

TRANSMISSION PLANNING

GENERATION INTERCONNECTION REPORT

INTERCONNECTION SYSTEM IMPACT STUDY (ISIS)

G0616

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1 Introduction

This interconnection System Impact Study (ISIS) examines the transmission system electrical impacts of the customer's proposed 42MWs generation uprate to Bonneville Power Administration Transmission Service's (BPA-TS) transmission system. The customer's generation plant is interconnected to BPA owened Coyote 500kV substation. This request was entered into the BPA-TS Interconnection queue as Request G0616. The project is a 42MWs increase to an existing generation facility(Coyote #2), for a generation output of 274MWs and 322MWs Summer and Winter respectively. The generation facility is a combine cycle plant located at Morrow County, OR.

The ISIS consists of power flow, voltage stability, short circuit and transient stability analysis (if applicable) and provides a list of facilities and non-binding good faith estimates of cost and a non-binding good faith estimated time to construct. The purpose is to identify any potential adverse system impacts resulting from the requested interconnection. The ISIS concluded that the proposed generation MW output incrase of the customer generators output by 42 MWs would not cause any BPA owned equipment to overload beyond its thermal rating or cause any voltage violations and transient stability problems in the Bonneville Power Administration Transmission Service's (BPA-TS) transmission system.

The customer is a Network Resource serving NT load.

2 Conclusions

The ISIS evaluated the request for a generation MW output increase. The ISIS concluded that the proposed 42MWs of generation MW output incrase will not cause any BPA owned equipment to overload beyond its thermal rating or cause any voltage and transient stability problems to BPA Transmission Service's (BPA-TS) transmission system. All other facilities required for the G0616 request are already in place and that no new infrastructure or mitigation is necessary therefore, no system reinforcement project is needed.

The technical study results included in this document are for generator interconnection only. Technical studies for transmission service for delivery of output beyond the point of interconnection are not included. Any transmission service for delivery beyond the point of interconnection must be requested and arranged for separately. In addition, the technical studies included in this document only address generator interconnection capacity and do not address generator-balancing services.

These studies were conducted using the best available information at the time of the study. Findings and recommendations are based on assumptions, which could change. BPA-TS reserves the right to add, delete, or modify any content in this report.

3 Impacted Parties

There are no affected third parties.

4 Facilities

4.1 High Voltage Plan of Service

The addition of Request G0616 does not require any new facilities.

4.2 Contingent Facilities

The addition of Request G0616 does not require any contingent facilities.

4.3 Communications Plan of Service

The addition of Request G0616 may require a control scheme change.

4.3.1 Interconnection Station

Not applicable.

4.3.2 Collector Station

Not applicable.

4.3.3 Control Centers

Not applicable.

4.3.4 Network Communications Expansion

Not applicable.

4.4 Remedial Action Schemes

This generation (Coyote #2) is already a part of existing main grid RAS. The addition of Request G0616 does not require new RAS.

4.5 Plant Reactive Requirements

The addition of Request G0616 does not require new reactive support device addition. With the proposed generation MW output incrase the plant meet the reactive requirment.

4.6 Generator Low Voltage Ride through Capability

Coyote #2 meets the generator low voltage ride requirement.

4.7 Protection, Control, and Monitoring Requirements

4.7.1 Relaying, Transfer Trip, and Auto-reclosing

The addition of Request G0616 does not require new relaying, transfer trip and auto-closing. Existing relaying, Transfer Trip and Auto-reclosing are sufficient.

4.7.2 Limit Generation to Schedule

Not applicable.

4.7.3 Revenue or Interchange Metering and SCADA

The addition of Request G0616 does not require Revenue or Interchange Metering and SCADA. Existing Revenue or Interchange Metering and SCADA are sufficient.

4.7.4 Phasor Measurement Unit

Existing Data PMU at Coyote Spring 500 kV substation is sufficient.

5 Project Requirements Diagram

Not applicable.

6 Estimates

6.1 Estimated Cost

The addition of Request G0616 does not require any new facilities. A control scheme change may be required and is expected to be less than $100,000.

6.2 Estimated Schedule

The addition of Request G0616 does not require any new facilities. A control scheme change may be required and the time required to implement a control scheme is approximately 18 months.

7 Technical Analysis

7.1 Methodology and Assumptions

Not applicable.

7.2 Queue Priority

Not applicable.

7.3 Powerflow Results

Previous power flow thermal analysis studies using critical contingencies in the area with applicable RAS were run. Performance results show shows no overloaded element on the transmission system in the surrounding area. The addition of Request G0616 will not cause thermal overloads or create any bus voltages violations in the area.

7.4 Voltage Stability Results

Previous voltage stability studies using critical contingencies in the area were run. Performance results show critical monitored buses with sufficient reactive margin. The addition of Request G0616 will not change the voltage stability of the system.

7.5 Transient Stability Studies

Past transient stability studies using critical contingencies in the area were run. Performance results for transient stability disturbances were screened for voltage dips and frequency deviations. All contingencies were transient stable and all applicable performance criteria were within limits. The addition of Request G0616 will not change the transient stability of the system.

7.6 Short Circuit analysis

The fault duty at Coyote Spring 500 kV is 26,487 Amps and the breakers are rated at 50KA breaker rating. Therefore fault duty current increase at Coyote Spring 500 kV bus as a result of Request G0616 is not significant enough to require mitigation

7.7 NRIS Analysis

Not applicable.

7.8 ERIS

Not applicable.

8 Communications Detailed Requirements

8.1.1 Typical Interconnection Station Requirements (Add applicable items from Collector Station Requirements)

Not Applicable.

8.1.2 Typical Collector Station Requirements

Not applicable.

9 Project Team

The project team for this request is as follows:

Role	Person
Account Executive	Angela DeClerck
Account Specialist	
GI Administrator	Anna Cosola
Customer Service Engineer	Victor Hitchens
Transmission Infrastructure Development	
Planning Manager	Ricky Bustamante
Transmission Planning Engineer	Raul Huitron-Azcuaga
Communications Planning Engineer	Dason Elwess
Coordinating Engineer	Abebe Masho
Environmental Specialist	Nancy Wittpenn