



## Circulation and Counter Schedule Procedure for AC/DC Interties, Version 1 - Bulletin

Effective: 12/08/06

Associated business practice: [Redispatch and Curtailment Procedures](#)

### Background

1. To prevent the need for curtailment of transmission schedules when power flows exceed Operating Transfer Capability (OTC) on AC/DC Interties: When the California Oregon Intertie (COI) AC OTC is exceeded, Transmission Service (BPAT), the California Independent System Operator (CAISO) and the Sacramento Municipal Utility District (SMUD) have an agreement for a south to north counter schedule to mitigate the issue. BPAT and CAISO have an agreement for a south to north counter schedule to mitigate Private NOB DC Intertie problems. CAISO as the southern COI path operator must ask for the Counter Schedule and BPAT as the northern path operator must be willing to accept the counter schedule. CAISO may not always offer and BPAT can not always implement this process. CAISO will keep SMUD informed of the decisions made in this process.

### COI Procedure

1. When the COI OTC is violated, BPAT and CAISO will attempt to circulate energy on the DC to alleviate the problem. If the flows still remain above OTC limits, a counter schedule may be initiated by CAISO. Transmission schedules will only be curtailed as a last resort, to bring flows within OTC limits.
2. The following steps outline the Circulation and Counter Schedule Procedure:
  - a. BPAT and CAISO will arrange to circulate power on the DC Interties to eliminate the OTC violation on the COI. BPAT transmission Customers and/or firm transmission rights holders will not be notified of circulation. BPAT and CAISO have agreed that no transmission schedules will be curtailed if the circulation reduces flows below OTC limits. In the event that circulation is not available (or not effective) and power flows remain above OTC limits, proceed to step b.
  - b. CAISO will coordinate with BPAT and may request a south to north counter schedule. CAISO will inform SMUD of the request. If BPAT accepts, the CAISO will deliver 79% of the counter schedule and SMUD will deliver the remaining 21%. The counter schedule may be requested for no more than two consecutive hours and must not exceed 2400 MW each hour. If the counter schedule is successfully implemented, BPAT, CAISO and SMUD will not need to curtail transmission schedules. In addition, BPAT transmission Customers and/or firm transmission rights holders will not need to take action for the current hour.

- c. If steps a and b above cannot be implemented or do not reduce power flows below the OTC limits, BPAT, CAISO and SMUD will invoke the Northwest AC Intertie/California-Oregon Intertie Curtailment Procedure (May 2006). If the power flows are in a north to BPA Transmission Services south direction, the CAISO and SMUD will initiate curtailments until flows fall below the OTC. CAISO will get 2/3 of the remaining capacity and SMUD will get 1/3 of the remaining capacity. If the power flows are in a south to north direction, BPAT will initiate pro-rata curtailments until flows fall below the OTC.

## DC Procedure

1. When the DC OTC is violated, BPAT and Los Angeles Department of Water and Power will attempt to circulate energy to alleviate the problem, if conditions permit. If the flows still remain above OTC limits, a counter schedule may be initiated for the CAISO portion of the Private NOB. Transmission schedules will only be curtailed as a last resort, to bring flows within OTC limits.
2. The following steps outline the Circulation and Counter Schedule Procedures:
  - a. BPAT and LADWP will arrange to circulate power on the AC Intertie to eliminate the DC OTC violation. BPAT transmission Customers and/or firm transmission rights holders will not be notified of circulation. BPAT and LADWP have agreed that no transmission schedules will be curtailed if the circulation reduces flows below OTC limits. In the event that circulation is not available, or power flows remain above OTC limits, proceed to step b.
  - b. BPAT will coordinate with CAISO and if appropriate, CAISO may request a south to north counter schedule for the Private NOB portion of the DC. If the counter schedule is successfully implemented, BPAT and the CAISO will not need to curtail Private NOB transmission schedules. In addition, BPAT Private NOB transmission Customers and/or firm transmission rights holders will not need to take action for the current hour and/or the next hour.
  - c. If steps a and b above do not reduce power flows below the OTC limits, BPAT and LADWP will curtail transmission schedules. If the power flows are in a north to south direction, the LADWP will initiate curtailments until flows fall below the OTC. If the power flows are in a south to north direction, BPAT will initiate pro-rata curtailments until flows fall below the OTC.