

## Full Network Model Scope for FNM DB20M9

(Production 9/18/2020)

### *Revision History*

<b>Effective Date</b>	<b>Version</b>	<b>Description</b>
7/17/2020	1.0	Final scope by due date. The scope is considered finalized without any addendum attached
9/15/2020	2.0	Add additional information

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### I. NRI Projects

No	PTO	Resource ID	Project Name / Description	Project Key	Capacity (MW)	POD	Additional Information
1	IID	TITANS_2_TTSSR1	Titan Solar 1 Pseudo	20PSEUDO13225	70	IVLY2	New Pseudo Tie
2	PGAE	BAHIA_2_LKHSR1	Lake Herman Solar	20GEN12632	5	Bahia 230 kV	New resource
3	PGAE	CENT40_1_C40SR1	Central 40	15AS884269	40	Miller #1 115 kV line	New resource
4	PGAE	MIDSUN_1_PL1X2	North Midway Cogens 5A 5B	20GEN11578	9.2	Midsun 115 kV bus	New aggregate resource; Child Resource IDs: MIDSUN_1_CT5A, 4.8 MW, MIDSUN_1_CT5B, 4.8 MW
5	PGAE	VISTRA_5_DALBT1	Dallas Energy Storage	18AS1968	100	Moss Landing Substation 500 kV bus	New resource
6	PGAE	VISTRA_5_DALBT2	Dallas Energy Storage 2	20NGR11656	100	Moss Landing Substation 500 kV bus	New resource
7	PGAE	VISTRA_5_DALBT3	Dallas Energy Storage 3	20NGR11657	100	Moss Landing Substation 500 kV bus	New resource
8	SCE	BGSKYN_2_ASSR3A	Antelope Solar 3A	20GEN11165	15	Antelope 230 kV bus	New resource
9	SCE	BGSKYN_2_ASSR3B	Antelope Solar 3B	20GEN11166	5	Antelope 230 kV bus	New resource
10	SCE	GOLETA_2_VALBT1	Vallecito Energy Storage	20NGR11310	10	GOLETA-SANTA CLARA NO.2 230 kV	New resource
11	SCE	GOLETA_6_TAJIGS	Tajiguas Resource Recovery 2	19GEN9665	3.1	GOLETA-SANTA CLARA NO.2 230 kV	Existing resource
12	SCE	WSTWND_2_M90BT1	Mojave 90 BESS 1A	20NGR13186	15.79	Vincent Substation	New resource
13	SCE	WSTWND_2_M90WD2	Mojave 90 PMAX Reduction	20GEN13169	48.858	Vincent Substation	EMS pmax decrease from 75 MW to 48.858 MW

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### II. Transmission Projects

No	PTO	RIMS ID	Project Name	Project Key
1	PGAE	16TRANS6352	Sanger Sub 115kV Bus Upgrade	ET3098
2	PGAE	16TRANS6352	Sanger Sub 115kV Bus Upgrade	ET4020
3	PGAE	16TRANS6352	Sanger Sub 115kV Bus Upgrade	ET4021
4	PGAE	19TRANS8497	Aquamarine Solar	ET3936
5	PGAE	19TRANS8497	Aquamarine Solar	ET4249
6	PGAE	19TRANS8677	Martin 230/115 kV Transformer No. 7 Replacement	ET3976
7	PGAE	19TRANS9234	Exchequer-Yosemite 70kV Reliability Project	ET4130
8	PGAE	19TRANS9235	Merced Falls-Exchequer 70kV Reliability Project	ET4131
9	PGAE	20TRANS11236	REMOVAL: Mercy Springs Bank 1	ET4307
10	SCE	19TRANS9768	Pardee Substation - Moorpark-Pardee 220 kV No. 4 Circuit	ET4408
11	SCE	19TRANS9768	Pardee Substation - Moorpark-Pardee 220 kV No. 4 Circuit	ET4409
12	SCE	20TRANS12892	Mesa Project Various Substations: ICCP Removals and Additions	ET4410
13	SCE	20TRANS12892	Mesa Project Various Substations: ICCP Removals and Additions	ET4411
14	SCE	20TRANS13183	Serrano - Valley 500 kV ICCP Removals and Additions	ET4424
15	SCE	20TRANS13183	Serrano - Valley 500 kV ICCP Removals and Additions	ET4425
16	SDGE	18TRANS6556	Q1169 FALLBROOK ENERGY STORAGE Generation interconnection	ET3427
17	SDGE	18TRANS8065	Avocado Rebuild	ET4287
18	SDGE	19TRANS9599	Q159A ENERGIA SIERRA JUAREZ WIND	ET4172

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### III. EIM/ RC Projects

No	Entity	Project Name	Project Key
1	AESO_RC	AESO Model Changes	20EMS11917
2	AESO_RC	Modified Substation 205S (SW/53/205S)	20EMS12042
3	AESO_RC	Modified Substation 257S (SE/52/257S)	20EMS12043
4	AESO_RC	Modified Substation 310P (WE/40/310P)	20EMS12044
5	AESO_RC	Modified Substation 727S (NW/21/727S)	20EMS12045
6	AESO_RC	Modified Substation SS34 (CY/6/SS34)	20EMS12046
7	AESO_RC	Modified Substation T760AL (EC/42/T760AL)	20EMS12047
8	AESO_RC	Modified Substation T784AL (WC/51/T784AL)	20EMS12048
9	AESO_RC	Incremental Updates for AESO for the DB97/20M7 Model	20EMS12489
10	AESO_RC	Add AESO ICCPs for RAS in RTCA	20EMS12495
11	AESO_RC	Modified Network Model Substation 163S (SE/48/163S)	20EMS12737
12	AESO_RC	Modified Network Model Substation 359S (WE/30/359S)	20EMS12738
13	AESO_RC	Modified Network Model Substation 740S (NW/22/740S)	20EMS12739
14	AESO_RC	Modified Network Model Substation 809S (NW/26/809S)	20EMS12740
15	AESO_RC	Modified Network Model Substation MH69S6 (SE/4/MH69S6)	20EMS12741
16	AESO_RC	Modified SCADA Model Substation 163S (SE/48/163S)	20EMS12742
17	AESO_RC	Modified SCADA Model Substation 320P (WE/40/320P)	20EMS12743
18	AESO_RC	Modified SCADA Model Substation 359S (WE/30/359S)	20EMS12744
19	AESO_RC	Modified SCADA Model Substation 740S (NW/22/740S)	20EMS12745
20	AESO_RC	Modified SCADA Model Substation 809S (NW/26/809S)	20EMS12746
21	AESO_RC	Modified SCADA Model Substation MH69S6 (SE/4/MH69S6)	20EMS12747
22	AESO_RC	Modified Network Model Substation 214S (WC/39/214S)	20EMS12748
23	AESO_RC	Modified Network Model Substation 257S (SE/52/257S)	20EMS12749
24	AESO_RC	Modified Network Model Substation 336S (SE/52/336S)	20EMS12750
25	AESO_RC	Modified Network Model Substation 354S (SW/53/354S)	20EMS12751
26	AESO_RC	Modified Network Model Substation 554S (SW/49/554S)	20EMS12752
27	AESO_RC	Modified Network Model Substation 5S (CY/6/5S)	20EMS12753
28	AESO_RC	Modified Network Model Substation 756S (EC/36/756S)	20EMS12754
29	AESO_RC	Modified Network Model Substation 834S (NW/19/834S)	20EMS12755
30	AESO_RC	Modified Network Model Substation 848S (FM/25/848S)	20EMS12756
31	AESO_RC	Modified Network Model Substation 856S (FM/25/856S)	20EMS12757
32	AESO_RC	Modified Network Model Substation 86S (WE/31/86S)	20EMS12758
33	AESO_RC	Modified Network Model Substation 87S (WC/35/87S)	20EMS12759

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No	Entity	Project Name	Project Key
34	AESO_RC	Modified Network Model Substation 885S (FM/25/885S)	20EMS12760
35	AESO_RC	Modified Network Model Substation 888S (FM/25/888S)	20EMS12761
36	AESO_RC	Modified Network Model Substation 898S (EE/27/898S)	20EMS12762
37	AESO_RC	Modified Network Model Substation 932S (EC/42/932S)	20EMS12763
38	AESO_RC	Modified Network Model Substation T852S (FM/25/T852S)	20EMS12764
39	AESO_RC	Modified SCADA Model Substation 1029S (WE/29/1029S)	20EMS12765
40	AESO_RC	Modified SCADA Model Substation 1034S (EE/27/1034S)	20EMS12766
41	AESO_RC	Modified SCADA Model Substation 121S (SE/47/121S)	20EMS12767
42	AESO_RC	Modified SCADA Model Substation 139S (SW/54/139S)	20EMS12768
43	AESO_RC	Modified SCADA Model Substation 148S (WC/39/148S)	20EMS12769
44	AESO_RC	Modified SCADA Model Substation 158S (SE/52/158S)	20EMS12770
45	AESO_RC	Modified SCADA Model Substation 2033S (NW/20/2033S)	20EMS12771
46	AESO_RC	Modified SCADA Model Substation 226S (SW/55/226S)	20EMS12772
47	AESO_RC	Modified SCADA Model Substation 239S (SW/53/239S)	20EMS12773
48	AESO_RC	Modified SCADA Model Substation 254S (SW/54/254S)	20EMS12774
49	AESO_RC	Modified SCADA Model Substation 256S (WC/39/256S)	20EMS12775
50	AESO_RC	Modified SCADA Model Substation 259S (NW/26/259S)	20EMS12776
51	AESO_RC	Modified SCADA Model Substation 277S (EC/37/277S)	20EMS12777
52	AESO_RC	Modified SCADA Model Substation 285S (WE/31/285S)	20EMS12778
53	AESO_RC	Modified SCADA Model Substation 313S (SW/55/313S)	20EMS12779
54	AESO_RC	Modified SCADA Model Substation 315S (SW/54/315S)	20EMS12780
55	AESO_RC	Modified SCADA Model Substation 323S (NW/26/323S)	20EMS12781
56	AESO_RC	Modified SCADA Model Substation 349S (SW/49/349S)	20EMS12782
57	AESO_RC	Modified SCADA Model Substation 368S (SE/52/368S)	20EMS12783
58	AESO_RC	Modified SCADA Model Substation 454S (WE/30/454S)	20EMS12784
59	AESO_RC	Modified SCADA Model Substation 498S (SE/47/498S)	20EMS12785
60	AESO_RC	Modified SCADA Model Substation 58S (WE/29/58S)	20EMS12786
61	AESO_RC	Modified SCADA Model Substation 594S (EC/32/594S)	20EMS12787
62	AESO_RC	Modified SCADA Model Substation 65S (CY/46/65S)	20EMS12788
63	AESO_RC	Modified SCADA Model Substation 67S (SW/55/67S)	20EMS12789
64	AESO_RC	Modified SCADA Model Substation 731S (NW/20/731S)	20EMS12790
65	AESO_RC	Modified SCADA Model Substation 758S (NW/20/758S)	20EMS12791
66	AESO_RC	Modified SCADA Model Substation 770S (EC/42/770S)	20EMS12792
67	AESO_RC	Modified SCADA Model Substation 802S (EC/42/802S)	20EMS12793

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No	Entity	Project Name	Project Key
68	AESO_RC	Modified SCADA Model Substation 830S (NW/19/830S)	20EMS12794
69	AESO_RC	Modified SCADA Model Substation 83S (SE/52/83S)	20EMS12795
70	AESO_RC	Modified SCADA Model Substation 895S (SE/4/895S)	20EMS12796
71	AESO_RC	Modified SCADA Model Substation 969S (EE/13/969S)	20EMS12797
72	AESO_RC	Modified SCADA Model Substation AIES	20EMS12798
73	AESO_RC	Modified SCADA Model Substation BCHAYBAT (NW/17/BCHAYBAT)	20EMS12799
74	AESO_RC	Modified SCADA Model Substation DAPP (EE/27/DAPP)	20EMS12800
75	AESO_RC	Modified SCADA Model Substation FNC_TAP (NW/17/FNC_TAP)	20EMS12801
76	AESO_RC	Modified SCADA Model Substation NAMA0 (WE/60/NAMA0)	20EMS12802
77	AESO_RC	Modified SCADA Model Substation SS34 (CY/6/SS34)	20EMS12803
78	AESO_RC	Modified SCADA Model Substation TAYLOR (SW/55/TAYLOR)	20EMS12804
79	AESO_RC	Modified SCADA Model Substation VOLTUS	20EMS12805
80	AESO_RC	Modified SCADA Model Substation WELDWOOD (WE/29/WELDWOOD)	20EMS12806
81	AESO_RC	Modified SCADA Model Substation 198S (WC/35/198S)	20EMS12807
82	AESO_RC	Modified SCADA Model Substation 214S (WC/39/214S)	20EMS12808
83	AESO_RC	Modified SCADA Model Substation 257S (SE/52/257S)	20EMS12809
84	AESO_RC	Modified SCADA Model Substation 263S (WC/38/263S)	20EMS12810
85	AESO_RC	Modified SCADA Model Substation 336S (SE/52/336S)	20EMS12811
86	AESO_RC	Modified SCADA Model Substation 354S (SW/53/354S)	20EMS12812
87	AESO_RC	Modified SCADA Model Substation 359S (WE/30/359S)	20EMS12813
88	AESO_RC	Modified SCADA Model Substation 554S (SW/49/554S)	20EMS12814
89	AESO_RC	Modified SCADA Model Substation 5S (CY/6/5S)	20EMS12815
90	AESO_RC	Modified SCADA Model Substation 756S (EC/36/756S)	20EMS12816
91	AESO_RC	Modified SCADA Model Substation 834S (NW/19/834S)	20EMS12817
92	AESO_RC	Modified SCADA Model Substation 848S (FM/25/848S)	20EMS12818
93	AESO_RC	Modified SCADA Model Substation 856S (FM/25/856S)	20EMS12819
94	AESO_RC	Modified SCADA Model Substation 86S (WE/31/86S)	20EMS12820
95	AESO_RC	Modified SCADA Model Substation 87S (WC/35/87S)	20EMS12821
96	AESO_RC	Modified SCADA Model Substation 885S (FM/25/885S)	20EMS12822
97	AESO_RC	Modified SCADA Model Substation 888S (FM/25/888S)	20EMS12823
98	AESO_RC	Modified SCADA Model Substation 898S (EE/27/898S)	20EMS12824
99	AESO_RC	Modified SCADA Model Substation 932S (EC/42/932S)	20EMS12825
100	AESO_RC	Modified SCADA Model Substation T852S (FM/25/T852S)	20EMS12826
101	AVA_TOP	Construction of Saddle Mountain 230/115 Substation in the WallaWalla-Wanapum 230 line and the Benton-Othello 115 line.	20EMS12898

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No	Entity	Project Name	Project Key
102	AVA_TOP	Construction of Neilson Substation in the Lind - Delight - Washtucna 115 line. Includes the Lind-Rattlesnake 115 line and Rattlesnake Wind Farm	20EMS12899
103	AVA_TOP	Lind-Rattlesnake 115 line and Rattlesnake Wind Farm	20EMS12900
104	AVA_TOP	ICCP info associated with previously submitted Project Code 20EMS12898: Construction of Saddle Mountain 230/115 Substation in the WallaWalla-Wanapum 230 line and the Benton-Othello 115 line.	20EMS13154
105	BPA	BPA station names change	20EMS12888
106	BPAT_TOP	BPA Contingency List for 1145 network model release.	20EMS13159
107	BPAT_TOP	RAS- Added new Blueridge generation gen drop.	20EMS13592
108	CEN_BA	Addition ICCP point	20EMS12939
109	CEN_BA	Addition ICCP point	20EMS12972
100	CHPD_BA	Seasonal Load Values for RC0120A 6.1 Changes	20EMS13091
111	GRID_BA	Updated list of Dynamics on IRO-010-6.16	20EMS13017
112	HHWP	WARNVL Update	20EMS12838
113	IID_TOP	MVA rating change	20EMS13005
114	IID_TOP	BES Generation Facility Ratings	20EMS13161
115	IPC	add/replace RDFIDS English names mapping for IPCO area to be the following and include in the earliest Possible model	20EMS13199
116	IPCO_BA	Generator - Update Big Sky West Dairy Digester - currently exists in the IPCO network model	20EMS13566
117	IPCO_BA	BSWD_7_TELEMTRD_CSPP EMS Pmax increase to 2 MW from 1.5 MW	20EMS13702
118	IPCO_BA	Generator - Add SFPR G004 and associated breakers and switches	20EMS13713
119	LDWP_BA	Updated Burbank Telemetry	20EMS12981
120	LDWP_BA	Pnode coordinates for EIM onboarding	20EMS13155
121	NWMT_BA	Modeling for Colstrip market resources	20EMS12887
122	NWMT_TOP	ICCP Patch - Crooked Falls; Stanford Auto; Madison; Bradley Creek; Belgrade West; Harlowton; Helena Valley; Holter; Thompson Falls; Assiniboine; Raynesford Pump	20EMS12897
123	NWMT_TOP	NWMT RDFID Update	20EMS13179
124	PGE_BA	Request the RIMS project to add the PGEN new participating Resource of MidC share of Rocky Reach	20EMS13057
125	PGE_BA	Substation\Load - ICCP file for Mid C Rocky Reach ICCP Point	20EMS13736
126	PNM_BA	Line Ratings Changed for Two Transmission Lines	20EMS13043
127	PNM_BA	TAIBAN to BLACKWATER 345kV station	20EMS13044
128	PNM_BA	Generator - JOU and Pseudo ties in PNM BA	20EMS13247
129	PNM_BA	Generator - JOU Template for PNM Units	20EMS13876
130	PSEI_BA	Update PSEI's Line Contingencies	20EMS12933
131	PSEI_BA	Update PSEI's Line Contingencies	20EMS13010
132	PSEI_BA	full CIM model	20EMS13037
133	PSEI_BA	ICCP list	20EMS13038



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No	Entity	Project Name	Project Key
134	PSEI_BA	EMS RAS display screenshot	20EMS13467
135	PSEI_BA	Contingency Definition - Updating Contingency Definition for all PSEI BES Transformers	20EMS13597
136	PSEI_BA	Transformer Limits Corrected	20EMS13604
137	SCL_BA	New Ground SW at Massachusetts Sub, Generator PMIN Updates, Renaming of Equipment at Diablo Sub	20EMS13122
138	SNPD_TOP	Fall Line and Transformer Ratings	20EMS12563
139	SNPD_TOP	Construct Swamp Creek 115kV Ring-bus Switching Station - Install NE drops Sno-King - Swamp Creek 115kV line	20EMS12644
140	SNPD_TOP	Construct Swamp Creek 115kV Ring-bus Switching Station - Install NW drops Beverly Park - Swamp Creek 115kV line	20EMS12645
141	SNPD_TOP	Fall Line and Transformer Ratings	20EMS12650
142	SNPD_TOP	Install a shoo-fly at Portage 115kV Substation	20EMS12868
143	SNPD_TOP	Individual substation P and Q	20EMS12984
144	SPP_RC	Pawnee Substation Update	20EMS11345
145	SPP_RC	SPP March 2020 Network Model	20EMS11852
146	SPP_RC	SPP May 2020 CIM Network Model and ICCP	20EMS12131
147	SPP_RC	PST tapping at station WFL and SHRWC	20EMS12886
148	SPP_RC	WAUW and WACM model update	20EMS13192
149	SRP_BA	Removed low-side (7kV) buses	20EMS13092
150	SRP_BA	Added new Vah_Ki substation	20EMS13093
151	SRP_BA	Added new Pinal Central - Vah_Ki line	20EMS13094
152	SRP_BA	Added new Randolph - Vah_Ki line	20EMS13095
153	SRP_BA	Removed Pinal Central - Randolph 230kv line	20EMS13096
154	SRP_BA	Added new Henshaw-Delta 69kV line	20EMS13097
155	SRP_BA	Removed Delta-Roth 69kV line	20EMS13098
156	SRP_BA	Added Hoopes-Schrader 69kV Line	20EMS13099
157	SRP_BA	Added Grand Central substation	20EMS13100
158	SRP_BA	Added East Line Solar generating unit	20EMS13101
159	SRP_BA	Added new HALO substation	20EMS13102
160	SRP_BA	Added new SAINT SOLAR generating unit	20EMS13103
161	SRP_BA	Updated tie-line ICCP IDs for Mesquite units 4-6	20EMS13104
162	SRP_BA	Updated Henshaw 230kV disconnect ICCP IDs	20EMS13105
163	SRP_BA	Updated ICCP ID for NET output of Springville unit 3	20EMS13106
164	SRP_BA	Updated impedance of Henshaw-Knox 230kV line	20EMS13107
165	SRP_BA	Updated impedances of Randolph-Coolidge 230kV lines	20EMS13108
166	SRP_BA	Updated impedance of Amos-Dinosaur 69kV line	20EMS13109
167	SRP_BA	Updated capacitive susceptance of Browning-PinalCentral 230kV line	20EMS13110



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No	Entity	Project Name	Project Key
168	WASN_TOP	Contingency Definition - Additional contingencies currently not modeled in HANA	20EMS13255