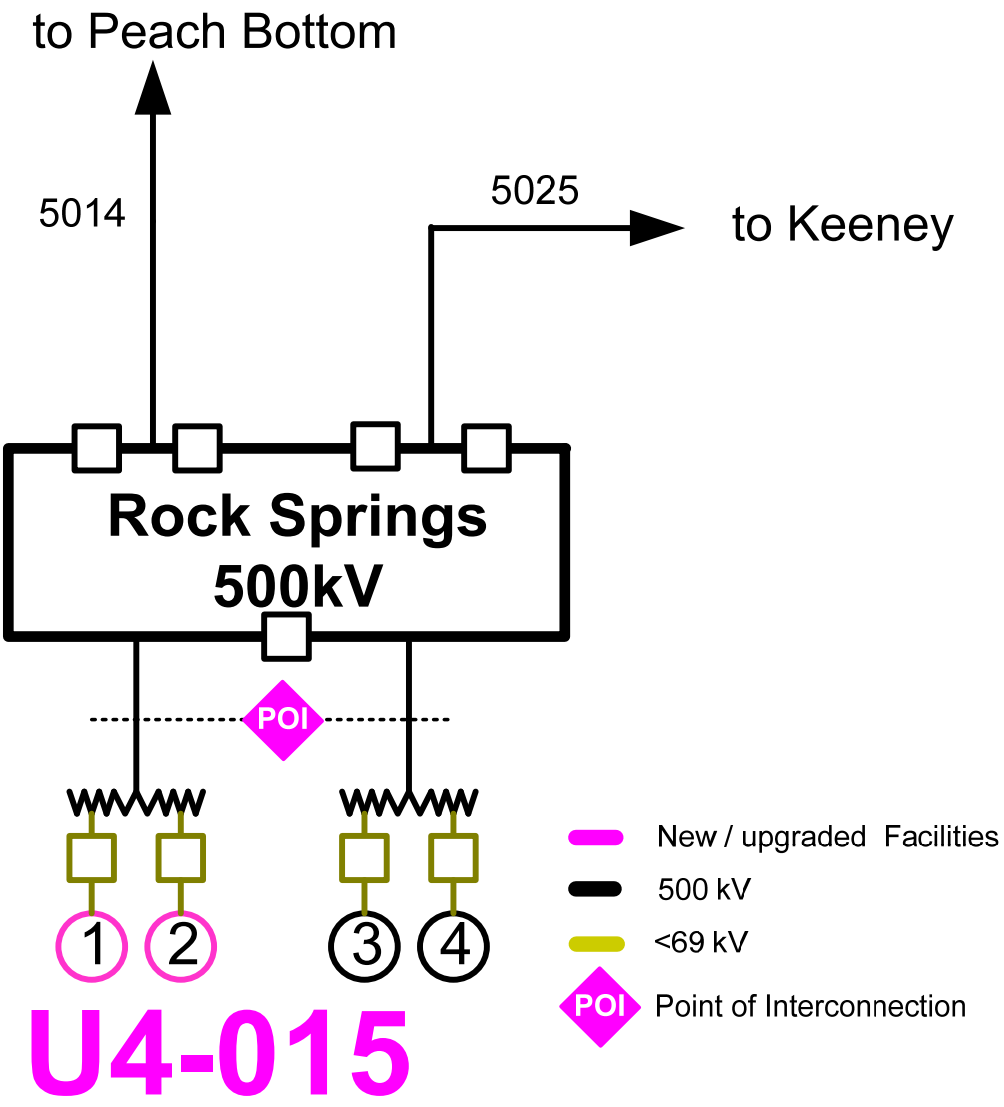
DMS #527195

General

Queue U4-015 (Rock Springs) is a ODEC (Old Dominion Electric Cooperative) request to obtain an additional 8.7 MWs of Capacity Interconnection Rights (316.3 MW to 325 MW) for units #1 and #2 at Rock Springs 500 kV switching Station. U4-015 Capacity increase is scheduled for May 2009.

Direct Connection

The U4-015 project is connected as shown below. **No additional Direct Connection facilities are required.**



Network Impacts

The U4-015 project was studied as a 8.7 MW Capacity increase to Units #1 and #2 at Rock Springs 500 kV Bus. Project U4-015 was evaluated for compliance with reliability criteria for summer peak conditions in 2013. Potential Network impacts were as follows:

NETWORK IMPACTS

Generator Deliverability

(Normal system, all transmission facilities in service, and Single or N-1 contingencies for the Capacity portion only of the interconnection)

No Problems were identified

Multiple Facility Contingency

(Double circuit tower line, stuck breaker and bus fault contingencies for the interconnection's full energy output)

No problems were identified.

Short Circuit Analysis

No problems were identified.

Stability Analysis

Not required because of generator increase size.

Power Factor Analysis

Queue U4-015 can comply with the PJM Tariff requirement of 0.95 lead to 0.90 lag at the generator terminals (310 MW) / Point of Interconnection (8.7 MW). See Appendix A for Queue U4-015's (Unit #1 and #2) generator Capability Curves.

Contribution to Previously Identified Overloads

(This project contributes beyond the required threshold for cost allocation to the following contingency overloads, i.e. "Network Impacts", identified for other generation or transmission interconnection projects in the PJM Queue)

No problems were identified

NETWORK UPGRADE REQUIREMENTS

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project's generation)

None required.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project.)

None required.

ATTACHMENT A

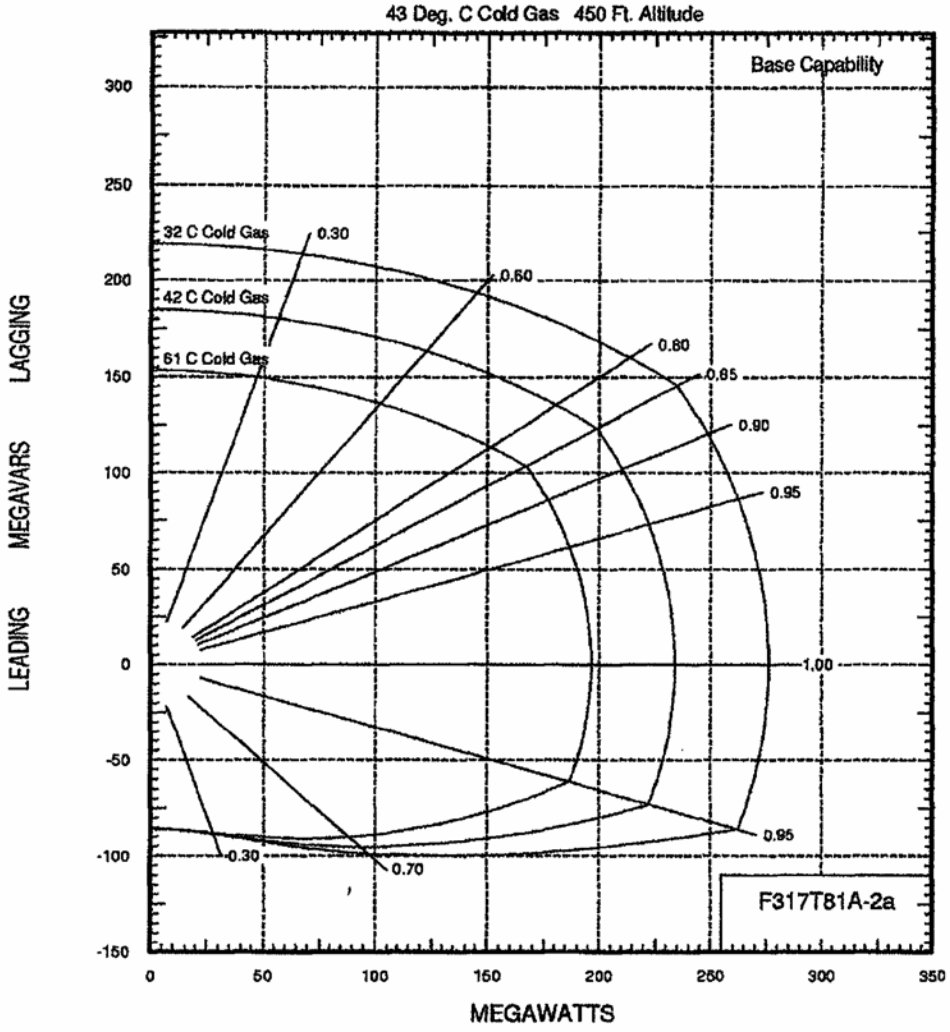
(Unit #1 and #2 Generator Capability Curve)

SIZE	DWG NO	SH	REV
A	378A8887	6	-

ROCK SPRINGS POWER STATION – GT 1&2

ESTIMATED REACTIVE CAPABILITY CURVES

2 Pole 3600 RPM 234000 kVA 18000 Volts 0.850 PF
0.490 SCR 30.00 PSIG H2 Pressure 350 Volts Excitation
43 Deg. C Cold Gas 450 Ft. Altitude



GENERAL ELECTRIC COMPANY	SIZE	CAGE CODE	DWG NO
GE POWER GENERATION SCHENECTADY, NY	A		378A8887
DRAWN RS ERICKSON			
ISSUED RS ERICKSON	SCALE		SHEET 6