

**GENERATOR INTERCONNECTION
MATERIAL MODIFICATION ASSESSMENT**

for integration of the proposed

**100 MW [REDACTED] PROJECT
(IDAHO POWER QUEUE #624)**

to the

IDAHO POWER COMPANY ELECTRICAL SYSTEM

in

JEROME COUNTY, IDAHO

for

[REDACTED]

Report v1.0

October 17, 2024

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1.0 INTRODUCTION

On September 17, 2024, ██████ requested a material modification evaluation from Idaho Power Company (Transmission Provider), which consisted of a proposal to change their 100 MW ██████ project's (the Project) inverter specifications and remove the solar portion of the project. Additionally, the proposal consisted of the Project's location changing to ~██ miles southeast of the ██████ substation in Idaho Power Company's (IPC) Southern Region in Jerome County, Idaho.

The Project is Generation Interconnect (GI) queue number 624 (GI #624). The specific point of interconnection (POI) is the ██████ Station's 230kV bus.

The original system as described in the Generator Interconnection Agreement (GIA) consisted of a photovoltaic system with ██████ inverters and a BESS system with ██████ inverters. The new configuration requests to remove the solar portion completely and substitute the BESS inverters with ██████ inverters.

A GIA, dated September 18, 2023, describes the estimated costs for integration of the Project to the Transmission Provider's transmission system for Network Resource Interconnection Service (NRIS).

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.

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 September 18, 2023, GIA. The proposed changes may be incorporated in the Project's GIA as an amendment.

3.0 DESCRIPTION OF PROPOSED TECHNOLOGICAL CHANGE

The material modification evaluation request consists of substituting the original ██████ inverters with ██████ inverters. The desired inverters are ██████ and will be connected to a total of ██████ 34.5kV collector circuits. The specifications for the main power transformer are to remain the same and the solar elements of the project are to be removed completely.

4.0 ASSESSMENT RESULTS

4.1 Power Flow Results (Thermal and Voltage Analysis)

Because there are no changes to the project maximum real power output at the POI and the reactive power requirements are not changed at the POI, the modifications will have no impact on the power flow results already performed in the SIS.

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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 proposed BESS, 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 inverter equipment 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.

4.6 Other Operating Requirements

GI #624 will be required to control voltage in accordance with a voltage schedule as provided by Idaho Power Grid Operations. GI #624 will be required to install a plant controller for managing the real power output at the project POI.

The project is required to comply with the applicable Voltage and Current Distortion Limits found in IEEE Standard 519-2014 *IEEE Recommended Practices and Requirements for Harmonic Control in Electrical 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

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