

B O N N E V I L L E
P O W E R A D M I N I S T R A T I O N



**Transmission Reliability Margin
Implementation Document
(MOD-008-1)**

**Bonneville Power Administration
Transmission Services**

Effective Date: February 13, 2013

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3 I. Purpose

4 This BPA Transmission Reliability Margin Implementation Document (TRMID) addresses all of
5 the requirements of North American Electric Reliability Corporation (NERC) Reliability
6 Standard MOD-008-1 Transmission Reliability Margin Calculation Methodology. This TRMID is
7 required by MOD-008-1, R1 and its sub-requirements and only applies to TRM calculations
8 through month 13.

9 II. Definitions

10 All capitalized terms used in this TRMID are contained in NERC's Glossary of Terms used in
11 NERC Reliability Standards.

12 III. Transmission Reliability Margin Calculation Methodology

13 This section describes in detail how BPA implements the Transmission Reliability Margin
14 Calculation Methodology. It addresses all of the requirements in Standard MOD-008-1.

15 Components of Uncertainty

16 BPA's Paths and Flowgates are defined in BPA's Available Transfer Capability Implementation
17 Document (ATCID).

18 BPA uses the following components of uncertainty to establish TRM on its Northern Intertie
19 Total (N>S and S>N) Path (MOD-008-1 R1.1):

- 20 ○ Variations in generation dispatch (including, but not limited to, forced or
21 unplanned outages, maintenance outages and location of future generation).
- 22 ○ Inertial response and frequency bias.

23 BPA does not maintain TRM on any other of its Paths and Flowgates besides the Northern
24 Intertie Total Path.

25 BPA does not maintain Capacity Benefit Margin (CBM) on any of its Paths and Flowgates during
26 all time horizons. Therefore, BPA does not include any of the components of CBM in its TRM
27 calculations. (MOD-008-1 R2)

28 Establishing TRM values across the Northern Intertie Path

29 To calculate TRM for the Northern Intertie Path, BPA's Transmission System Operations
30 organization uses post event analysis as verification of significant coupling that exists with our
31 adjacent Transmission Operator (TOP), BC Hydro, across the majority of the interconnection
32 and Northern Intertie Path (WECC Path 3). BPA uses the analysis of these events to establish a
33 TRM based on operating experience of the uncertainty on this Path and the capacity amount
34 that has proven sufficient and effective to mitigate such uncertainty on the Northern Intertie
35 Path in the past. (MOD-008-1 R1.2)

36 **TRM for Each Time Period**

37 BPA uses the TRM calculation for the same day and real-time, day-ahead and pre-schedule,
38 and beyond day-ahead and pre-schedule, up to thirteen months ahead time periods as
39 follows: (MOD-008-1 R1.3, MOD-008-1 R1.3.1, MOD-008-1 R1.3.2 and MOD-008-1 R1.3.3)

40 • Firm ATC: For firm ATC calculations, BPA maintains a TRM on the Northern Intertie
41 Path as described above in **Establishing TRM values across the Northern Intertie**
42 **Path.**

43 • Non-firm ATC: For non-firm ATC calculations, BPA maintains a TRM on the Northern
44 Intertie as described above in **Establishing TRM values across the Northern**
45 **Intertie Path.**

46 BPA will establish TRM values in accordance with its TRMID at least once every 13 months.
47 (MOD-008-1 R4)

48 **Sharing TRM**

49 BPA is registered with NERC as a TOP, Transmission Service Provider (TSP) and Transmission
50 Planner (TP), among other registrations. As such, three organizations within BPA's
51 Transmission Services organization establish and/or use TRM as described in MOD-008-1.
52 Those organizations are System Operations, Planning and Asset Management, and
53 Transmission Marketing and Sales. System Operations establishes TRM and shares
54 electronically between Planning and Asset Management and Transmission Marketing and Sales
55 no more than seven calendar days after a TRM value is initially established or subsequently
56 changed. (MOD-008 R5)

57 **XI. TRMID Requests**

58 BPA will make available its TRMID, and if requested, underlying documentation (if any) used
59 to determine TRM, in the format used by BPA, to any of the following entities who make a
60 written request no more than 30 calendar days after receiving the request (MOD-008-1 R3):

Entity	Transmission Service Provider	Reliability Coordinator	Planning Coordinator	Transmission Planner	Transmission Operator
Avista Corporation	X		X	X	X
BC Hydro	X		X	X	X
California Independent System Operator	X		X		X
City of Tacoma, Dept. of Public Utilities, Light Division	X		X	X	X
Eugene Water & Electric Board				X	X

Entity	Transmission Service Provider	Reliability Coordinator	Planning Coordinator	Transmission Planner	Transmission Operator
Fortis BC	X		X	X	X
Idaho Power Co.	X		X	X	X
Los Angeles Department of Water & Power	X		X	X	X
Nevada Power	X			X	X
NorthWestern Energy	X		X	X	X
PacifiCorp	X		X	X	X
Pacific Gas and Electric Co.				X	X
Pend Oreille County PUD No. 1					X
Portland General Electric	X		X	X	X
PUD No. 1 Chelan County				X	X
PUD No. 1 Clark County					X
PUD No. 1 Douglas County	X			X	X
PUD No. 1 Snohomish County				X	X
PUD No. 2 Grant County, Washington			X	X	X
Puget Sound Energy, Inc.	X		X	X	X
Sacramento Municipal Utility District	X		X	X	X
Seattle City Light			X	X	X
Sierra Pacific Power Co.	X		X	X	X
Southern CAL Edison (Trans & Dist Bus Unit)				X	X
Transmission Agency of Northern California	X			X	

Entity	Transmission Service Provider	Reliability Coordinator	Planning Coordinator	Transmission Planner	Transmission Operator
Western Area Power Admin. Sierra Nevada Region	X		X	X	X
Western Electric Coordination Council		X			

61 **XII. Version History**

TRMID Revision History			
Version	Date Revised	Description of Changes	Prepared by
1.0	02/13/2012	BPA TRMID FINAL	L. Trolese
2.0	2/12/2013	<p>P. 3 lines 20-22: Updated the components used to establish TRM to Variations in Generation Dispatch and Inertial Frequency.</p> <p>P. 3 lines 27-34: Updated BPA's practice for Establishing TRM values across the Northern Intertie Path.</p>	L. Wickizer

