



PCDS Meeting

May 8, 2024

WECC Staff

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WECC Path Updates

WECC Paths—Definition Updates

- New path additions:
 - Addition of the P54 Coronado–Silver King 500 kV path

| Interface Name | Element Name | From Bus Num | From Bus Num | From Bus Name | To Bus | To Bus Number | To Bus Number | To Bus Name | Br-Normal_Direct |
|---------------------------------|---------------|--------------|--------------|---------------|---------|---------------|---------------|-------------|------------------|
| P54 Coronado-Silver King 500 kV | 15001_15005_1 | 15001 | 15001 | CORONADO | 15005_1 | 15005 | 15005 | CORSIL 1 | #TRUE# |

- Removed paths
 - P37 (TOT 4A) has been removed from the list of Interfaces since it has been replaced by P85 (Aeolus West Path).
 - Removed duplicate entries for P41 (Sylmar to SCE) and P79 (TOT 2B) in the InterfaceLimit table.

WECC Paths—Definition Updates

■ Updates to existing path definitions from PAC

| Interface Name | Element Name | From Bus Num | From Bus Num | From Bus Name | To Bus | To Bus Number | To Bus Number | To Bus Name | Br-Normal_Direct |
|------------------|---------------|--------------|--------------|---------------|---------|---------------|---------------|-------------|------------------|
| P17 Borah West | 60061_60059_1 | 60061 | 60190 | KINPORT | 60059_1 | 60059 | 60060 | BORAH | #TRUE# |
| P17 Borah West | 67794_60128_1 | 67794 | 67794 | POPULUS | 60128_1 | 60128 | 60128 | POPCED11 | #TRUE# |
| P19 Bridger West | 67794_67811_1 | 67794 | 67794 | POPULUS | 67811_1 | 67811 | 67811 | ANPOPC&1 | #TRUE# |

Each of the circuits highlighted in orange above is a new addition to the respective existing path definitions.

- Fixed (60061_60059_1), was incorrectly listed as 60190_60060_1 P17 Borah West
- P17 change: III-6 addition to path Pop-Cedar Hill 500 kV P17 Borah West
- P19 change: III-3 update from Ant-Pop 500 kV line P19 Bridger West

WECC Paths—Definition Updates

- Updates to existing path definitions from CAISO

| | | | | | | | |
|----------------------------------|----------------|--------|--------------------|---------|-------|--------------------|---------|
| P15 Midway-LosBanos | 300501_30055_1 | 300501 | 300501 MN_GT_11 | 30055_1 | 30055 | 30055 GATES | #FALSE# |
| P15 Midway-LosBanos | 30055_30057_1 | 30055 | 30055 GATES | 30057_1 | 30057 | 30057 DIABLOCNYNS | #TRUE# |
| P15 Midway-LosBanos | 300505_30052_1 | 300505 | 300505 LB_MN_11 | 30052_1 | 30052 | 30052 MANNING | #FALSE# |
| P15 Midway-LosBanos | 300506_30052_2 | 300506 | 300506 LB_MN_21 | 30052_2 | 30052 | 30052 MANNING | #FALSE# |
| P46 West of Colorado River (WOR) | 29249_24900_1 | 29249 | 29249 DEL_CLRVR_12 | 24900_1 | 24900 | 24900 COLRIVER | #TRUE# |
| P46 West of Colorado River (WOR) | 21076_24806_2 | 21076 | 21076 RAMON230 | 24806_2 | 24806 | 24806 MIRAGE | #TRUE# |
| P46 West of Colorado River (WOR) | 22536_22360_1 | 22536 | 22536 N.GILA | 22360_1 | 22360 | 22360 IMPRLVLY | #TRUE# |
| P49 East of Colorado River (WOR) | 14012_29248_1 | 14012 | 14012 DELANY | 29248_1 | 29248 | 29248 DEL_CLRVR_11 | #TRUE# |

- Each of the circuits highlighted in red above have been removed from the respective path definition and the ones highlighted in orange above are a new addition to the respective existing path definitions.
 - P46 West of Colorado River and P49 East of Colorado River have been updated with the addition of the Delany-Colorado River 500 kV circuit (29249_24900_1 for P46 and 14012_29248_1 for P49).
 - P46 West of Colorado River has been updated with the additions of the 21076_24806_2 (2nd 230 kV line between Ramon and Mirage) circuit and 22536_22360_1 circuit (N.Gila and Imperial Valley 500 kV line). Note that the 2nd line between Ramon and Mirage is not yet present in the 2034 HS 1 base case.
 - P15 Midway-Los Banos changes: The 30055_30057_1 line (Gates Diablo 500 kV line) has been removed since it is not a part of this path. The 300501_30055_1 line (between Gates and Manning) has been removed and replaced with the 300505_30052_1 and 300506_30052_1 lines (both between Manning and Los Banos). Note that the 2 updated circuits were not in the Path Rating catalog.

WECC Paths—Definition Updates

■ Updates to the WECC path ratings

| Interface Name | Year | Mode | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Old Value | |
|------------------------------|------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--------|
| P05 West of Cascades-South | 0 | MAX | 7200 | 7200 | 7200 | 5780 | 5780 | 5780 | 5780 | 5780 | 5780 | 7200 | 7200 | 7200 | Updated October from Summer to Winter | |
| P05 West of Cascades-South | 0 | MIN | -7200 | -7200 | -7200 | -5780 | -5780 | -5780 | -5780 | -5780 | -5780 | -7200 | -7200 | -7200 | Updated October from Summer to Winter | |
| P14 Idaho to Northwest | 0 | MAX | 2400 | 2400 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | 2400 | Updated March to spring and October-Noveml | |
| P15 Midway-LosBanos | 0 | MAX | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | Using Phase II ratings from the catalog | |
| P15 Midway-LosBanos | 0 | MIN | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | -4600 | Using Phase II ratings from the catalog | |
| P17 Borah West | 0 | MAX | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | 4450 | | 99999 |
| P17 Borah West | 0 | MIN | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | | -4450 |
| P19 Bridger West | 0 | MAX | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | 4100 | | 2400 |
| P19 Bridger West | 0 | MIN | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | | -1250 |
| P20 Path C | 0 | MIN | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | -2250 | | -1250 |
| P20 Path C | 0 | MAX | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | 2250 | | 1600 |
| P26 Northern-Southern Cali | 0 | MAX | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | | 5000 |
| P26 Northern-Southern Cali | 0 | MIN | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | -3000 | | -4400 |
| P41 Sylmar to SCE | 0 | MAX | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | | 1000 |
| P42 IID-SCE | 0 | MAX | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 | | 1115 |
| P46 West of Colorado River | 0 | MAX | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | 11200 | | 13400 |
| P46 West of Colorado River | 0 | MIN | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | -11200 | | -13400 |
| P49 East of Colorado River (| 0 | MAX | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | 10200 | | 10100 |
| P61 Lugo-Victorville 500 kV | 0 | MAX | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 | | 2900 |
| P71 South of Allston | 0 | MIN | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | -99999 | | -1480 |
| P79 TOT 2B2 | 0 | MAX | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | 265 | | 150 |
| P82 TotBeast | 0 | MAX | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | 2465 | | 3515 |
| P83 Montana Alberta Tie Li | 0 | MIN | -300 | -300 | -300 | -300 | -300 | -300 | -300 | -300 | -300 | -300 | -300 | -300 | | -325 |
| P83 Montana Alberta Tie Li | 0 | MAX | 325 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | | 300 |

Each of the cells highlighted in orange above indicates an update to the respective month for the particular path definition.

WECC Path Ratings—CAISO

- P15 Midway-LosBanos 9 (Phase II applied, original Path Rating Catalog limit was 3265 instead of 4600)
 - MAX 5400
 - MIN -4600
- P41 Sylmar to SCE—Duplicate records

WECC Path Ratings—CAISO (After follow-up with SCE)

| WECC Path | Path Rating Catalog rating (MW) | Projects impacting the path before 2034 | Increments from the respective Phase-2 or Phase-3 projects | Total expected rating for the 2034 ADS |
|-----------|---------------------------------|---|--|--|
| Path 42 | 750 | III-23. IID-SCE Expansion (2025) | None. From an older study, it was determined that 1400 is not possible. | 1115 |
| Path 46 | 11200 | II-1 Ten West Link project (2024) III-14 LADWP-SCE (2029) III-15 N.Gila-Imp. Valley #2 (2029) | II-1. 1050 III-14. 950 III-15. 1250 | 14450 |
| Path 49 | 10100 | II-1. Ten West Link project (2024) III-11. Hassayampa-N.Gila #2 project | II-1. 550 III-11. 100 | 10750 |
| Path 61 | 2400 | III-17. LADWP-SCE (2029) | 500 | 2900 |

WECC Path Updates—Miscellaneous

- Phase 3 projects which are waiting on clarity regarding their impacts to the existing WECC path definitions and ratings:
 - III-9. Mountain States Intertie project
 - III-10. Southline (Afton-Apache)—No impacts per the latest (5/8) feedback from BlackForest Partners
 - III-12. Southline (Apache-Saguaro/Tortolita)—No impacts per the latest (5/8) feedback from BlackForest Partners
 - III-13. TransWest Express Project (TWE)—No impacts per the latest (5/8) feedback from TransWest
 - III-16. TWE DC Project (alternate to III-13 above)—No impacts per the latest (5/8) feedback from TransWest
 - III-18. TWE-Intermountain to TWE-Crystal AC line—No impacts per the latest (5/8) feedback from TransWest
 - III-19. TWE-Crystal to TWE-Eldorado Valley AC line—No impacts per the latest (5/8) feedback from TransWest
 - III-21. Cascade Renewable Transmission Project

WECC Path Updates—Miscellaneous

- Phase 3 projects (cont.)
 - III-14. LADWP-SCE Transmission Facilities Upgrade Projects (Refer slide 8, resolved)
 - III-15. N.Gila—Imperial Valley #2 Project (Refer slide 8, resolved)
 - III-17. LADWP-SCE Transmission Facilities Upgrade Project (Refer slide 8, resolved)
 - III-23. IID-SCE Expansion to the existing Path 42 RAS Project (Refer slide 8, resolved)
 - II-1. Ten West Link Project (Refer slide 8, resolved)

Non-WECC Path Updates

Non-WECC Path updates

- PAC—Remove
 - Pth 07 GW Cent Sigurd-Red Butte
 - Pth 08 GW South—Seg #2 Aeolus-Mona
 - Pth 09 GW Seg 1A Windstar-Bridger
 - Pth 10 GW Seg1B Bridger-Populus
 - Pth 11 GW Seg 1C Populus-Borah
 - Pth 12 GW Seg E Midpoint-Hemingway
 - Pth PAC Aeolus West
 - Pth PAC xy WY-UT

Non-WECC Path updates

- PAC Keep
 - Keep. In model and under construction.-Project III-2 Pth PAC Aeolus South

Transmission Projects in 2034HS1

- Neither Rio Sol AC nor Southline in any WECC cases—EPE.
- All Greenlink projects should have been included in the 2034HS WECC base case—NV Energy.
 - Greenlink West:
 - Esmeralda—Ft Churchill 500 kV (a.k.a. Walker River),
 - Amargosa—Esmeralda 500 kV,
 - Harry Allen—Amargosa 500 kV,
 - Harry Allen—Northwest 500 kV, and
 - Common ties : Ft Churchill—Miraloma 345 kV and Ft Churchill—Comstock Meadows 345 kV.
 - Greenlink North:
 - Ft Churchill (a.k.a. Walker River)—Lander 500 kV,
 - Lander—Robinson Summit 500 kV.
 - All Greenlink Projects in Nevada as below will be in-service by 2034.

Transmission Projects in 2034HS1

- For the Gateway projects, the WECC 2034HS1 case includes all of Gateway South and Gateway West—PAC
- IPC
 - Idaho Power can confirm that B2H is built out completely in the 34HS1 case—IPC
 - It also looks like the Gateway West segments that adjoin our area are there Hemmingway-Midpoint #2, the 500kV Borah-Midpoint, Populous-Cedarhill-Hemmingway. There is a Cedarhill-Midpoint connection, but it is open by default in the case—IPC

