IMPACT STUDY OF INTERIM OPERATION FOR GENERATOR INTERCONNECTION ASGI-2016-009

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By SPP Generator Interconnections Department

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
3/1/2018	SPP	Impact Study report issued.	
5/9/2018	SPP	Revision 1	

Interconnection Customer for ASGI-2016-009 has requested an Interim Operation Impact Study (IOIS) under the Southwest Power Pool Open Access Transmission Tariff (OATT) for 3 MW of generation to be interconnected to the system of South Plains Electric Cooperative, Inc. (South Plains). The South Plains system is interconnected to the transmission facilities of Southwestern Public Service (SPS) in Lubbock County, Texas. The customer has requested this study to determine whether it can interconnect prior to the completion of all studies related to DISIS-2016-002. This study is consistent with GIP Section 11A.

This IOIS addresses the effects of interconnecting the generator to the transmission system for the system topology and conditions as expected on February 1, 2018. ASGI-2016-009 is requesting the interconnection of one wind turbine generator and associated facilities on the distribution system of the South Plains Electric Cooperative with a point of impact to the SPP Transmission System at the South Plains Wolfforth 115 kV substation. For the typical IOIS, both a power flow and a transient stability analysis are conducted. The IOIS assumes that only the higher queued projects might go into service before the completion of all Network Upgrades identified within Table 2 of this report. If additional generation projects with queue priority equal to or higher than the study project request rights to go into commercial operation before all Network Upgrades identified within Table 2 of this report are completed, this IOIS may need to be restudied to ensure that interconnection service remains for the customer's request.

This evaluation relies on the fact that a similar generator was previously studied and successfully interconnected. In this instance, a 2 MW wind turbine generator was previously connected in the same location (relative to the SPP system) and has since been retired. The interconnecting provider has determined that the previously-installed metering and control equipment is still functional and capable of successfully monitoring and controlling the output of the proposed generator. This equipment prevents the generator from injecting power onto the SPP Transmission System. Given the generator's similar characteristics and location with respect to the retired unit, the new unit is expected to perform similarly and with similar impacts to the SPP Transmission System. However, due to the greater MW capacity of the new unit, the requested interconnection will be limited to no more than the output of the retired unit until such time as the DISIS-2016-002 study is completed or a new assessment is performed showing that the additional capability can be accommodated on an interim basis.

Based on the results of this Interim Operation Impact Study, the ASGI-2016-009 Affected System Interconnection Request may interconnect prior to the completion of the DISIS-2016-002 study. <u>However, the output must be limited to no more than 2 MW.</u> The final cost allocation associated with ASGI-2016-009 will be determined at the completion of the associated impact and facility studies associated with ASGI-2016-009 through the DISIS and Interconnection Facilities Study processes.

REVISION 1

The Interconnection Customer requested the re-evaluation of the Interim Operation Impact Study assuming that the request of ASGI-2016-001 for a 2.5 MW wind turbine served on the same distribution circuit as ASGI-2016-009 will not be in service.

A Limited Operation Impact Study was conducted for ASGI-2016-001 which showed that the request could be interconnected without adverse impact to the transmission system. The study report was posted on August 24, 2016.

The initial version of this report assumed that the prior-queued ASGI-2016-001 request would be interconnected and limited the output of ASGI-2016-009 based on that assumption. Since the prior-queued request is assumed to not be in service, there is no basis to limit the output of ASGI-2016-009.

In addition, the interconnecting provider has again determined that the previously-installed metering and control equipment is still functional and capable of successfully monitoring and controlling the full output of the proposed generator. This equipment prevents the generator from injecting power onto the SPP Transmission System. Given the generator's similar characteristics and location with respect to the deferred ASGI-2016-001 request, the new unit is expected to perform similarly and with similar impacts to the SPP Transmission System.

Based on the results of this Interim Operation Impact Study, the ASGI-2016-009 Affected System Interconnection Request may interconnect 3 MW prior to the completion of the DISIS-2016-002 study. The final cost allocation associated with ASGI-2016-009 will be determined at the completion of the associated impact and facility studies associated with ASGI-2016-009 through the DISIS and Interconnection Facilities Study processes.

Any change in the assumptions used as the basis for this analysis may require a re-evaluation of the availability of interim service.

Table 1: Upgrade Projects not included but Required for Full Interconnection Service

Upgrade Project	Type	Description	Status
To be determined in DISIS 2016-002			