

**Overview of Curtailment Procedure for the
Northern Puget Sound Area/Northern Intertie**
(Posted 12/18/01)

I. Introduction.

The purpose of the Northern Puget Sound/Northern Intertie Curtailment Procedure is to reduce schedules moving south to north and east to west into the northern Puget Sound area on a pro rata basis with firm south to north schedules on the Northern Intertie. This procedure only applies to schedules using the Federal Columbia River Transmission System (FCRTS). The procedure is triggered when the south to north Operational Transfer Capability (OTC) of the Westside Northern Intertie (WNI) drops below the amount needed to return the Canadian Entitlement.

II. Nomograms.

The transmission constraints which this procedure addresses are south to north limitations which generally occur in the area between Seattle and Bellingham. These constraints are impacted by transactions into Puget Sound Energy (PSE), Seattle City Light (SCL), Snohomish County PUD (SNO), Intalco, and the BPA PBL public customer loads north of Seattle from the FCRTS and by south to north schedules over the Westside Northern Intertie. BPAT will manage these transmission constraints through nomograms which relate the south to north OTC of the Westside Northern Intertie to the following operating parameters in the northern Puget Sound area:

PSE System Load
SCL System Load
SNO System Load
Intalco Load
PBL Public Customer Load North of Seattle
PSE Generation North of Seattle
SCL Skagit Generation
SNO Local Generation
Ambient Temperature at BPAT's Snohomish Substation

The nomograms will vary based upon specific transmission facility outages in the northern Puget Sound area.

III. Time Frames.

The nomograms and associated Curtailment Calculator will be used in the two week ahead, day ahead, hour ahead, and current hour time frames. In the two week ahead and day ahead time frames, the results from the curtailment algorithm will only be used to assess the potential need for curtailments. **Actual curtailments will only be imposed during the current operating day.**

IV. Procedure.

Data for the system parameters listed in II above will be fed into the nomogram. In the two week ahead, day ahead, and hour ahead time frames, this data will consist of forecasts for these system parameters. Actual measured data will be used to monitor the nomogram in the current hour. In all cases, the calculation will assume that as much of the Canadian Entitlement Return as possible will be moved to the Eastside Northern Intertie.

As part of the Northwest Power Pool Outage Coordination process, the BPAT Outage Office will use the Curtailment Calculator to estimate the two weeks ahead south to north OTC of the Westside Northern Intertie based upon the nomogram and the best estimates BPAT has at that time of forecasted loads based on the RER short term load forecasting software, Puget Sound area weather data from Weather Bank, Inc., and outage dispatcher forecasts of generation in the northern Puget Sound area. If the S>N Northern Intertie OTC will not meet the Canadian Entitlement Return, a recalculated OTC will be issued at this time and flagged appropriately. A Notice of Planned Outage will be e-mailed to the BPAT Path Capacity Desk, Transmission Account Executives (TAE's), Tech Staff and appropriate BPAT customers. The BPAT Capacity Desk will flag the recalculated OTC on the "Known Constraints" page showing the potential for curtailments to the Puget Sound Area Utilities and the Canadian Entitlement Return.

The BPAT Outage Office will repeat this calculation on the afternoon prior to the preschedule day. The calculation will cover all the days which will be prescheduled the following day. The Net Area Load (from the RER short term forecast) will be used by the Outage Office in predicting the limits. In addition to this Net Area load, the individual utility load is required for use in forecasting the estimated schedule for each utility, which will in turn be used to calculate the pre-scheduling advisory limit or real-time schedule cut. In the absence of telemetered loads from the individual utilities, the RER load forecast must be used to determine the individual load for each utility.

If during the above calculation it is determined the WNI S>N OTC is less than the amount required to meet the Canadian Entitlement Return plus PSE's WNI ownership share, the Curtailment Calculator will automatically re-compute a modified OTC and determine the advisory scheduling limits for PSE, SCL, SNO, Intalco, PBL public customer loads in the Puget Sound Area, and the Canadian Entitlement Return. This calculation will assume that as much of the Canadian Entitlement Return as possible will be moved to the Eastside Northern Intertie. The parties will be notified of the potential for curtailments the afternoon prior to the preschedule day. This notification will be advisory only. The parties will be allowed to preschedule as normal. The only restriction that BPAT will impose during the preschedule process is that it will not accept south to north nonfirm schedules over the Northern Intertie during those hours when there are advisory limits.

At the end of preschedule, the net NI schedule for each hour is checked and evaluated as follows:

- If net is N>S no notifications or schedule changes are needed.
- If net is S>N and less than the modified S>N OTC of the Northern Intertie, no notification is needed.
- If net is S>N and greater than the modified S>N Northern Intertie OTC, then BPAT Real Time Scheduling is notified that curtailments are required. The BPAT Real-Time Scheduler will curtail the schedules back during the actual operating day to the scheduling limits calculated by the NI Calculator and notify the affected customers.

Also, based on updated generation, temperature, and load forecasts, the BPAT Dispatcher will produce an hour ahead forecast of the S>N OTC of the Westside and Eastside Northern Intertie. When the hour-ahead forecast of the combined (WNI and ENI) OTC S>N is less than what is required for the Canadian Entitlement Return, the RAS Dispatcher will use the NI Curtailment Calculator to compute a modified hour ahead S>N OTC and associated scheduling limits in the same manner as is done by the BPAT Outage Office for the preschedule process. This information is then forwarded to the BPAT Real-Time Scheduler at the top of each hour. The BPAT Real-Time Scheduler will then limit each party's schedules as necessary in order to keep them within the scheduling limit.

The scheduling limits represent the maximum amount of power BPAT will transmit for each party into the northern Puget Sound area over BPAT's transmission facilities south of Seattle and those that cross the Cascades. (Note: Schedules from PSE, SCL or SNO main systems going into the FCRTS will be accepted as normal.) This procedure applies to schedules going to PSE, SCL, SNO, Intalco, and PBL including the Canadian Entitlement Return. Each party will be allowed to schedule into their system any combination of firm and non-firm transactions they choose as long as the total does not exceed the scheduling limit. Netting of opposite direction schedules will be used when determining if a party is within their scheduling limit. Furthermore, the scheduling limits do not apply to schedules the parties may have with Canada (for example, a schedule from PowerEx to SCL) or to schedules within the northern Puget Sound area which are between the parties (such as a schedule from PSE to SNO).