



# *Western Electricity Coordinating Council*

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BOARD OF DIRECTORS  
MEMBER REPRESENTATIVES

Subject: Approved 2006 Spring OTC  
Limits

The Operating Transfer Capability (OTC) Policy Committee has approved the recommended Spring 2006 OTC limits for the paths listed in the attached Tables. These OTC limits are documented in the Spring Subregional Study Group Reports that are posted on the WECC Members Area of the website under the OTC Policy Committee folder, and reflect recent review of several PG&E line ratings.

These limits apply to the 2006 Spring operating season starting April 1, 2006, and ending no later than May 31, 2006. Consequently, the interties may be operated at the approved spring limits at any time after midnight on March 31, 2006, when the system is being operated under spring operating conditions studied by the Subregional Study Groups and pending completion of:

- The Operating Procedures Review Group's acceptance of the associated spring operating procedures for each of the interties and those operating procedures (including system monitoring and curtailment responsibilities) being implemented, and
- Operator training and direction required to ensure operation within the established operating limits.

Please call if you have questions.

Sincerely,

Vickie A. VanZandt

VV:cm  
attachments

## California / Mexico Subregion – Spring 2006

<b>Path Name</b>	<b>Path Number</b>	<b>Rating (MW)</b>	<b>Proposed 2006 Spring OTC (MW)</b>	<b>2005-2006 Winter OTC (MW)</b>	<b>2005 Spring OTC (MW)</b>
California					
COI (N-S)	66	4800 (N-S)	4800 (N-S)	4800 (N-S)	4800 (N-S)
PDCI (N-S)	65	3100 (N-S)	3100 (N-S)	3100 (N-S)	3100 (N-S)
Midway - Los Banos (S-N)	15	5400 (S-N)	5400 (S-N)	5400 (S-N)	5400 (S-N)
SCIT	NA	18860	13300 *	13500	14500
Midway - Vincent (N-S)	26	3700 (N-S)	3700 (N-S) **	3700 (N-S)	3400 (N-S)

\* The 1200 MW decrease on SCIT from the 2005 Spring operating season is due to the series capacitor replacement project on East-of-River.

\*\* The 300 MW increase from the 2005 Spring operating season was due to the expansion of the existing RAS.

# NOPSG 2006 Spring OTCs

Path	#	Rating (MW)	2006 Spring OTC (MW)	2005 Spring OTC (MW)	2005-06 Winter OTC (MW)
COI + NW-Sierra	66	4800 (N-S) 3675 (S-N)	4800 (N-S) 3675 (S-N)	4800 (N-S) 3675 (S-N)	4800 (N-S) 3675 (S-N)
PDCI	65	3100 (N-S) 3100 (S-N)	3100 (N-S) 2200 (S-N)	3100 (N-S) 2200 (S-N)	3100 (N-S) 2200 (S-N)
NW-Sierra	76	300 (N-S) 300 (S-N)	300 (N-S) 300 (S-N)	300 (N-S) 300 (S-N)	300 (N-S) 300 (S-N)
COI + NW-Sierra + PDCI	NA	7900 (N-S) 6775 (S-N)	7900 (N-S) 5875 (S-N)	7900 (N-S) 5875 (S-N)	7900 (N-S) 5875 (S-N)
NJD	73	Not Rated	8000 (N-S)	8000 (N-S)	7700 (N-S)
Brownlee East	55	1850 (W-E)	1850 (W-E)	1850 (W-E)	1850 (W-E)
South of Allston		Not Rated (N-S)	2640 (N-S)	3050 (N-S)	2640 (N-S)
Montana-NW	8	2200 (E-W) 1350 (W-E)	2200 (E-W) 1143-1257 (W-E)	2200 (E-W) 1143-1250 (W-E)	2200 (E-W) 1070-1300 (W-E)
MT-SE	NA	Not Rated (N-S) Not Rated (S-N)	600 (N-S) 402-600 (S-N) HL 431-600 (S-N) LL	600 (N-S) 402-600 (S-N) HL 431-600 (S-N) LL	600 (N-S) 351-600 (S-N) HL 415-600 (S-N) LL
West of Hatwai	6	4277 (E-W)	*4090 (E-W)	4065 (E-W)	4036 (E-W)

\* OTC Studies were performed for the 2006 spring season

# NOPSG 2006 Spring OTCs

Path	#	Rating (MW)	2006 Spring OTC (MW)	2005 Spring OTC (MW)	2005-06 Winter OTC (MW)
NW-Canada	3	3150 (N-S) 2000 (S-N)	3150 (N-S) 2000 (S-N)	3150 (N-S) 2000 (S-N)	3150 (N-S) 2000 (S-N)
Sierra-Idaho	16	500 (N-S) 360 (S-N)	500 (N-S) 262 (S-N)	500 (N-S) 262 (S-N)	500 (N-S) 262 (S-N)
Sierra-PG&E	24	160 (E-W) 160 (W-E)	105 (E-W) 100 (W-E)	120 (E-W) 100 (W-E)	150 (E-W) 70 (W-E)
Sierra-Utah	32	440 (E-W) 235 (W-E)	*343 (E-W) *235 (W-E)	343 (E-W) 235 (W-E)	370 (E-W) 235 (W-E)
Idaho-NW	14	2400 (E-W) 1200 (W-E)	2304 (E-W) 1090 (W-E)	2304 (E-W) 1090 (W-E)	2304 (E-W) 1200 (W-E)
Midpoint-Summer Lake	75	1500 (E-W) 400 (W-E)	1500 (E-W) 400 (W-E)	1500 (E-W) 400 (W-E)	1500 (E-W) 400 (W-E)
Bridger West	19	2200 (E-W)	2200 (E-W)	2200 (E-W)	2200 (E-W)
Borah West	17	2307 (E-W)	2307 (E-W)	2307 (E-W)	2307 (E-W)
Path C	20	1000 (N-S) 1000 (S-N)	820 (N-S) 775-900 (S-N)	820 (N-S) 775-900 (S-N)	820 (N-S) 785-950 (S-N)
Montana-Idaho	18	356 (N-S) 337 (S-N)	356 (N-S) 337 (S-N)	337 (N-S) 302 (S-N)	356 (N-S) 337 (S-N)
Alberta-BC	1	1000 (E-W) 1200 (W-E)	1000 (E-W) 1160 (W-E)	1000 (E-W) 1160 (W-E)	1000 (E-W) 1160 (W-E)

\* OTC Studies were performed for the 2006 spring season

# Rocky Mountain Subregion Spring 2006

<b>Path</b>		<b>Rating (MW)</b>	<b>2006 Spring OTC (MW)</b>	<b>2005-06 Winter OTC (MW)</b>	<b>2005 Summer OTC (MW)</b>
Path Names					
Yellowtail – N		510 MW	510 MW	510 MW	510 MW
Yellowtail - S		625 MW	625 MW	625 MW	625 MW
TOT1A	30	650 MW	650 MW	650 MW	650 MW
TOT2A	31	690 MW	690 MW	690 MW	690 MW
TOT3	36	1605 MW	1594 MW*	1552 MW	1594 MW
TOT5	39	1680 MW	1680 MW	1680 MW	1680 MW
TOT7	40	890 MW	890 MW	890 MW	890 MW

NO STUDIES WERE RUN FOR 2005 AND 2006 SPRING

# Southwest Area Subregion Spring 2006

<b>PATH</b>	Path Number	RATING OF PATH (MW)	2006 Spring OTC (MW) AND DIRECTION	2005 Spring OTC (MW) AND DIRECTION	2005-6 Winter OTC (MW) AND DIRECTION
Arizona/ New Mexico					
Four Corners West	22	2325MW Nominal (Nomogram)	2325MW Nominal (Nomogram)	2325MW Nominal (Nomogram)	2325MW Nominal (Nomogram)
Cholla-Pinnacle Peak	51	1200MW	1200MW	1200MW	1200MW
Northern New Mexico	48	1947MW (Nomogram-see Note 1.	1947MW (Nomogram-see Note 1.	1795MW (Nomogram-see Note 1.	1947MW (Nomogram-see Note 1.
Southern New Mexico	47	1048MW (Nomogram-see Note 2)	1048MW (Nomogram-see Note 2)	1048MW (Nomogram-see Note 2)	1048MW (Nomogram-see Note 2)

Note 1: Public Service Company (PNM) has developed independent real-time nomogram equations for Path 48 that is incorporated in their Energy Management System. These nomogram equations utilize metered real-time system conditions (e.g., real/reactive power flows, status of shunt capacitor/reactive, etc.) to determine the Path 48 limits on an one-minute basis. The nomogram equation variables included in the Path 48 calculations are therefore dependent upon system conditions and take into account seasonal and time-of-day variations. Detailed descriptions of the nomogram variables and the methodology that is utilized to determine the nomogram equations for 48 are available on request.

The extent of the application of dynamic real-time system conditions for use in operating nomograms is quite unique to Path 48 compared to other WECC paths. These dynamic nomograms were developed in a process that identified both independent and dependent variables. When all the significant variables affecting import limits were identified, the dynamic nomogram equations were developed and implemented. Thus, the PNM real-time operating nomogram for Path 48 takes into account all seasonal and time-of-day conditions on the New Mexico system by the use of these real-time variables. These real-time nomogram methodologies have been used since 1988. Because of PNM's unique methodology to determine limits on Path 48, PNM has only performed summer OTC check studies. The OTC Policy Committee has supported PNM's reasoning for only performing summer OTC check cases.

PNM operates the system based on the lower of the voltage stability or thermal limit. The maximum simultaneous rating is 1800MW with the El Paso Electric Phase Shifter controlling the West Mesa – Arroyo line flow to 186MW, as measured at West Mesa with a maximum non-simultaneous rating of 1947 MW.

Note 2: El Paso Electric Company (EPE) has developed independent real-time nomogram equations for Path 47 that are incorporated in their Energy Management System. These nomogram equations utilize metered real-time system conditions (e.g., real/reactive power flows, status of shunt capacitor/reactive, status of generating units, etc.) to determine the Path 47 limits on a one-minute basis. The nomogram equation variables included in the Path 47 calculations are therefore dependent upon system conditions and take into account seasonal and time-of-day variations. Detailed descriptions of the nomogram variables and the methodology that is utilized to determine the nomogram equations for Path 47 are available on the EPE webpage at [www.epelectric.com](http://www.epelectric.com).

The extent of the application of dynamic real-time system conditions for use in operating nomograms used for Path 47 compared to other WECC paths is unique. These dynamic nomograms were developed in a process that identified both independent and dependent variables. When all the significant variables affecting import limits were identified, the dynamic nomogram equations were developed and implemented. Thus, the EPE real-time operating nomogram for Path 47 takes into account all seasonal and time-of-day conditions on the southern New Mexico and EPE systems by the use of these real-time variables. These real-time nomogram methodologies have been used since 1995. Because of EPE's methodology to determine limits on Path 47, EPE has only performed summer OTC check studies. The OTC Policy Committee has supported EPE's reasoning for only performing summer OTC check cases.

EPE operates the system based on the lower of the voltage stability, absolute voltage level or thermal limit. The maximum simultaneous rating is 925 MW (by contract) with a maximum non-simultaneous rating of 1048 MW.