

## Location and Size of Profiles Used in 1-min Analysis

Description of information included in the above table.

Column Heading	Description
Wind/Solar Locations	Refers to the location of the wind/solar generation that the profiles represent.
MW/Profile by Case (Values used in Hourly Profiling)	<p>Refers to the size of the renewable plants in MW for each location for each of the cases studied (33%, 27.5%, Out of State (OOS), High Distributed Generation (HiDG), and 20%).</p> <p>The format nXa indicates (n=number of plants) X (a=size of each plant in MWs). These plants are spread out throughout the CREZ/Area to capture the effect of diversity.</p> <p>For e.g., 2X500 implies that there are two, 500 MW each, distinct plants separated from each other. (See technical Appendix for description of diversity modeling).</p>
Profile Name	Nexant's unique name assigned to each profile.
Geographical Location (Latitude, Longitude)	Latitude and Longitude associated with the NREL profile data.
NREL No.	NREL's unique number for the wind and solar profile data.

## Location and Size of Profiles Used in 1-min Analysis

Wind Locations	MW/Profile by Case (Values used in 1-min Profiling)					Profile Name	Geographical Location		NREL No.
	33%	27.5%	OOS	HiDG	20%		Latitude	Longitude	
<i>Fairmont</i>	1x621					Fairmont_W1	34.59	-118.22	2301
	1x621					Fairmont_W2	34.69	-118.34	2540
<i>Mountain Pass</i>	1x169	1x169				Mountain_Pass_W	35.58	-115.04	5680
<i>Needles</i>	1x455	1x455				Needles_W	35.03	-114.91	3311
<i>San Bernardino-Lucerne</i>	1x6		1x79			San_Bernardino-Lucerne_W	34.41	-117.06	2006
<i>San Diego-Imperial North</i>	1x195	1x195	1x195	1x195	1x152	San_Diego-Imperial_North_W	33.11	-116.59	30575
<i>Solano</i>			1x894			Solano_W	37.81	-121.62	9388
<i>Tehachapi</i>	1x705	1x705	1x705	1x705	1x705	Tehachapi_W1	35.21	-118.11	4100
	1x705	1x705	1x705	1x705	1x705	Tehachapi_W2	35.06	-118.39	3475
	1x705	1x705	1x705	1x705	1x705	Tehachapi_W3	35.42	-118.11	4930
	1x705	1x705	1x705	1x705	1x705	Tehachapi_W4	35.46	-118.06	5079
<i>Oregon</i>	1x437	1x437	1x437	1x437	1x437	Oregon_W	43.88	-121.17	24929
<i>Washington</i>	1x266	1x266	1x266	1x266	1x266	Washington_W	46.43	-117.46	28385
<i>Montana</i>	1x709	1x553	1x709	1x513	1x513	Montana_W	45.73	-109.99	27054
<i>Alberta</i>	1x690	1x534	1x690	1x494	1x494	Alberta_W	48.93	-112.17	31970
<i>New Mexico</i>	1x196	1x40	1x196			New_Mexico_W	35.28	-105.36	4356
<i>Northwest</i>	1x420	1x86	1x420			Northwest_W	42.49	-120.46	21430
<i>Utah</i>	1x386	1x230	1x386	1x190	1x190	Utah_W	38.58	-113.96	10272
<i>Wyoming</i>	1x196	1x40	1x943			Wyoming_W1	42.41	-107.41	20858
			1x747			Wyoming_W2	41.83	-105.04	17840
			1x747			Wyoming_W3	42.66	-105.67	22253
			1x747			Wyoming_W4	42.21	-105.29	19924
<i>Reno Area</i>			1x441			Reno_W	39.64	-119.97	11567
<i>Distributed Wind PGE</i>	1x150	1x150	1x150	1x150	1x150	PGE_W	40.29	-120.56	12693

## Location and Size of Profiles Used in 1-min Analysis

Solar Thermal Locations	MW/Profile by Case (Values used in 1-min Profiling)					Profile Name	Geographical Location		NREL No.
	33%	27.5%	OOS	HiDG	20%		Latitude	Longitude	
<i>Barstow</i>	1X96	1X96	1X96	1X96	1X96	Barstow_ST	34.85	-116.8	723815
	1X101,								
<i>Carrizo North/Fairmont</i>	3X100	2X100.5				Carrizo_North_Fairmont_ST	35.667	-120.633	723965
<i>Kramer</i>	4X192	101				Kramer_ST1	34.9	-117.867	723810
	4X192					Kramer_ST2	34.633	-118.083	723820
<i>Mountain Pass</i>	1X660	1X660				Mountain_Pass_ST1	36.083	-115.15	723860
	1X660	1X660				Mountain_Pass_ST2	35.667	-117.833	723826
	1X450,	1X450,							
<i>Needles</i>	1X156	1X156				Needles_ST	34.767	-114.617	723805
<i>Out-of-State (AZ)</i>	3X178	3X178	3X178			Out-of-State_(AZ)_ST	32.883	-112.717	747240
	2X500,	2X500,							
<i>Riverside East</i>	1X5	1X5	1X500	1X500	1X5	Riverside_East_ST1	33.617	-114.717	747188
	2X500,	2X500,							
	1X5	1X5	1X500	1X500	1X5	Riverside_East_ST2	32.833	-115.583	747185
<i>San Bernardino - Lucerne</i>	1X9		1X124			San_Bernardino-Lucerne_ST	34.3	-116.167	690150

## Location and Size of Profiles Used in 1-min Analysis

Solar PV Locations	MW/Profile by Case (Values used in 1-min Profiling)					Profile Name	Geographical Location		NREL No.
	33%	27.5%	OOS	HiDG	20%		Latitude	Longitude	
<i>Carrizo North</i>	1X500, 1X100	1X500, 1X100				Carrizo_North_PV_T1	35.233	-120.633	722897
	1X500, 1X100	1X500, 1X100				Carrizo_North_PV_T2	36.333	-119.95	747020
<i>Fairmont, Imperial North, Kramer, San Bernardino-Lucerne</i>	3X52, 5X63, 1X62	2X63, 2X53.15	2X51, 2X50	2X64, 1X65	3X52	FIKS_PV	33.933	-116.967	722867
<i>Mountain Pass/Tehachapi PV</i>	1X156, 2X130.5	1X156, 2X130.5	1X156	1X156	1X156	Mountain_Pass-Tehachapi_PV_T	34.733	-118.217	723816
<i>Riverside East</i>	1X500, 2X250	1X500, 2X250	1X512	1X512		Riverside_East_PV_T	33.833	-116.5	722868
<i>Distributed Solar</i>	1X10	1X10	1X10	25X13.9	1X10	PGE_Solar_PV_NT1	36.783	-119.717	723890
	1X10	1X10	1X10	25X13.9	1X10	PGE_Solar_PV_NT2	37.7	-122.217	724930
				25X13.5		SCE_Solar_PV_NT1	35.433	-119.05	723840
				25X13.5		SCE_Solar_PV_NT2	33.683	-117.867	722977
				25X13.5		SCE_Solar_PV_NT3	34.067	-117.65	722865
				25X13.5		SDG&E_PV_NT	32.733	-117.167	722900
				25X13.5		SMUD_Solar_PV_NT	38.5	-121.5	724830
				25X13.5		LADWP_Solar_PV_NT	33.933	-118.4	722950
				25X13.5		PGE_DG_PV_NT1	40.517	-122.317	725920
				25X13.5		PGE_DG_PV_NT2	37.283	-120.517	724815
				25X13.5		PGE_DG_PV_NT3	39.133	-121.433	724837
				25X13.5		PGE_DG_PV_NT4	37.9	-121.233	724920
				25X13.5		SCE_DG_PV_NT1	34.433	-119.85	723925
				25X13.5		SCE_DG_PV_NT2	36.317	-119.4	723896
				25X13.5		SCE_DG_PV_NT3	33.95	-117.45	722869
				25X13.5		SDG&E_DG_PV_NT	33.133	-117.283	722927
				25X13.5		SMUD_DG_PV_NT	38.7	-121.583	724839
				25X13.5		LADWP_DG_PV_NT	34.217	-118.483	722886

## Location and Size of Profiles Used in 1-min Analysis

Distributed Solar (behind the meter)	MW/Profile by Case (Values used in 1-min Profiling)					Profile Name	Geographical Location		NREL No.
	33%	27.5%	OOS	HiDG	20%		Latitude	Longitude	
<i>Distributed Solar (behind the meter)</i>	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_Solar_PV_NT1	36.783	-119.717	723890
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_Solar_PV_NT2	37.7	-122.217	724930
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_Solar_PV_NT1	35.433	-119.05	723840
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_Solar_PV_NT2	33.683	-117.867	722977
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_Solar_PV_NT3	34.067	-117.65	722865
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SDG&E_PV_NT	32.733	-117.167	722900
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SMUD_Solar_PV_NT	38.5	-121.5	724830
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	LADWP_Solar_PV_NT	33.933	-118.4	722950
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_DG_PV_NT1	40.517	-122.317	725920
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_DG_PV_NT2	37.283	-120.517	724815
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_DG_PV_NT3	39.133	-121.433	724837
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	PGE_DG_PV_NT4	37.9	-121.233	724920
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_DG_PV_NT1	34.433	-119.85	723925
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_DG_PV_NT2	36.317	-119.4	723896
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SCE_DG_PV_NT3	33.95	-117.45	722869
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SDG&E_DG_PV_NT	33.133	-117.283	722927
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	SMUD_DG_PV_NT	38.7	-121.583	724839
	25X5.03	25X5.03	25X5.03	25X5.03	25X5.03	LADWP_DG_PV_NT	34.217	-118.483	722886
<i>Remote DG</i>				9x100		PGE_DG_PV_T1	40.517	-122.317	725920
				9x100		PGE_DG_PV_T2	37.283	-120.517	724815
				9x100		PGE_DG_PV_T3	39.133	-121.433	724837
				9x100		PGE_DG_PV_T4	37.9	-121.233	724920
				9x100		SCE_DG_PV_T1	34.433	-119.85	723925
				9x100		SCE_DG_PV_T2	36.317	-119.4	723896
				9x100		SCE_DG_PV_T3	33.95	-117.45	722869
				9x100		SDG&E_DG_PV_T	33.133	-117.283	722927
				9x100		SMUD_DG_PV_T	38.7	-121.583	724839
				9x100		LADWP_DG_PV_T	34.217	-118.483	722886