GENERATOR INTERCONNECTION
MATERIAL MODIFICATION ASSESSMENT

for integration of the proposed

150 MW [redacted] PROJECT
(IDAHO POWER QUEUE #639)

to the

IDAHO POWER COMPANY ELECTRICAL SYSTEM

in

ADA COUNTY, ID

for

[redacted]

Report v1.0

August 18, 2025

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1.0 INTRODUCTION

On July 23, 2025, [redacted] requested a material modification evaluation from Idaho Power Company (Transmission Provider), which consisted of a proposal to convert their [redacted] project (the Project) battery system from [redacted] batteries to [redacted] battery storage containers with [redacted] class [redacted]. The Project also proposed to use a 138kV/34.5kV/13.8kV, [redacted] MVA, [redacted] impedance main step-up transformer.

The Project is Generation Interconnection queue number 639 (GI #639) located in Ada County, ID at approximately [redacted]. The specific Point of Interconnection (POI) is at the [redacted] 138kV Substation.

This report describes the results of an assessment that was conducted to evaluate the potential impacts of the proposed modification in accordance with the Idaho Power Tariff and executed Large Generator Interconnection Agreement (LGIA) for the Project.

2.0 SUMMARY

An assessment was conducted which determined that the modification request is not considered a material modification. The proposed changes do not result in any new reliability concerns, nor do they require new facilities beyond what was already described in the May 12, 2023, LGIA. The proposed changes may be incorporated in the Project's LGIA as an amendment.

3.0 DESCRIPTION OF PROPOSED TECHNOLOGICAL CHANGE

The original system as described in the LGIA consisted of a battery system with [redacted] batteries. The new configuration requests to substitute the battery system with [redacted] battery storage containers with [redacted] class [redacted]. The Project also proposed to use a 138kV/34.5kV/13.8kV, [redacted] MVA, [redacted] impedance main step-up transformer.

4.0 ASSESSMENT RESULTS

4.1 Power Flow Results (Thermal and Voltage Analysis)

Because there are no changes to the Project's maximum real power output at the POI, the modifications will have no impact on the power flow results already performed in the System Impact Study (SIS).

4.2 Reactive Power Requirements

The Project will be required to operate at 0.95 leading/lagging measured at the high side of the main power transformer to maintain voltage within limits at the POI over the range of real power output.

Power flow analysis indicates that with the modification of the battery system, the Project has sufficient reactive power capability to provide a 0.95 leading/lagging power factor at the POI over the range of real power output based on the data provided by the customer.

4.3 Transient Stability Results

Transient stability data provided by the customer for the changes to the Project was reviewed and deemed usable. A transient stability analysis was performed with the new provided data and the results were acceptable.

4.4 Post-Transient Voltage Stability (Reactive Margin) Results

Because there are no changes to the Project's maximum real power output at the POI, and the reactive power requirements are not changed at the POI, the modification of the battery system will have no impact on the voltage stability analysis results already performed in the SIS.

4.5 Short Circuit Results

The proposed changes do not necessitate any changes to the required protection system identified in the SIS. The proposed 138kV/34.5kV Wye-Grounded/Wye-Grounded with 13.8kV delta tertiary main step-up transformer should provide an adequate ground return path for transmission line protection/relaying.

4.6 Other Operating Requirements

The Project will be required to control voltage in accordance with a voltage schedule as provided by Idaho Power Load Serving Operations. The Project will be required to install a plant controller for managing the real power output at the Project's POI.

The Project is required to comply with the applicable Voltage and Current Distortion Limits found in IEEE Standard 2800, *IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems*.

The Project will be required to reduce output to levels directed by IPC Load Serving Operations during transmission system contingencies and other reliability events. This will be accomplished with a Generator Output Limit Control (GOLC) setpoint sent from IPC to the Project.

5.0 CONCLUSIONS

An assessment was conducted which determined that the modification request is not considered a material modification. The proposed changes do not result in any new reliability concerns, nor do they require new facilities beyond what was already described in the May 12, 2023, LGIA. The proposed changes may be incorporated into the Project's LGIA as an amendment.