



December 23, 2008

[REDACTED]

Re: Facility Study Report for the [REDACTED] Project

Dear [REDACTED],

Idaho Power Company (IPC) has completed the Facility Study cost estimate your Generator Interconnection project. Attached please find a Draft Facility Study Report (FSR). I am available to discuss the FSR, and begin Construction arrangements for the project.

In order to proceed with this project, please provide your comments to the Facility Study Report to me by January 18, 2009 and whether you wish to proceed with final design and construction. The final report will be used to prepare a draft Generator Interconnection Agreement in preparation for Construction. [REDACTED] will be working with you to finalize the Interconnection Agreement.

Based on the facility study cost estimates, a deposit in the amount of \$480,000 is required (or \$292,000 if the RAS Option is chosen) before we can begin Construction or order materials. You are responsible for contacting Idaho Power's credit department to discuss credit requirements for construction funding. Please contact [REDACTED] ([REDACTED]) at your earliest convenience if arrangements need to be made. Note: IPC will require at least 5 months of lead time to order long lead items, complete construction of distribution modifications and interconnection equipment.

Once we receive funding, or the credit requirement is met, we can proceed with construction of the project. The actual construction and labor charges will be finalized approximately 90 days subsequent to project completion. We will reconcile any over- or underpayment at that time.

[REDACTED] will be the facility representative coordinating your service installation. [REDACTED] is located at the Idaho Power Company [REDACTED] location and can be reached at [REDACTED].

If you have any questions or need additional information please call me at [REDACTED].

Sincerely,  
[REDACTED]  
Project Leader

Attachment: [REDACTED] Project Facility Study Report with Design Drawing

Cc: [REDACTED] /IPC  
[REDACTED] r/IPC  
[REDACTED] /IPC  
[REDACTED] /IPC  
[REDACTED] /IPC  
[REDACTED] /IPC

# Generator Interconnection Facility Study Report

for the

**[REDACTED] Project**

for

**[REDACTED]**

in

**Ada County, Idaho**

**12/23/08**

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# FACILITY STUDY REPORT (FSR)

[REDACTED] Project

Project # 256

December 23, 2008

## 1. General Facility Description

The proposed project will consist of additional facilities to Idaho Power Company's existing distribution feeder [REDACTED] to serve your connection to a new [REDACTED] [REDACTED] line. This will include four poles containing the 34.5kV Protection Package, which consists of a protection package and recloser controls, local service transformer, and disconnect switches. The proposed interconnection will be to Idaho Power Company's 34.5 kV system on [REDACTED] distribution line. The total project output is 18 MW. The Interconnection Customer has requested a target in-service date of December 1, 2009.

Interconnection Customer:

[REDACTED]

The Interconnection Customer has selected Energy Resource (ER) Interconnection Service for disposition of the energy for this project. Under Idaho Power Company's Open Access Transmission Tariff (OATT), a Standard Small Generator Interconnection Agreement (SGIA) between Interconnection Customer and Idaho Power Company will be prepared for this project. The SGIA identifies any necessary Network Upgrades that are required to move the project energy to load, and handles on-going issues for the project once it becomes operational. Final drawings will be produced in the timeline shown below in MILESTONES.

The SGIA only provides for the physical connection of the project output to the generator side of the Point of Interconnection with Idaho Power's grid. It does not cover the transmission service to transfer project output across the connection point or to the ultimate load. A transmission service agreement providing for transmission of energy must be secured to deliver energy from the Point of Interconnection to load. Idaho Power Company maintains its OASIS website for transmission service at <http://www.oatioasis.com/ipco/index.html> Failure to make transmission arrangements could delay your project timeline and/or increase costs identified in the study reports.

## 2. Point of Interconnection

The Point of Interconnection for the [REDACTED] Project will be at the end of Idaho Power Company's interconnection facilities ( [REDACTED] ) located at the [REDACTED] that will connect to the new [REDACTED] line (Section [REDACTED] ) in Ada, County, Idaho. A drawing identifying the Point of Interconnection is attached.

### 3. Point of Change of Ownership

The Point of Change of Ownership for the [REDACTED] Project for the [REDACTED] Project will also be at the end of Idaho Power Company's interconnection facilities ( [REDACTED] ) located at the [REDACTED] that will connect to the new [REDACTED] line (Section [REDACTED] .) in Ada, County, Idaho. A drawing identifying the Point of Interconnection is attached.

### 4. Interconnection Details

In general, interconnection equipment includes, but is not limited to, transformation, switching/disconnection, metering, system protection and control, communications/telemetry, and network upgrades. All interconnection equipment electrically located on the generator side of the interconnection point, except the metering package, shall be owned and maintained by the Generator. All interconnection equipment electrically located on the utility side of the interconnection point shall be owned, operated, and maintained by Idaho Power. The Interconnection Customer will obtain the necessary permits and inspections required by the federal, state, and local authorities having jurisdiction over the project.

#### 4.1 Project Team

An Idaho Power Company project team was assembled to investigate the proposed project, and develop cost estimates and a project schedule to construct Idaho Power facilities required for the interconnection. The project team consisted of the following employees:

Project Leader	Station Control Designer
Apparatus Engineer	Metering Tech
Area Apparatus Leader	Area System Protection & Control Leader
System Protection Engineer	Control Engineer
Planning Engineer	Distribution Designer

#### 4.2 Customer's Interconnection Facilities

The Interconnection Customer will have cost responsibility to install the following interconnection facilities:

- A protected 4-wire leased analog circuit to connect to the SEL 311C relay (located at the interconnection location at the tree farm) and a protected POTS dial-up circuit for the revenue meter at the substation located at the dam. If required by the telephone provider, an SNC protection box will need to be installed ahead of these 2 connection points. (Idaho Power estimates the fault current at the interconnection package to be about 2000 amps). The communications circuits will need to be installed and operational prior to generating into the IPC system.
- Ground fault limiting equipment that will limit the zero sequence fault current to 20 amps on the [REDACTED] project's side of the interconnect point.
- Right of Way/Easement for placing interconnection facilities and acceptance of interconnection facilities location prior to IPC construction beginning. IPC will require approximately 5 months from the acceptance and receipt of construction funds.

### 4.3 Idaho Power Company's Interconnection Facilities

Interconnection Customer will build a new 34.5 kV distribution line for the [REDACTED] to the Point of Interconnection for the generator facility. See the attached single line drawing.

For the Interconnection facilities, IPC will add facilities to the existing distribution feeder [REDACTED] to serve the interconnection to the new [REDACTED] Line. This line will include four poles containing the 34.5kV Protection Package, which consists of a protection package and recloser controls, local service transformer, and disconnect switches. A metering package will be installed at the new substation site, located at the [REDACTED]. A telephone line will be required at both the interconnection site (4-wire) and the metering location (dial-up POTs line).

### 4.4 Operational Limitations

Under OPTION 2, for adding the Remedial Action Scheme (RAS), whenever the incoming loads are greater than the capacity of the 00AR conductor, a curtailment signal would be sent by SCADA via a leased line to the generator's control room. This line needs to be connected to Idaho Power's SCADA system at the [REDACTED] Substation on [REDACTED]. The generator would be required to supply and maintain the leased line. This overload condition can occur when other existing generation facilities are operating and distribution outages have occurred beyond this generation point on the feeder.

Interconnection Customer will be able to modify power plant facilities on the generator side of the opened X-91 disconnects with no impact upon the operation of the transmission system whenever the generation facilities are electrically isolated from the transmission system via the R-90 recloser and the X-91 disconnect switches.

### 4.5 Scope of Network Upgrades

The Network Upgrade portions of this project include replacing about ¾ of a mile of 00AR distribution conductor on [REDACTED] feeder with 336AA. This section of line runs from the [REDACTED] substation out to a location on [REDACTED], just east of [REDACTED]. A second portion of new construction and rebuild includes adding a new 336AA line section from before the RG-88 regulators north to the existing tap that currently serves the [REDACTED] line, located at the [REDACTED]. This existing line will then be reconducted to 336AA to the new interconnection facilities at the existing connection point to the [REDACTED] line.

An alternative to rebuilding the first portion of [REDACTED] at the substation is to add a Remedial Action Scheme (RAS) at [REDACTED] substation that will monitor the loads at the station (see Section 4.4 Operational Limitations).

### 4.6 Other Facilities Provided by Interconnection Customer

#### 4.6.1 Telecommunications

For Option 1, the Interconnection Customer will provide two communication circuits between the generation interconnection site and a location, or locations, specified by Idaho Power. One of the circuits will be a dedicated 4-wire leased analog circuit connected to the 311C relay at the interconnection location and the other will be a POTS dial-up circuit to the revenue meter located at the generator's substation. The Interconnection Customer is responsible for supplying and coordinating the installation of

the phone lines and paying the monthly service charges. The communication circuits will need to be installed and operational prior to generating into the Idaho Power system.

If the RAS (Option 2) is utilized, a 4 wire leased analog circuit (VG36) line will be required between our [REDACTED] Substation off of [REDACTED] in Boise and the 311C relay at the interconnection location, and a 4 wire leased analog circuit (VG36) line from our [REDACTED] Substation to the generator command center.

**4.6.2 Ground Fault Equipment**

The Interconnection Customer will install transformer configurations that will limit the contribution of ground fault current to 20 amps or less.

**4.6.3 Property, Site Work and Station Building**

The Interconnection Customer will provide land clearing, site leveling, and acquire property for the interconnection facilities.

**5. Budget**

The following good faith estimates are provided in 2008 dollars and includes the construction material and labor required for Idaho Power Company-provided interconnection facilities. This cost is higher than the original estimate mainly because of the higher costs of replacing the distribution line, and the need to perform the reconstruction work with the lines energized. One section requires rebuilding the top distribution circuit, while keeping the bottom circuit hot. The other section on [REDACTED] doesn't have any back feed capability and therefore must be done energized.

**Estimated Cost and Ownership:**

**OPTION 1 line near [REDACTED] Substation is rebuilt:**

Description	Ownership	Cost Estimate
<b>Generation Facilities:</b>		
Provided by Interconnection Customer		na
<b>TOTAL</b>		<b>\$</b>
<b>Interconnection Facilities:</b>		
Interconnection facilities, including metering		\$155,000
<b>TOTAL</b>		<b>\$155,000</b>
<b>Transmission Network Upgrades:</b>		
[REDACTED] Rebuild near [REDACTED] Substation		198,000
[REDACTED] New line and rebuild of 34.5 kV tap to interconnection point		\$127,000
<b>TOTAL</b>		<b>\$325,000</b>
<b>GRAND TOTAL</b>		<b><u>\$480,000</u></b>

**OPTION 2 Add a Remedial Action Scheme (RAS) at [REDACTED] substation:**

Description	Ownership	Cost Estimate
<b>Generation Facilities:</b>		
Provided by Interconnection Customer		na
<b>TOTAL</b>		<b>\$</b>
<b>Interconnection Facilities:</b>		
Interconnection facilities, including metering		\$155,000
<b>TOTAL</b>		<b>\$155,000</b>
<b>Transmission Network Upgrades:</b>		
[REDACTED] New line and rebuild of 34.5 kV tap to interconnection point		\$127,000
RAS Modifications at [REDACTED] and [REDACTED] Substations		\$10,000
<b>TOTAL</b>		<b>\$137,000</b>
<b>GRAND TOTAL</b>		<b><u>\$292,000</u></b>

**Milestones:**

Date	Milestones
4/30/09	<i>Design Completion</i>
2/15/09	<i>Start line design</i>
5/1/09	<i>Order long lead items</i>
11/10/09	<i>Construction Completion</i>
11/15/09	<i>Commissioning Completion</i>
12/1/09	<i>Commercial Operation</i>

**Construction Budget Timeline:**

**OPTION 1 line near [REDACTED] Substation is rebuilt:**

Period	Amount
2/1/09-4/30/09	\$5,000
8/1/09-11/1/09	\$280,000
11/1/09-12/1/09	<u>\$195,000</u>
<b>GRAND TOTAL</b>	<b>\$480,000</b>

**OPTION 2 Add a Remedial Action Scheme (RAS) at [REDACTED] substation:**

Period	Amount
2/1/09-4/30/09	\$5,000
9/1/09-11/1/09	\$130,000
11/1/09-12/1/09	<u>157,000</u>
<b>GRAND TOTAL</b>	<b>\$292,000</b>