BUREAU OF RECLAMATION

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ACCEPTABLE GENERATOR POWER TRANSIENTS DURING SWITCHING

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There are three principal types of transient disturbances that affect generator stability. One of these is from switching operations. The steady-state stability limit for the operating condition after switching takes place, and the difference between initial and steady-state operating angles, determines the amount of power transferable without loss of synchronism.

The following criteria should be followed with regard to acceptable generator power transients due to switching operations:

- The maximum acceptable level for generator power transients due to planned switching, with the unit operating at an allowable load, is 0.5 per unit based on the original unit rating.
- If a generator has been restudied for unit uprating, generator power transients up to 0.5 per unit of the uprated value are acceptable.
- Studies should be made to ensure that the 0.5 per unit level will not be exceeded whenever changes are made in switching procedure or station configuration.
- The above limits apply to routine planned line switching operations. Emergency operation requirements power transients up to 1.0 per unit.