Generator Interconnection Facility Study Report

for the

[redacted] **Project – Project #400**

for

[redacted]

in

Gooding County, Idaho

January 29, 2013

FACILITY STUDY REPORT (FSR)

[redacted]

Project #400

January 29, 2013

1. General Facility Description

The proposed project will consist of three 15 kVA 277/480 to 19.9 kV Grounded Wye / Grounded Wye overhead transformers, associated disconnect switches and arrestors, and a meter. The interconnection customer will be required to provide other protection devices detailed in this report. The project is located in Gooding County, Idaho and connects to the 34.5 kV system on Idaho Power Company's [redacted] ([redacted]) distribution line. The total project output is 24 kW.

Interconnection Customer:

[redacted]

A Standard Generator Interconnection Agreement under Idaho Power Company's Open Access Transmission Tariff (OATT) or Schedule 72 between Interconnection Customer and Idaho Power Company – Delivery (Transmission Owner) for the [redacted] Project, specifically Generator Interconnection Project #400, will be prepared for this project.

1.1 Interconnection Point

The Interconnection Point for the [redacted] Project will be the attachement point on the drip loop to the generator service. The project's location is in [redacted] Section [redacted] of Gooding County, Idaho. A drawing identifying the Interconnection Point is attached.

1.2 Point of Change of Ownership

The Point of Change of Ownership for the [redacted] Project will be the attachement point on the drip loop to the generator service.

1.3 Customer's Interconnection Facilities

The Interconnection Customer will install generators, low-side disconnect switches, all wiring and conduit between the generators and the overhead transformers, appropriate grounding measures, and associated auxiliary equipment. The Interconnection Customer will install a protection package per IEEE 1547. Idaho Power recommends either a SEL-547 or GE MIV relay, with a SEL-547 being preferred.. Interconnection Customer will build underground facilities to the Point of Change of Ownership for the generator facility.

The low-side disconnect switch shall be as specified or as determined by mutual agreement and be readily accessible, operable, and lockable by Idaho Power personnel at all times.

1.4 Other Facilities Provided by Interconnection Customer

1.4.1 Ground Fault Equipment

The customer will install ground fault limiting equipment that will limit the zero sequence fault current to 20 amps at the Interconnection Point.

1.4.2 Easements

The Interconnection Customer will provide to Idaho Power a surveyed (Metes & Bounds) legal description along with exhibit map for Idaho Power's proposed facilities. After the legal description has been delivered to IPCO for review, IPCO will supply to the Interconnection Customer a completed IPCO easement for signature by the land owner of record. Once the signatures have been secured, the Interconnection Customer will return the signed easement to IPCO for recording.

1.4.3 Local Service

The Interconnection Customer is responsible to arrange for local service to their site, as necessary.

1.5 Idaho Power Company's Interconnection Facilities

Idaho Power will install (and subsequently own and maintain) three 15 kVA 277/480 to 19.9 kV Grounded Wye / Grounded Wye overhead transformers, associated high-side disconnect switches and arrestors, and a meter.

1.6 Facility Estimated Cost:

The following good faith estimates are provided in 2013 dollars:

Description	Ownership	Cost Estimate
Interconnection Facilities:		
Overhead equipment and three 15kVA transformers and meter	IPC	$7,932
SUBTOTAL		**$7,932**
See Section 6 for the Project Grand Total		

2. Milestones

Date	Milestones
TBD	*Construction Funds Received by IPCO*
2 Months after Construction Funds Received by IPCO	*IPCO Construction Complete*
1 month after IPCO Construction Complete	*IPCO Commissioning Complete*
TBD by seller	*Commercial Operation Date*
These milestone dates assume that material can be procured and labor resources are available. Additionally, any permitting issues outside the immediate control of Idaho Power could also influence the Commercial Operation Date.	

3. Operating Requirements

The project is required to comply with the applicable Voltage and Current Distortion Limits found in IEEE Standard 519-1992 *IEEE Recommended Practices and requirements for harmonic Control in Electrical Power Systems* or any subsequent standards as they may be updated from time to time. Voltage flicker at startup and during operation must be limited to less than 5% as measured at the Interconnection Point.

The Project must be capable of riding through faults on adjacent section of the power system without tripping due to low voltage as dictated by IEEE 1547.

Interconnection Customer will be able to modify power plant facilities on the Interconnection Customer side of the Interconnection Point with no impact upon the operation of the transmission or distribution system whenever the generation facilities are electrically isolated from the system and a terminal clearance is issued by Idaho Power Company's Grid Operator.

4. Reactive Power

The Project must be controlled to operate as a VAr neutral system with a ± 12 kVAr operating band.

5. Upgrades

5.1 Distribution Upgrades

The study has determined that no distribution upgrades required.

6. Estimated Costs

The following good faith estimates are provided in 2013 dollars:

Estimated Cost:

Description	Ownership	Cost Estimate
Interconnection Facilities:		
Overhead equipment and three 15kVA transformers and meter	IPC	$7,932
GRAND TOTAL		**$7,932**