



Transmission Services

Talking Points on RAS Arming and Ability to Schedule Generator Interconnection Projects

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- Interconnection does not assure that transmission service is available beyond the point of interconnection. Transmission service, whether long-term firm, short term firm, or hourly products, must be requested and arranged for through separate processes.
- Remedial Action Schemes (RAS) are implemented to trip generation or perform other control functions following a contingency to relieve transmission system problems cause by the contingency. The main purpose of RAS for contingencies is to maintain the Operating Transfer Capability (OTC) of the transmission system.

There is a limit (2700 MW) of generation that can be armed for tripping at any one time to avoid unacceptable frequency excursions throughout the interconnected network. All new generation is included in the RAS schemes as a requirement of interconnection to maximize the use of the transmission system. Technical Operations decides which projects to arm, based on which are most effective for the system operating conditions at the time.

- Arming a generator to trip for RAS does not equate to generator tripping. Generation tripping in response to RAS will occur only if a generator has been armed to trip for pre-defined contingencies and one of those contingencies actually occurs. Generation is armed frequently for RAS tripping, but the outages that will actually trip generation are very low probability events.
- There is not a specific or constant value at which BPA-Transmission Services arms generation for RAS tripping. In most cases, generator tripping is armed by the dispatcher based on a threshold of real power flow. This is done on a per path basis, with less generator tripping armed at lower path flow and more generator tripping armed at higher path flow.
- RAS arming for reliable operation of a particular path and transmission schedules across the transmission system are independent. BPA Transmission Services will allow all schedules up to the limits established by the OTC (filling firm transmission requests first).

Transmission Services cannot allow schedules that would cause the flows to exceed the limits established by the OTC. Transmission Services expects to use ATC calculators to identify those schedules that would be allowed up to the OTC. In the absence of ATC calculators or if the ATC calculator is unable to achieve the required reduction when required, Transmission Services may need to limit projects without firm transmission service during certain periods of time.
- Until system expansion (facility additions and/or upgrades) is in place to enable requested long-term firm transmission service, Transmission Services will need to implement effective operating and scheduling tools and/or procedures to ensure that it can reliably operate the transmission system while preserving the rights of existing holders of long-term firm transmission service. Once system expansion is in place to enable requested long-term firm transmission service, those parties that have committed to this long-term firm transmission service will retain the same scheduling priority as other long term firm users of the system.
- Transmission Services cannot predict the actual number of hours that a given project will be armed for generation tripping or indicate how many hours that a given project will be precluded from scheduling transmission service (short term or non-firm). The amount of curtailments will depend upon future use of the system and the users' curtailment priority (for example, firm, conditional firm, and non-firm).

Transmission Services provides the following website links to actual historic data for public use for informational purposes only:

Intertie, Cutplane, and Internal Flowgate Analysis

<http://www.transmission.bpa.gov/orgs/opi/intertie/index.shtm>.

Miscellaneous Transmission Data: Schedules, Actuals, Reports

<http://www.transmission.bpa.gov/orgs/opi/misc/index.shtm>.

Historical data is not a guarantee of future performance. Also, times of maximum path stress do not always coincide with times of maximum path flow. Outages or other system conditions can result in a higher level of path stress, even though flows might be lower than would be encountered at higher flows with all facilities in service.