



**Canada/Pacific Northwest to Northern California
Transmission Project
WECC Phase 1 Rating Study Update**

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Phase 1 Rating Study Update

- Ran BPA power flow contingency list on Heavy Summer Benchmark base case and Heavy Summer Project base case (PG&E)
- Developing three-terminal HVDC dynamic stability model for insertion into GE PSLF base cases (ABB)
- Developed 3000 MW BC incremental renewable resource scenario for Heavy Summer Project base case (BCTC)
- Developing 3000 MW Northwest incremental renewable resource scenario for Heavy Summer Project base case (PG&E)
- Performing N-0 power flow analysis on alternative Project configurations

BPA Contingency Results – Project vs. Benchmark Case

10 Worst Thermal Violations

Project vs. Benchmark					
# Contingency	Element	Percent	Benchmark	Difference	
1	WOM/WOS: BF MCNARY 230 SECT 3	COLD SPR (45051) -> COLD SPR (45050) CKT 1 at COLD SPR	145.47	146.55	-1.08%
2	COI: N-2: Grizzly - Malin #2 / Grizzly - Summer Lake #1, RAS(HGD, VSRI)	ROUND BU (43483) -> REDMOND (40875) CKT 1 at REDMOND	133.21	130.17	3.04%
3	I-5: N-2: KEEL-ST M ST M-TROJ1 230kV (221)	HARRISON (45127) -> LINCOLN (45173) CKT 1 at HARRISON	131	129.27	1.73%
4	WOM/WOS: T-1: McNary #9 230/115 kV	COLD SPR (45051) -> COLD SPR (45050) CKT 1 at COLD SPR	129.44	129.11	0.33%
5	I-5: BF ROSS 230 E BUS, FLT BONN #2	MERWIN (45201) -> VIEW TAP (47095) CKT 1 at VIEW TAP	127.22	129.09	-1.87%
6	COI: N-1: Grizzly - Ponderosa - Summer Lake #1 500 kV	ROUND BU (43483) -> REDMOND (40875) CKT 1 at REDMOND	126.46	127.69	-1.23%
7	I-5: BF MCLOUGLN 230 - FAULT ANY LINE	SHERWD A (43523) -> DAY TP2 (43654) CKT 1 at DAY TP2	125.94	127.26	-1.32%
8	I-5: BF ROSS 230 E BUS,FLT OTHER LINE	MERWIN (45201) -> VIEW TAP (47095) CKT 1 at MERWIN	121.52	121.49	0.03%
9	I-5: N-2: KEEL-ST M ST M-TROJ1 230kV (221)	KEELER (40597) -> FOR GROV (40427) CKT 2 at FOR GROV	121.01	119.73	1.28%
10	I-5: BF 4394: ALLSTON-KEELER-PEARL 500, RAS(SOA)	MERWIN (45201) -> VIEW TAP (47095) CKT 1 at MERWIN	119.23	109.46	9.77%

Benchmark vs. Project					
# Contingency	Element	Percent	Project	Difference	
1	WOM/WOS: BF MCNARY 230 SECT 3	COLD SPR (45051) -> COLD SPR (45050) CKT 1 at COLD SPR	146.55	145.47	1.08%
2	COI: N-2: Grizzly - Malin #2 / Grizzly - Summer Lake #1, RAS(HGD, VSRI)	ROUND BU (43483) -> REDMOND (40875) CKT 1 at REDMOND	130.17	133.21	-3.04%
3	I-5: N-2: KEEL-ST M ST M-TROJ1 230kV (221)	HARRISON (45127) -> LINCOLN (45173) CKT 1 at HARRISON	129.27	131	-1.73%
4	WOM/WOS: T-1: McNary #9 230/115 kV	COLD SPR (45051) -> COLD SPR (45050) CKT 1 at COLD SPR	129.11	129.44	-0.33%
5	COI: N-1: Grizzly - Ponderosa - Summer Lake #1 500 kV	ROUND BU (43483) -> REDMOND (40875) CKT 1 at REDMOND	127.69	126.46	1.23%
6	I-5: BF MCLOUGLN 230 - FAULT ANY LINE	SHERWD A (43523) -> DAY TP2 (43654) CKT 1 at DAY TP2	127.26	125.94	1.32%
7	I-5: BF ROSS 230 E BUS, FLT BONN #2	MERWIN (45201) -> VIEW TAP (47095) CKT 1 at VIEW TAP	126.62	127.22	-0.60%
8	I-5: BF ROSS 230 E BUS,FLT OTHER LINE	MERWIN (45201) -> VIEW TAP (47095) CKT 1 at MERWIN	121.49	121.52	-0.03%
9	I-5: N-2: KEEL-ST M ST M-TROJ1 230kV (221)	KEELER (40597) -> FOR GROV (40427) CKT 2 at FOR GROV	119.73	121.01	-1.28%
10	I-5: N-2: KEEL-ST M ST M-TROJ1 230kV (221)	MURRAY H (43348) -> ST MARYS (43541) CKT 1 at ST MARYS	117.64	117.89	-0.25%

Southern Oregon Hub Alternative Configuration

