GENERATOR INTERCONNECTION

SYSTEM IMPACT STUDY REPORT

for integration of the proposed

1000 MW [redacted] [redacted] PROJECT

(GI PROJECT #635)

to the

IDAHO POWER COMPANY ELECTRICAL SYSTEM

in

JEROME, GOODING, and LINCOLN COUNTIES, IDAHO

for

[redacted] [redacted], [redacted]

Report v.1

October 14, 2022

Revision History

Date	Revision	Initials	Summary of Changes
10/12/2022	0	MDH	Draft System Impact Study Report GI #635
10/14/2022	1	MDH	Revised with Review Comments

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1.0 Introduction

[redacted], [redacted] has contracted with Idaho Power Company ("Transmission Provider") to perform a Generator Interconnection System Impact Study (SIS) for the integration of the proposed 1000 MW [redacted] Wind/Battery Energy Storage System (BESS) project (Project). The Project's location is in Idaho Power Company's (IPCo's) Southern Region in Jerome, Gooding, and Lincoln Counties, Idaho. The project is Generation Interconnect (GI) queue number 635 (GI #635). The project has chosen in the System Impact Study to be studied as a Network Resource Interconnection Service (NRIS).

Network Resource Interconnection Service in and of itself does not convey transmission service. In addition to Network Upgrades identified in the Interconnection System Impact Study:

- For Network Resource Interconnection Service, additional studies to reduce or eliminate congestion may be required and these studies may identify the need for additional upgrades. To the extent Interconnection Customer enters an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Provider's Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

The Project has applied to connect to the Idaho Power's transmission system for an injection of 1000 MW at a single Point of Interconnection (POI) at 500kV to IPCo's/PacifiCorp's (PAC's) jointly owned Midpoint 500kV station. Because the proposed interconnection is to the jointly owned Midpoint 500kV station, PacifiCorp is an Affected Party.

IPC projects queue GI #530, GI #549, GI #551, GI #557, GI# 558, GI #567, GI #570/#587, GI #588, GI #590, GI # 604, GI #605, GI# 613, GI #614/#616, GI# 619, GI #620, GI #621, GI #622, GI #624, GI #625, GI #629, GI #630, GI #632, GI #633, and GI #634 are senior queued project in the affected area of IPC's transmission system and the facilities and subsequent cost to integrate the 1000 MW GI #635 [redacted] Wind/BESS project is contingent on these projects' integration facilities.

This report documents the basis for and the results of this System Impact Study for the GI #635 Generation Interconnection Customer. The report describes the Project, the determination of the Project interconnection requirements, and estimated costs for integration of the Project to the Transmission Provider transmission system. This report satisfies the SIS requirements of the Idaho Power Tariff. This report will be reviewed by PacifiCorp.

Note:
The analysis of available transmission capacity/congestion occurs as part of a Transmission Service Request (TSR). However, it is anticipated that an acceleration of the Midpoint to Hemingway 500kV line segment of Gateway West (GWW) (segment 8 or 9) will be required to move GI 635 energy to Idaho Power load. Construction has not yet started on GWW, so it may be difficult to meet the project's 2026 Commercial Operating Date. If a GWW segment is identified as necessary to transmit [redacted] project's energy to Idaho Power load, additional discussions will be needed to determine the financial arrangement.

2.0 Summary

The system impact of interconnecting the 1000 MW [redacted] Wind/BESS project, GI #635, to the Transmission Provider's transmission system was evaluated. GI #635 can be interconnected to the Idaho Power transmission system. The Point of Interconnection (POI) is located at IPCo's/PAC's jointly owned Midpoint 500kV station.

For a Network Resource Interconnection Service interconnection, the GI #635 interconnection will require a second 500kV line, not on a common structure and preferably geographically diverse, from the Project to the [redacted] 500kV station, and the Project's 500/34.5kV station will be required at a minimum to be configured such that a single 500kV breaker-failure does not result in the loss of the two 500kV lines or loss of two of the four 500/34.5kV transformers. The [redacted] GI #635 500kV generation station most likely will be required to be either a breaker-and-half or a double-bus double-breaker station configuration.

The Interconnection Facility preliminary cost estimate is as follows:

- Interconnection Facilities - **$17,120,000**

Power Flow analysis east-to-west to Idaho Power Load in the Treasure Valley will require acceleration of the [redacted]-to-[redacted] 500kV line segment of Gateway West (GWW) (Segment 8 or 9). However, since construction not yet started on GWW it may be difficult to meet the project's 2026 Commercial Operating Date. Since a GWW segment is identified as necessary to transmit [redacted] project's energy to Idaho Power load, additional discussions will be needed to determine the financial arrangement. A very high-level conceptual cost estimate for the Gateway West 500kV Segment-8 transmission project is **$480,000,000**.

See Section 8.0 Network Resource Interconnection Service Cost Estimate for the required Network Resource facilities and cost breakdowns. The cost estimate includes a 20% contingency and 7.2% overhead. These are cost estimates only and final charges to the customer will be based on the actual construction costs incurred. It should be noted that the preliminary cost estimates do not include the cost of the customer's owned equipment.

The Project will be required to control voltage in accordance with a voltage schedule as provided by Idaho Power's Grid Operations. Therefore, the Project will be required to install a plant controller for managing the real and reactive power output at the POI. As an interconnection on Idaho Power's transmission facilities, a phasor measurement unit device (PMU) will be required at the POI and the installation and maintenance costs associated with communication circuits needed to stream PMU data may be required. Also, it may be beneficial for [redacted], [redacted], [redacted] for their own modeling compliance requirements, to install additional PMU devices at their facilities to monitor the generation source(s).

The transmission Provider estimates it will require approximately 36 months to design, procure, and construct the facilities described in the Network Resource sections of this report following the execution of a Generation Interconnection Agreement. The schedule for designing, procuring, and constructing facilities will be developed and optimized during the Facility Study should the generation interconnection customer choose to move to that study phase of the interconnection process.

3.0 Scope of Interconnection System Impact Study

The Interconnection SIS was performed and prepared in accordance with Idaho Power Standard Generator Interconnection Procedures, to provide a preliminary evaluation of the system impact of the interconnection of the proposed generating project to the Idaho Power transmission system. As listed in the Interconnection SIS agreement, the Interconnection SIS report provides the following information:

- identification of any circuit breaker short circuit capability limits exceeded because of the interconnection,
- identification of any thermal overload or voltage limit violations resulting from the interconnection, and
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and
- description and non-binding estimated cost of facilities required to interconnect the Large Generating Facility to the transmission system and to address the identified short circuit and power flow issues.

Generation projects in the Generator Interconnect queue prior to this project could impact the cost of interconnection. A current list of projects in Idaho Power's queue can be found in the Generation Interconnection folder located on the Idaho Power OASIS web site at the link shown below:

http://www.oasis.oati.com/ipco/index.html

4.0 Contingent Facilities

IPCo projects queue GI #530, GI #549, GI #551, GI #557, GI #558, GI #567, GI #570/#587, GI #588, GI #590, GI # 604, GI #605, GI# 613, GI #614/#616, GI# 619, GI #620, GI #621, GI #622, GI #624, GI #625, GI #629, GI #630, GI #632, GI #633, and GI #634 are senior queued projects in the affected area of IPCo's transmission system. Their Network Upgrades and Interconnection Facilities have been included in this System Impact study.

In addition to the senior GI queued projects, the Boardman to Hemingway 500kV (B2H) project with its proposed transmission integration projects were included in this analysis since their respective in-service dates are prior to the Project's Commercial Operation Date (COD) of January 12, 2026.

B2H Transmission Integration Projects:

- [redacted] #[redacted] 230kV line
- [redacted] 230kV line
- [redacted] T502 500/345kV 2000 MVA Transformer
- [redacted] C343 345kV Series Capacitor ([redacted] 345kV line)

The [redacted] project, GI #635, Network Resource Interconnection Service east-to-west to Idaho Power Load in the Treasure Valley will require acceleration of the [redacted] 500kV line segment of Gateway West (GWW) (Segment 8 or 9). However, since construction not yet started on GWW it may be difficult to meet the project's 2026 Commercial Operating Date. Since a GWW segment is identified as necessary to transmit [redacted] project's energy to Idaho Power load, additional discussions will be needed to determine the financial arrangement.

5.0 Description of Proposed Generating Project

The [redacted] project, GI #635, proposes to interconnect to the Idaho Power transmission system at 500kV with a maximum of 1000 MW (maximum project output) of wind/BESS generation at the POI. The POI is the 500kV bus at IPCo's/PAC's jointly owned Midpoint 500kV transmission station. The Project's location is in IPCo's Southern Region in Gooding, Jerome, and Lincoln Counties, Idaho. The Project's Commercial Operation Date (COD) is January 12, 2026.

GI #635

- One 500kV transmission line (Project to POI)
- Four 500/34.5kV GSU transformers 240/320/400 MVA Wye-Ground/Wye-Ground
- 272 Vestas 4.2 MW wind turbines – 4.60/4.20 MVA/MW with a Power Factor 0.895 with 68 turbines (~285.6 MW) connected at each of the four 500/34.5kV GSU transformer
- 500 MW of BESS with ~140 MW connected at each of the four 500/34.5kV GSU transformer

- Total plant limited to 1000 MW at the 500kV POI
- All generation in voltage regulation (Reactive capability used to regulate voltage – supply/absorb reactive)

6.0 Description of Interconnection Facilities

Preliminary analysis indicated that interconnection of a 1000 MW injection at the POI will require the following transmission/station interconnection facilities: [redacted] 500kV yard expansion to install two new terminal/line bays at the POI.

6.1 Description of Transmission Interconnection Facilities

The Project will interconnect to IPCo's/PAC's jointly owned Midpoint Station 500kV yard.

6.2 Description of Substation Interconnection Facilities

The [redacted] substation 500kV yard will need to be expanded to make room for two new line/terminal bay with two new 500kV power circuit breakers, associated switches, protective relaying systems, SCADA, communications, and a Generation Interconnection metering package.

The actual station layout and detailed equipment requirements will be determined in the Facility Study should the interconnection customer choose to move to that study phase of the interconnection process.

6.3 Description of Distribution Facilities

No distribution facilities are directly impacted by this project.

6.4 Short Circuit Study Results

Short Circuit details at POI interconnection location:

Studies indicate that there is adequate load and short circuit interrupting capability on the Transmission Provider's existing 500kV breakers after this project is interconnected.

Fault duty at the POI 500kV bus with and without generation.

Fault Study (Baseline w/o GI #635)			
Location	**SLG (A)**	**LTL (A)**	**3PH (A)**
[redacted] **500kV Bus**	25,004.4	20,135.7	23,252.7

Fault Study (with GI #635)			
Location	**SLG (A)**	**LTL (A)**	**3PH (A)**
[redacted] **500kV Bus**	25,163.2	20,845.1	24,026.0

Studies indicate that there is adequate load and short circuit interrupting capability on the Transmission Provider's existing 500kV breakers after this project is interconnected.

6.5 Electric System Protection Results and Grounding Requirements

For 500kV line protection, the Transmission Provider's System Protection Department utilizes permissive, and line differential protection schemes integrated with our existing digital communication infrastructure. Digital communication infrastructure for the interconnection customer's 500kV line terminal will be the responsibility of said interconnection customer.

The Project's Appendix 1 to Large Generation Interconnection Project (LGIP) does indicate the winding configuration on the four 500/34.5kV transformers to be a wye-ground/wye-ground. Idaho Power requires a wye-grounded connection on the high side and a delta included in the transformer to create a solid ground path for the transmission system. This can be achieved with auto-transformers with a delta tertiary which is a source of ground current, other configurations can and do exist. Refer to Appendix A, Section 3.0, for additional protection and grounding requirements.

7.0 Network Resource Interconnection Service (NRIS)

Network Resource Interconnection Service allows the Interconnection Customer to integrate its Generating Facility with the Transmission Provider's Transmission System in a manner comparable to that in which the Transmission Provider integrated its generating facilities to serve native load customers. The transmission system is studied under a variety of conditions to determine the transmission improvements/upgrades which are necessary. Network Resource Interconnection Service in and of itself does not convey Transmission Service.

7.1 Network Resource Single Event Exposure

If the full 1000 MW Project elects to move forward as an Idaho Power Network Resource, consideration must be given to the amount of generation that can be lost due to a single event (for example a single 500kV line outage, bus fault, or breaker failure). Loss of 1000 MW of generation is well beyond Idaho Power's current capability.

Section 23 and Section 24 of Business Practices, Waivers, and Exemptions on the Idaho Power OASIS site discusses Capacity Benefit Margin (CBM) and Transmission Reliability Margin (TRM) respectively. These business practices are in accordance with Idaho Power's OATT, Commission orders, Commission regulations, and Commission approved NERC Standards. Idaho Power currently reserves 330 MW of CBM based upon Idaho Power's Most Severe Single Contingency (MSSC). Moreover, Idaho Power's contingent operating reserves are also based on the MSSC. As a Network Resource Idaho Power cannot tolerate a single

contingency loss of GI #635 1000 MW project. This would represent a significant increase to Idaho Power's MSSC.

For a Network Resource Interconnection Service interconnection, the GI #635 interconnection will require a second 500kV line, not on a common structure and preferably geographically diverse, from the Project to the [redacted] 500kV station, and the Project's 500/34.5kV station will be required at a minimum to be configured such that a single 500kV breaker-failure does not result in the loss of the two 500kV lines or loss of two of the four 500/34.5kV transformers. The [redacted] GI #635 500kV generation station most likely will be required to be either a breaker-and-half or a double-bus double-breaker station configuration.

And the [redacted] substation 500kV yard will need to be expanded to make room for the second new line/terminal bay with two new 500kV power circuit breaker, associated switches, protective relaying systems, SCADA, communications, and a Generation Interconnection metering package.

The actual station layout and detailed equipment requirements will be determined in the Facility Study should the interconnection customer choose to move to that study phase of the interconnection process.

7.2 Network Resource Interconnection Service Transmission Service

IPCo projects queue GI #530, GI #549, GI #551, GI #557, GI# 558, GI #567, GI #570/#587, GI #588, GI #590, GI # 604, GI #605, GI# 613, GI #614/#616, GI# 619, GI #620, GI #621, GI #622, GI #624, GI #625, GI #629, GI #630, GI #632, GI #633, and GI #634 are senior queued projects in the affected area of IPCo's transmission system. The sum of theses senior queued projects in just the affected area of IPCo's transmission system exceeds 5000^{+} MW, in addition to senior queue projects further east of the Midpoint area which also require east-to-west transmission service to Idaho Power Load in the Treasure Valley. The existing transmission capacity available between the POI and Idaho Power Load is insufficient for the Project's output.

The analysis of available transmission capacity (ATC) occurs as part of a Transmission Service Request (TSR). However, it is anticipated that an acceleration of the [redacted]-to-[redacted] 500kV line segment of Gateway West (GWW) (segment 8 or 9) will be required to move GI 635 energy to Idaho Power load. Construction has not yet started on GWW, so it may be difficult to meet the project's 2026 Commercial Operating Date. If a GWW segment is identified as necessary to transmit [redacted] project's energy to Idaho Power load, additional discussions will be needed to determine the financial arrangement.

7.3 Description of Power Flow Cases

For the Network Resource Interconnection Service study, a power flow case was used to study the Transmission Provider's transmission system with westbound transmission flows from Midpoint to the Treasure Valley to determine the required Network Transmission Upgrades.

The Western Electricity Coordinating Council (WECC) 2022 Light Winter base case was modified to represent a shoulder month condition with high east to west (westbound) transfers across Idaho Power's Midpoint West transmission path.

As the Idaho Power balancing authority area ("BAA") has more existing and proposed generation than load, it is necessary to assume some portions of other resources are displaced by this Project's output to assess the impact of interconnecting this Project's generation to the transmission system. For the purposes of this study, solar (except for solar with BESS), pump storage hydro, and existing wind generation in the Transmission Provider's affected area were assumed to be either curtailed and/or displaced.

From the power flow analysis, the loss of either segment of the [redacted]-[redacted] [redacted]-[redacted] 500kV line resulted in multiple severe overloads in the underlying 230kV transmission system. To mitigate these multiple overloads in the underlying 230kV transmission system for loss of either segment of the [redacted]-[redacted] [redacted]-[redacted] 500kV line and provide the required transmission capacity requires acceleration of the [redacted]-to-[redacted] 500kV line segment of Gateway West (GWW) (segment 8 or 9).

8.0 Network Resource Interconnection Service Cost Estimate

Table 1 below a summary is provided of the facilities and preliminary/conceptual costs required to facilitate the NRIS of [redacted] [redacted] Project, GI #635.

GI #635 [redacted] [redacted] 1000 MW Project Network Resource Interconnection Service Facilities	
Interconnection Facilities	
Direct Assigned:	**Cost**
Approximately 25% of a new [redacted] 500kV Line Terminal for GI #635 Standard two-breaker 500kV line terminal with revenue metering	$1,650,000
Approximately 25% of second [redacted] 500kV Line Terminal for GI #635	$1,650,00

Standard two-breaker 500kV line terminal with revenue metering	
Network Assigned:	
Approximately 75% of a new [redacted] 500kV Line Terminal for GI #635 Standard two-breaker 500kV line terminal with revenue metering	$5,000,000
Approximately 75% of a second [redacted] 500kV Line Terminal for GI #635 Standard two-breaker 500kV line terminal with revenue metering	$5,000,000
Subtotal	**$13,300,000**
Contingency (~20%)	$2,660,000
Subtotal	**$15,960,000**
Overheads (~7.25%)	$1,160,000
NRIS – Total Estimated Cost (3)	**$17,120,000**

Table 1. GI #635 Preliminary/Conceptual NRIS Cost estimate

(1) Contingency is added to cover the unforeseen costs in the estimate. These costs can include unidentified design components, material cost increases, labor estimate shortfalls, etc.
(2) Overhead costs cover the indirect costs associated with the Project.
(3) This cost estimate includes direct equipment, material, labor, and overheads as shown.

- Note that these estimates do not include the cost of the customer's equipment/facilities or required communication circuits for SCADA, PMU, and metering.
- Note that the overhead rates are subject to change during the year.
- These are estimated costs only and final charges to the customer will be based on the actual construction costs incurred.
- These are non-binding conceptual level cost estimates that will be further refined upon the request and completion of the Facility Study.

The transmission Provider estimates it will require approximately 36 months to design, procure, and construct the facilities described in the Network Resource sections of this report following the execution of a Generation Interconnection Agreement. The schedule for designing, procuring, and constructing facilities will be developed and optimized during the Facility Study should the generation interconnection customer choose to move to that study phase of the interconnection process.

Provided below is a very high-level conceptual cost estimate for the Gateway West 500kV Segment-8 transmission project:

Gateway West 500kV Segment-8 Transmission Project	
	Cost
[redacted] **500kV Station**	
Standard two-breaker 500kV line terminal	$6,650,000
500kV Line Shunt Reactor	$7,000,000
500kV Series Capacitor	$10,000,000
[redacted]**-**[redacted] **#**[redacted] **500kV Line (GWW Segment-8):**	
~130 Miles 500kV Line @ $2.5M/mile	$325,000,000
[redacted] **500kV Station**	
Standard two-breaker 500kV line terminal	$6,650,000
500kV Line Shunt Reactor	$7,000,000
500kV Series Capacitor	$10,000,000
Subtotal	**$372,300,000**
Contingency (~20%)	$74,460,000
Subtotal	**$446,760,000**
Overheads (~7.25%)	$32,390,000
Total Estimated Cost	**$479,150,000**

Table 2. Gateway West 500kV Segment-8 Project Conceptual Cost estimate

9.0 Transient Stability Analysis

The WECC 2023 Heavy Summer base case (23HS3a) and PowerWorld Simulator version 22 analysis tool were used to perform the transient stability analysis.

The following transient stability simulation was run:

- 4-cycle 3-Phase Fault, Loss of [redacted]-[redacted] #[redacted] 500kV Line

The results showed no transient stability violations. It is the responsibility (per NERC Standards) of the Generator Owner to ensure the modeling data utilized accurately reflects inverter operations, and to provide updates to Idaho Power if testing or real-time observations indicate a need.

10.0 Description of Operating Requirements

It is the generation project's responsibility to provide reactive power capability of the project to have a power factor operating range of at least 0.95 leading (absorbing) to at least 0.95 lagging (supplying) at the POI over the range of real power output (up to maximum output of the project. At full output of 1000 MW, the Project would need to be able to provide approximately +/- 328.7 MVAr reactive support plus the reactive energy consumed by the customer's own facilities. Preliminary analysis of the customer's facilities showed the Project's combined wind/BESS installed reactive power capability was sufficient to meet this requirement.

GI #635 will be required to control voltage in accordance with a voltage schedule as provided by Idaho Power Grid Operations, and GI#635 will be required to manage the real power output of their stated generation at the project's POI.

The project(s) 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*.

Installation of phasor measurement unit devices at the POI and maintenance costs associated with communication circuits needed to stream PMU data will also be required to be provided to interconnect GI #635. The specific costs associated with the IPC requirements for interconnection customers with aggregate facilities larger than 20 MW to provide PMU data to IPC will be identified in the Facility Study should the generation interconnection customer choose to proceed to that phase of the interconnection process. Also, it may be for [redacted], [redacted] for their own modeling compliance requirements, to install additional PMU devices at their facilities to monitor the generations sources separately.

11.0 Conclusion

The requested interconnection of [redacted], GI #635 to IPCo's/PAC's jointly owned Midpoint 500kV station was studied. GI #635 can be interconnected to the Idaho Power transmission system.

Interconnection requirements detailed in Section 6.2 totaling **$17,120,000** are required to interconnect the Project at the proposed IPCo's/PAC's jointly owned [redacted] 500kV

Bus POI.

From power flow analysis perspective, to move power to load in the Treasure Valley area east-to-west will require acceleration of the [redacted]-to-[redacted] 500kV line segment of Gateway West (GWW) (segment 8 or 9). However, since construction not yet started on GWW, it may be difficult to meet the project's 2026 Commercial Operating Date. Since a GWW segment is identified as necessary to transmit [redacted] project's energy to Idaho Power load, additional discussions will be needed to determine the financial arrangement. A very high-level conceptual cost estimate for the Gateway West 500kV Segment-8 transmission project is **$480,000,000**.

Generator interconnection service does not in any way convey any right to deliver electricity to any specific customer or point of delivery.

APPENDIX A

A-1.0 Method of Study

The System Impact Study plan inserts the Project up to the maximum requested injection into the selected Western Electricity Coordinating Council (WECC) power flow case and then, using Power World Simulator or GE's Positive Sequence Load Flow (PSLF) analysis tool, examines the impacts of the new resource on Idaho Power's transmission system (lines, transformers, etc.) within the study area under various operating and outage scenarios. The WECC and Idaho Power reliability criteria and Idaho Power operating procedures were used to determine the acceptability of the configurations considered. The WECC case is a recent case modified to simulate stressed but reasonable pre-contingency energy transfers utilizing the IPC system. For distribution feeder analysis, Idaho Power utilizes DNV·GL's Synergi Electric software and EPRI's OpenDSS software.

A-2.0 Acceptability Criteria

The following acceptability criteria were used in the power flow analysis to determine under which system configuration modifications may be required:

The continuous rating of equipment is assumed to be the normal thermal rating of the equipment. This rating will be as determined by the manufacturer of the equipment or as determined by Idaho Power. Less than or equal to 100% of continuous rating is acceptable.

Idaho Power's Voltage Operating Guidelines were used to determine voltage requirements on the system. These states, in part, that distribution voltages, under normal operating conditions, are to be maintained within plus or minus 5% (0.05 per unit) of nominal everywhere on the feeder. Therefore, voltages greater than or equal to 0.95 pu voltage and less than or equal to 1.05 pu voltage are acceptable.

Voltage flicker during starting or stopping the generator is limited to 5% as measured at the point of interconnection, per Idaho Power's T&D Advisory Information Manual.

Idaho Power's Reliability Criteria for System Planning was used to determine proper transmission system operation.

All customer generation must meet IEEE 519 and ANSI C84.1 Standards.

All other applicable national and Idaho Power standards and prudent utility practices were used to determine the acceptability of the configurations considered.

The stable operation of the system requires an adequate supply of volt-amperes reactive (VAr or VArs) to maintain a stable voltage profile under both steady-state and dynamic system conditions. An inadequate supply of VArs will result in voltage decay or even collapse under the worst conditions.

Equipment/line/path ratings used will be those that are in use at the time of the study or that are represented by IPC upgrade projects that are either currently under construction or whose budgets have been approved for construction in the near future. All other potential future

ratings are outside the scope of this study. Future transmission changes may, however, affect current facility ratings used in the study.

A-3.0 Electrical System Protection Guidance

IPC requires electrical system protection per Facility Connection Requirements found on the Idaho Power Web site,

https://docs.idahopower.com/pdfs/BusinessToBusiness/FacConnReq.pdf

A-4.0 WECC Coordinated Off-Nominal Frequency Load Shedding and Restoration Requirements

IPC requires frequency operational limits to adhere to WECC Under-frequency and Over-frequency Limits per the WECC Coordinated Off-Nominal Frequency Load Shedding and Restoration Requirements available upon request.