

February 2, 2010 via email and Certified Mail

Re: Project GI# 154
Dear :
Idaho Power Company (IPC) has completed the Draft Facility Study Report (DFSR) for Phases 1 through 5 of the Joint System Impact Study in the Twin Falls Area for your Generator Interconnection project referenced above. Attached is a copy for your review and comment. Our project leader, is available to discuss the DFSR, and begin Construction arrangements for the identified Network Upgrades. Please provide your comments to the Draft Facility Study Report to by March 2, 2010 so we may finalize the report and proceed into final design and construction.
Once the Final Facility Study Report is completed, Idaho Power will issue invoices for the entire amounts due to all participants for the Network Upgrades. All participants must then commit to funding their entire cost allocation as shown in the attached cost allocation table.
Although the preferred method of funding is full payment upfront, payment arrangements may be requested. If payment arrangements are desired, please contact ( ) at your earliest convenience to discuss Idaho Power Company credit requirements. Unless acceptable arrangements are made, full payment is required by the invoice due date. Failure to pay or make acceptable secured payment arrangements by the invoice due date will cause the removal of a project from the Generator Interconnection queue.
Actual construction and labor charges will be finalized approximately 90 days subsequent to construction completion. We will refund or invoice any over- or underpayment at that time. I look forward to hearing from you soon.
Sincerely,
Manager, Delivery Planning
Attachments: DRAFT Facility Study Report with Drawings for
Phase 1 through 5 Updated Cost allocation table
Cc (via email): /IPC /IPC /IPC



# DRAFT Generator Interconnection Facility Study Report

for

for

**February 2, 2010** 

# **DRAFT - FACILITY STUDY REPORT (FSR)**

### **February 2, 2010**

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Interconnection Customers:

List of active Joint Study Group Customers GI queue #s: #117, 128, 134, 135, 136, 154, 155, 157, 158, 159, 192, 194, 203, 204, 207

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), will be prepared for this project if not already executed. Final drawings will be produced in the timeline shown below in MILESTONES.

## 2. 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 the required Idaho Power facilities. The project team consisted of the following employees:

Project Leader	Apparatus Engineer
System Planning Engineer	Structural Engineer
Area Apparatus Leader	Control Engineer
Area System Protection Leader	System Protection Engineer
Communication Engineer	Transmission Engineer
Control Designer	Structural Designer

## 3. Scope of Transmission Network Upgrades

Transmission System upgrades under the System Impact Study Agreement for this project dated March 14, 2008 will be required. The upgrades are as follows:

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Install a 34 ohm (tap at 20 ohms), 600 amp, 138 kV series reactor at Power Plant on the 138kV transmission line. This phase adds 42 MW of transmission capacity and will be funded by Idaho Power Company.

#### 3.2 Phase 2

Install a 6 ohm, 900 amp, 138 kV series reactor at Substation on the 138kV transmission line. This phase adds 52 MW of transmission capacity.

Major Project Components		Cost Estimate
Substation		
138kV Series Reactor		\$185,000
2-138kV Deadends, misc. structures and bus		\$115,000
3-138kV Airbreak Switches, 2-Ground switches		\$46,000
138kV Circuit Interrupter		\$40,000
Misc. control equipment		\$10,000
Site Work		\$4000
Labor, living/travel expenses, overheads, vehicles		\$200,000
	GRAND TOTAL	\$600,000

#### 3.3 Phase 3

Install a 12 ohm (tap at 9 ohms), 600 amp, 138 kV series reactor at Substation on the 138kV transmission line. This phase adds 59 MW of transmission capacity.

Major Project Components	Cost Estimate
Substation	
138kV Series Reactor	\$200,000
138kV Deadend, misc. structures and bus	\$35,000
3-138kV Airbreak Switches	\$40,000
138kV Circuit Interrupter	\$40,000
Misc. control equipment	\$20,000
Site Work	\$30,000
Labor, living/travel expenses, overheads, vehicles	\$175,000
GRAND TOT	S540,000

#### 3.4 Phase 4

Re-configure the 230 kV series capacitor bank to allow 1/3 of the compensation to be by-passed via Idaho Power Company's SCADA system and install an "automatic 1/3 bypass scheme" for overloads exceeding series capacitor's 30 minute emergency equipment rating of 135%. This phase adds 17 MW of transmission capacity. Work includes the installation of miscellaneous yard and data cables and programming labor.

#### 3.5 Phase 5

Build a 230-138 kV Transmission Station just east of Substation. The station will consist of a 138 kV connection to Substation, a 300 MVA 230-138kV transformer and two 230 kV line terminals for the and transmission lines. The expansion to the east of Substation will require the purchase of 2.5-5 acres of property. The new switchyard will require a control building to house the protection and communication equipment. The connection to the 138 kV yard will be via a 1590 MCM strain bus to the former C131 bay. The existing C131 shunt capacitor bank will be removed and a strain bus deadend, 138kV circuit breaker and air break switches will be installed in its place. This phase adds 183 MW of transmission capacity.

Major Project Components	Cost Estimate
Transmission Station	
Transmission Line Work/Re-routes	\$750,000
Property Purchase/, Site preparation, Control Building	\$800,000
3-230kV Circuit Breakers with line/bus protection	\$2,800,000
230-138kV, 300 MVA Transformer	\$2,800,000
138kV Circuit Breaker and airbreak switch with protection	\$500,000
Misc. rework of existing yard, relocate Capacitor bank	\$700,000
Protection Upgrades at and and	\$750,000
Communications	\$250,000
Labor, living/travel expenses, overheads, vehicles, upgrade access road	\$1,450,000
GRAND TOTAL	\$10,800,000

## **5**.

**Budget**The following good faith estimates are provided in 2009 dollars:

# **Estimated Cost & Ownership:**

Description	Ownership	Cost Estimate
Transmission Network Upgrades:		
Phase 1 – Series Reactor at Power Plant	IPC	\$725,000
Phase 2 – Series Reactor at Substation	IPC	\$600,000
Phase 3 – Series Reactor at Substation	IPC	\$540,000
Phase 4 – Re-configuration of Cap Bank	IPC	\$100,000
Phase 5 – New 230-138kV Transmission Station by Substation	IPC	\$10,800,000
GRAND TOTAL	\$12,765,000	

## **Milestones:**

Date	Milestones
3/1/2010	Order Long Lead Items
8/1/1/2010	Design Completion
12/1/2012	Construction Completion
12/31/2012	Commissioning Completion
12/31/2012	Project In-Service

# **Construction Budget Timeline:**

Period	Amount
1 <sup>st</sup> Quarter 2010	\$1,000,000
3 <sup>rd</sup> Quarter 2010	\$1,500,000
2011	\$3,500,000
2012	\$6,765,000
GRAND TOTAL	\$12,765,000