WECC

Cross-Platform Generator Reconciliation 2032 ADS v2.1

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Observed Issues

Generator name derived from numeric column that had ‘n/a’ in it

500	500	#VALUE!	#VALUE!	500										
ADS PCM Max Cap	PF Pmax	L&R Summer Cap	L&R Winter Capacity	L&R Nameplate Capacity	Index in Bus Mapping	Index in L&R Mapping	Index in PF Table	BusNo-UnitID	Generator Key	Name	Bus ID	Bus Name	Bus KV	
200.0	200.0	#VALUE!	#VALUE!	200.0	0	4557	4921	86028_X0	18245	E Washington Solarn/aPV-NT20(	86028	APFWG Bus	0.6	
100.0	100.0	#VALUE!	#VALUE!	100.0	0	4558	4924	86029_X0	18246	RFP Resourcen/aPV-NT100	86029	APFWG Bus	0.6	
100.0	100.0	#VALUE!	#VALUE!	100.0	0	4559	4925	86030_X0	18247	SE Oregon Solarn/aPV-NT100	86030	APFWG Bus	0.6	
50.0	50.0	#VALUE!	#VALUE!	50.0	12477	2739	4926	47327_X0	18298	Generic Windn/aWT50	47327	KLNDIKE_WIND	115	
25.0	25.0	#VALUE!	#VALUE!	25.0	9743	2117	4923	41286_X1	18544	E Washington Solarn/aPV-NT25_	41286	ROZA	115	
25.0	25.0	#VALUE!	#VALUE!	25.0	9743	2116	4922	41286_X0	18545	E Washington Solarn/aPV-NT25	41286	ROZA	115	

Verified, Placed	2032 ADS PCM Generator Name	32HS1 PF Bus ID Once Placed fill out	PF Area Based off bus no.	32 HS1 PF Pmax	Diff L&R Nameplate - PF Pmax	Bus-ID count	L&R Total Capacity	ADS Area	ADS Type	ZONE	BA	Org
Placed per nam	E Washington Solarn/aPV-NT25	X0	40	25.00	0.00	1	25.00	NW_BPAT	Solar	n/a	BPA	n/a
Placed per nam	E Washington Solarn/aPV-NT25_1	X1	40	25.00	0.00	1	25.00	NW_BPAT	Solar	n/a	BPA	n/a
Placed per nam	Generic Windn/aWT50	X0	40	50.00	0.00	1	50.00	NW_BPAT	Wind	n/a	BPA	n/a
Placed per nam	E Washington Solarn/aPV-NT200	X0	40	200.00	0.00	1	200.00	NW_PACW	Solar	n/a	BPA	n/a
Placed per nam	RFP Resourcen/aPV-NT100	X0	40	100.00	0.00	1	100.00	NW_BPAT	Solar	n/a	BPA	n/a
Placed per nam	SE Oregon Solarn/aPV-NT100	X0	40	100.00	0.00	1	100.00	NW_PACW	Solar	n/a	BPA	n/a

Power Flow—Loads and Resources Capacity Resolution

Motion Approved by Production Cost Data Workgroup May 17, 2022

Capacities for resources placed in the 2032 ADS Reference Case and those for resources in the 2022 L&R submittals do not match as of May 11, 2022. WECC staff is working to resolve the differences so that, when the 2032 ADS PCM is created for validation, capacities for the PCM and PF cases will be similar.

To resolve existing differences, the PCDS approves the following process:

1. WECC staff will work with PCDS and APFWG members, data submitters and others to resolve capacity differences through May 18, 2022.
2. If capacity differences remain as of May 18, 2022, WECC will:
    a. Ignore differences that are less than the greater of 10% of unit capacity or 5 MW;
    b. For units existing in the 32HS1 PF, apply the smaller of resource capacities:
        i. Included in the original 32HS1a PF; or
        ii. Included in the 2022 L&R submittal.
    c. If the resource is newly placed in the 2032 ADS Reference Case, apply resource capacities included in the 2022 L&R submittal.

Rules to Adjust Modeled PCM Max Capacity

Procedure discussed and adopted by the Production Cost Data Subcommittee on August 3, 2022

Notes:

Account for station service in calculations (treatment varies across platforms)

PF PMax is taken from the 32HS1a power flow case, with additions made in developing the Version 7 ADS Reference Power Flow case used for exporting hourly snapshots

Loads and Resources maximum is (?) the greatest of Nameplate Capacity, Summer Capacity and Winter Capacity, as submitted in the March 2022 L&R process

Process:

- If PF PMax ~ L&R max then no change to values
- If L&R max <> PF PMax, then review and attempt to identify source of difference
  - Resolve data issue
  - For example, if Combined Cycle and L&R max > PF PMax, review for duct firing capability
- If no data issues found
  - If L&R max > PF PMax cap, limit PCM generation with the use of "VAR Margin Ratio" data input field in GridView to reduce input L&R value to exported PF value
    - Default = 1 implies a 5% derate of dispatch to 0.95 of the PCM Max
  - If L&R max < PF Pmax: Does not pose a PF issue; leave as is
- Compare what is available and denote any change WECC makes

The threshold for adjustments is based on size:

- Address issue if the difference is greater than the lesser of 5% or 25 MW, ignore differences less than or equal to 1 MW, review others
- Denote how WECC resolves each identified issue requiring adjustment

Counting Generators

- There are 5,032 generators in the 2032 ADS PCM case
  - 833 have their output distributed to multiple units, totaling 7,926 units
  - 148 are not in service during 2032
  - Capacity of in-service generators is 374,794 MW
- There are 5,109 generating units in the 2022 WECC L&R
  - All of them are associated with generators in the ADS PCM
  - Their capacity totals 355,926 MW (nameplate); 281,874 (summer); 279,288 (winter)
  - The 5,109 units are associated with 5,476 power flow buses (213 are on multiple buses)
- There are 8,147 generators in Version 7 of the ADS Reference PF
  - Capacity (PMax) totals 409,778 MW
  - The generators are connected to 4,892 different buses

Differences Across Platforms

- PCM generators not distributed to multiple buses (4,051) differ from PF generators by a total of 17,865 MW (sum of absolute differences)
- 3,565 PCM generators differ from PF capacity by less than 5 MW
- 3,919 by less than 25 MW (so 132 differ by more than 25 MW)
- L&R generators mapped to PCM non-distributed generators differ from PF PMax by 36,528 MW (3,726 of 4,051 are less than 25 MW, so 325 not less)

Differences > 25 MW, PCM vs PF

Difference ADS PCM - PF Max	Diff, ADS PCM - Max (L&R Nameplate, Summer, Winter)	ADS PCM Max Cap	PF Pmax	L&R Update Summer Cap	L&R Update Winter Cap	L&R Update Nameplate	In Service in 2032 ADS	Name	Bus ID	Bus Name	Bus KV	Unit ID	Generator TypeID	SubType
192.1	94.1	311.0	118.9	206.0	206.0	216.9	TRUE	Scattergood CC4	26112	SCATT1G	18	'X0	1	CCWhole-NatGas-Industrial
127.0	127.0	151.0	24.0	24.0	24.0	24.0	TRUE	EdSan 2 Edwards 3 BESS	29655	KALAMA	66	'X1	3	Battery Storage
79.2	3.0	170.0	90.8	167.0	167.0	167.0	TRUE	Jordan_River	50306	JOR 13	13.8	'1	2	Hydro
59.3	48.5	493.5	434.2	435.0	410.0	445.0	TRUE	Mica_4	50640	MCA 16G4	16	'4	2	Hydro
57.0	47.0	492.0	435.0	435.0	410.0	445.0	TRUE	Mica_1	50637	MCA 16G1	16	'1	2	Hydro
50.1	49.8	80.8	30.7	31.0	31.0	30.4	TRUE	LowerBaker4	42137	LO BAKR4	13.8	'1	2	Hydro
48.1	50.3	100.3	52.2	50.0	50.0	50.0	TRUE	Dodge Flat Battery 1	641128	DGEFLT_BS	0.645	'1	3	Battery Storage
48.0	(92.0)	208.0	160.0	300.0	300.0	300.0	TRUE	H.R. Milner (HRM)	55148	HR MILN9	15	'1	1	CT-NatGas-Industrial
46.0	57.8	58.6	12.6	0.0	0.1	0.8	TRUE	Milner_Hydro_2	60246	MILNER	13.8	'2	2	Hydro
44.0	0.0	130.0	86.0	130.0	130.0	130.0	TRUE	Hoover Dam A4	19024	HOOVERA4	16.5	'A4	2	Hydro
43.8	30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum01	50495	GMS 13G1	13.8	'1	2	Hydro
43.8	30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum02	50496	GMS 13G2	13.8	'2	2	Hydro
43.8	30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum04	50498	GMS 13G4	13.8	'4	2	Hydro
43.8	30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum05	50499	GMS 13G5	13.8	'5	2	Hydro
43.0	0.0	130.0	87.0	130.0	130.0	130.0	TRUE	Hoover Dam A3	19023	HOOVERA3	16.5	'A3	2	Hydro
36.0	36.0	55.0	19.0	19.0	19.0	19.0	TRUE	Argus_Cogen8-9	24736	LUZ LSP	230	'X0	1	ST-Coal
35.0	498.0	498.0	463.0	0.0	0.0	0.0	TRUE	Keephills3_Gas	570010	KEEP#3GN	22	'G3	1	ST-NatGas
34.0	0.0	127.0	93.0	127.0	127.0	127.0	TRUE	Hoover Dam A5	19025	HOOVERA5	16.5	'A5	2	Hydro
33.0	0.0	130.0	97.0	130.0	130.0	130.0	TRUE	Hoover Dam N2	19032	HOVRN1N2	16.5	'N2	2	Hydro
32.0	0.0	130.0	98.0	130.0	130.0	130.0	TRUE	Hoover Dam A7	19027	HOOVERA7	16.5	'A7	2	Hydro
32.0	0.0	130.0	98.0	130.0	130.0	130.0	TRUE	Hoover Dam N1	19032	HOVRN1N2	16.5	'N1	2	Hydro
30.0	0.0	130.0	100.0	130.0	130.0	130.0	TRUE	Hoover Dam A6	19026	HOOVERA6	16.5	'A6	2	Hydro
30.0	(1.9)	195.0	165.0	164.0	196.9	172.8	TRUE	BennettMountain	60397	BTMT CT1	18	'C1	1	CT-NatGas-Aero
29.0	17.0	79.0	50.0	50.0	62.0	53.1	TRUE	Saguaro AZ 2	14943	SAG. CT2	13.8	'1	1	CT-NatGas-Industrial
29.0	0.0	130.0	101.0	130.0	130.0	130.0	TRUE	Hoover Dam N6	19034	HOVRN5N6	16.5	'N6	2	Hydro
29.0	0.0	255.0	226.0	227.8	255.0	227.8	TRUE	Newman_6GT5	11268	NEWMAN_6GT5	13.8	'1	1	CT-NatGas-Aero
28.0	0.0	130.0	102.0	130.0	130.0	130.0	TRUE	Hoover Dam N5	19034	HOVRN5N6	16.5	'N5	2	Hydro
28.0	0.0	130.0	102.0	130.0	130.0	130.0	TRUE	Hoover Dam N8	19035	HOVRN7N8	16.5	'N8	2	Hydro
26.0	0.0	130.0	104.0	130.0	130.0	130.0	TRUE	Hoover Dam A1	19028	HOVRA1A2	16.5	'A1	2	Hydro
26.0	0.0	130.0	104.0	130.0	130.0	130.0	TRUE	Hoover Dam N3	19033	HOVRN3N4	16.5	'N3	2	Hydro
26.0	0.0	130.0	104.0	130.0	130.0	130.0	TRUE	Hoover Dam N4	19033	HOVRN3N4	16.5	'N4	2	Hydro

Differences > 25 MW, PCM vs L&R

Diff, ADS PCM - Max (L&R Nameplate, Summer, Winter)	ADS PCM Max Cap	PF Pmax	L&R Update Summer Cap	L&R Update Winter Cap	L&R Update Nameplate	In Service in 2032 ADS	Name	Bus ID	Bus Name	Bus KV	Unit ID	Generator TypeID	SubType
518.0	740.0	823.0	222.0	222.0	222.0	TRUE	Colstrip_3	623503	COLSTRIP GN3	26	'1	1	ST-Coal
518.0	740.0	823.0	222.0	222.0	222.0	TRUE	Colstrip_4	623504	COLSTRIP GN4	26	'1	1	ST-Coal
204.0	254.0	254.9	50.0	50.0	50.0	TRUE	New Mexico Wind EC	10997	NMCASA_WTG	0.69	'1	4	WT-Onshore
127.0	151.0	24.0	24.0	24.0	24.0	TRUE	EdSan 2 Edwards 3 BESS	29655	KALAMA	66	'X1	3	Battery Storage
122.2	124.7	124.7	2.5	2.5	2.5	TRUE	Solar Community Garden	86240	APFWG Bus	0.6	'X1	4	SolarPV-NonTracking
118.8	198.0	198.0	26.1	15.1	79.2	TRUE	Rising Tree Agg	29490	RSTREE_G	0.65	'EQ	4	WT-Onshore
113.4	258.4	270.0	145.0	145.0	145.0	TRUE	LaPaloma4	35073	LAPLM_G4	21	'1	1	CCWhole-NatGas-SingleShaft
100.0	200.0	206.8	100.0	100.0	100.0	TRUE	AES Westwing Energy Storage	85684	BES GEN	0.42	'1	3	Battery Storage
94.1	311.0	118.9	206.0	206.0	216.9	TRUE	Scattergood CC4	26112	SCATT1G	18	'X0	1	CCWhole-NatGas-Industrial
80.0	160.0	160.0	80.0	80.0	80.0	TRUE	Escalante Solar I II LLC	69734	ESCALNT_SG12	0.42	'1	4	SolarPV-NonTracking
79.8	119.7	119.7	39.9	39.9	39.9	TRUE	MeadowCreek_5P	69527	MEADOWCK_WG	0.6	'1	4	WT-Onshore
78.0	100.5	100.5	22.5	22.5	22.5	TRUE	IPMV Wind Agg 1	60032	TUANAGEN	0.69	'1	4	WT-Onshore
75.0	133.0	130.0	58.0	58.0	58.0	TRUE	Claresholm Solar	560894	CLARESHOLM1	0.69	'G1	4	SolarPV-Tracking
69.0	92.0	92.0	23.0	23.0	23.0	TRUE	IPTV WT Agg Elmore Co 1	60410	MTNAIRW1	0.69	'1	4	WT-Onshore
62.5	125.0	130.5	8.8	0.0	62.5	TRUE	DRACKR_SMA2_24985_2	25144	DRACKER_G4	0.615	'4	4	SolarPV-Tracking
57.8	58.6	12.6	0.0	0.1	0.8	TRUE	Milner_Hydro_2	60246	MILNER	13.8	'2	2	Hydro
50.3	100.3	52.2	50.0	50.0	50.0	TRUE	Dodge Flat Battery 1	641128	DGEFLT_BS	0.645	'1	3	Battery Storage
50.0	150.0	150.0	43.0	43.0	100.0	TRUE	HECATE	11248	HECATE	0.69	'PV	4	SolarPV-Tracking
49.8	80.8	30.7	31.0	31.0	30.4	TRUE	LowerBaker4	42137	LO BAKR4	13.8	'1	2	Hydro
48.5	493.5	0.0	435.0	410.0	445.0	TRUE	Mica_3	50639	MCA 16G3	16	'3	2	Hydro
48.5	493.5	434.2	435.0	410.0	445.0	TRUE	Mica_4	50640	MCA 16G4	16	'4	2	Hydro
47.0	492.0	435.0	435.0	410.0	445.0	TRUE	Mica_1	50637	MCA 16G1	16	'1	2	Hydro
47.0	492.0	492.0	435.0	410.0	445.0	TRUE	Mica_2	50638	MCA 16G2	16	'2	2	Hydro
46.2	46.6	50.0	0.3	0.0	0.5	TRUE	IPC_AgrHydro_60345	60345	TWINFALL	138	'NT	2	Hydro
43.0	85.9	85.9	14.2	8.2	43.0	TRUE	Golden Hills A	33873	Q709RPWRP1	0.69	'1	4	WT-Onshore
43.0	85.9	85.9	14.2	8.2	43.0	TRUE	Golden Hills B	33873	Q709RPWRP1	0.69	'1	4	WT-Onshore
41.4	191.4	195.3	150.0	150.0	150.0	TRUE	PdteJuarez07	20014	PJZ-U7	18	'7	1	CT-NatGas-Industrial
40.0	50.0	50.0	10.0	10.0	10.0	TRUE	Benson Creek Wind (OR)	60367	HGWP_GEN	0.69	'1	4	WT-Onshore
40.0	60.0	60.0	8.6	8.6	20.0	TRUE	BV_PV2	11334	BV_PV2	0.6	'PV	4	SolarPV-Tracking
37.6	57.6	60.0	20.0	20.0	20.0	TRUE	Sage Solar WY	66094	SAGE_SG	0.55	'1	4	SolarPV-NonTracking
37.2	85.2	134.2	41.0	41.0	48.0	TRUE	Foote Creek 1-4	65583	FT CREEK_WG	0.6	'1	4	WT-Onshore
36.0	55.0	19.0	19.0	19.0	19.0	TRUE	Argus_Cogen8-9	24736	LUZ LSP	230	'X0	1	ST-Coal
30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum01	50495	GMS 13G1	13.8	'1	2	Hydro
30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum02	50496	GMS 13G2	13.8	'2	2	Hydro
30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum04	50498	GMS 13G4	13.8	'4	2	Hydro
30.0	305.0	261.3	270.0	265.0	275.0	TRUE	GordonMShrum05	50499	GMS 13G5	13.8	'5	2	Hydro
30.0	40.0	40.0	10.0	10.0	10.0	TRUE	Orchard Wind Farm	44586	ORCHARD WNDL	0.69	'1	4	WT-Onshore
29.5	32.5	32.5	0.4	0.0	3.0	TRUE	CISC PV-NT Agg LA Co 2	25616	PEARBLSM	230	'X0	4	SolarPV-NonTracking
28.5	33.0	33.0	4.5	4.5	4.5	TRUE	Second Imperial01-12	21651	SIGC13.8	13.8	'1	1	Geo-BinaryCycle
28.4	39.6	39.6	3.7	2.1	11.2	TRUE	CISC WT Agg Multi-Co 1	24815	GARNET	115	'X1	4	WT-Onshore
28.0	60.0	64.8	32.0	32.0	32.0	TRUE	70724_ADS30_Spring Canyon 2-3	70715	SPRNGCAN2_W2	0.6	'W2	4	WT-Onshore
27.2	29.1	29.1	1.9	1.9	1.9	TRUE	Boessow PV Agg	37121	ELKGROV2	69	'X0	4	SolarPV-NonTracking
27.0	28.0	28.0	0.1	0.0	1.0	TRUE	CISC PV-NT Agg Multi-Co 1	24056	ETIWANDA	230	'X0	4	SolarPV-NonTracking
26.8	137.8	137.8	99.0	99.0	111.0	TRUE	Rolling_Hills_1	69004	ROLLNG HL_WG	0.69	'1	4	WT-Onshore
26.6	60.0	57.4	29.0	33.4	30.9	TRUE	Northeast	48275	NORTHEAS	13.8	'1	1	CT-NatGas-Aero
26.0	30.5	30.5	1.5	0.9	4.5	TRUE	CISC WT Agg Kern Co 1	24464	MIDWIND	66	'X0	4	WT-Onshore

WECC

Electric Reliability and Security for the West

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