

**United States Bureau of Reclamation - Mid Pacific Region, Central Valley Operations Office**  
**Forecast of CVP Generation with Uncertainty Bounds Bracketing a Randomly Distributed Population**  
**Based on USBR 50 Pct Forecast -B2, Dated 1/22/2019**  
**Losses are Estimated per WAPA Contractual Provisions**  
**Uncertainty Bounded Energy Generation (All values in GWh)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Energy at Tracy			
													Expected Proj Use	Exp Est Net CVP	Low Est Net CVP	High Est Net CVP
JAN	6	0	10	74	16	26	4	8	0	0	144	3	140	0	0	20
FEB	6	1	17	59	14	28	4	12	0	0	141	3	155	-20	0	10
MAR	8	2	15	72	15	65	7	60	0	0	244	4	100	140	70	180
APR	30	26	15	117	22	58	7	78	37	1	391	7	40	340	230	410
MAY	46	20	21	185	34	115	10	95	55	4	585	10	60	520	400	580
JUN	69	46	41	224	43	55	6	80	29	0	593	10	125	460	400	490
JUL	57	45	41	265	51	71	8	53	34	0	625	11	155	460	400	500
AUG	41	46	41	219	44	44	5	46	16	0	502	9	140	350	250	410
SEP	39	45	41	158	35	33	4	35	0	0	390	7	115	270	190	310
OCT	12	7	18	131	27	33	4	33	0	0	265	5	130	130	80	160
NOV	14	13	10	97	9	32	4	8	0	0	187	3	95	90	20	130
DEC	10	6	7	91	19	32	4	7	0	0	176	3	145	30	0	70
Total	338	257	277	1692	329	592	67	515	171	5	4243	75	1400	2770	2040	3270

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**Forecast of CVP Generation**  
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**Losses are Estimated per WAPA Contractual Provisions**  
**Expected Capacity Based on Estimated Gross Head (All values in MW)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Capacity at Tracy			
													Expected CVP	Schd. Out	Expected Proj Use	Expected Net CVP
JAN	61	154	182	378	8	152	3	373	0	0	1309	23	1285	295	125	1160
FEB	62	154	182	406	0	167	0	375	0	0	1346	23	1325	310	180	1145
MAR	63	154	182	426	7	177	5	188	0	0	1202	21	1180	375	115	1065
APR	64	150	182	568	21	185	5	187	170	1	1533	26	1505	355	55	1450
MAY	65	147	182	568	46	199	14	186	138	5	1551	26	1525	185	85	1440
JUN	64	147	182	568	62	207	9	366	112	0	1719	29	1690	125	190	1500
JUL	63	147	182	568	72	198	11	360	89	0	1691	29	1660	160	235	1425
AUG	62	147	182	559	62	187	7	353	67	0	1627	28	1600	200	220	1380
SEP	61	147	182	539	50	121	3	346	0	0	1448	25	1425	210	175	1250
OCT	0	150	182	525	25	118	6	340	0	0	1345	23	1320	180	170	1150
NOV	60	154	182	650	0	58	6	338	0	0	1448	25	1425	155	125	1300
DEC	61	154	182	656	9	114	3	341	0	0	1519	26	1490	95	180	1310

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**Forecast of CVP Generation**  
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**Project Use Pumping**

**Expected Project Energy Use at Tracy Load Center (All values in GWh)**

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									Exp CVP PU	Expected On Peak	Expected Off Peak
JAN	51	0	2	12	59	1	4	10	140	45	95
FEB	57	0	2	12	57	1	7	17	155	55	100
MAR	45	0	2	7	22	1	9	11	100	40	55
APR	11	0	2	0	0	2	11	11	40	20	15
MAY	12	0	2	0	0	3	16	26	60	35	25
JUN	62	0	2	2	0	4	23	33	125	70	55
JUL	64	5	2	1	0	6	31	47	155	90	65
AUG	63	5	2	3	0	6	23	39	140	85	55
SEP	63	5	2	6	10	4	8	18	115	60	55
OCT	63	2	3	9	28	3	3	18	130	60	70
NOV	50	0	3	8	19	3	6	8	95	45	55
DEC	62	0	3	15	52	2	3	8	145	65	80
Total	602	16	28	75	248	37	144	246	1400	670	725

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**Forecast of CVP Generation**  
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**Project Use Pumping**

**Expected Project Capacity Use at Tracy Load Center (All values in MW)**

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
JAN	81	81	0	0	3	3	20	20	0	201	1	1	6	6	14
FEB	96	96	0	0	3	3	20	20	25	199	1	1	12	12	25
MAR	66	66	0	0	3	3	12	12	0	71	2	2	18	18	15
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	15
MAY	18	18	0	0	3	3	0	0	0	0	4	4	24	24	36
JUN	96	96	0	0	2	2	4	4	0	0	6	6	36	36	46
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	63
AUG	96	96	20	0	3	3	4	4	0	0	8	8	36	36	53
SEP	96	96	20	0	3	3	12	12	0	41	6	6	12	12	24
OCT	96	96	20	0	4	4	16	16	0	103	5	5	6	6	24
NOV	81	81	0	0	4	4	12	12	0	78	4	4	12	12	11
DEC	96	96	0	0	4	4	20	20	42	111	3	3	6	6	11

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**Losses are Estimated per WAPA Contractual Provisions**  
**Energy Generation (All values in GWh)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Total Losses	Total at Tracy		
												CVP	Proj Use	Net CVP
JAN	6	0	10	74	16	26	4	8	0	0	3	140	140	0
FEB	6	1	17	59	14	28	4	12	0	0	3	140	155	-15
MAR	8	2	15	72	15	65	7	60	0	0	4	240	100	140
APR	30	26	15	117	22	58	7	78	37	1	7	380	40	340
MAY	46	20	21	185	34	115	10	95	55	4	10	570	60	510
JUN	69	46	41	224	43	55	6	80	29	0	10	580	125	455
JUL	57	45	41	265	51	71	8	53	34	0	11	610	155	455
AUG	41	46	41	219	44	44	5	46	16	0	9	490	140	350
SEP	39	45	41	158	35	33	4	35	0	0	7	380	115	265
OCT	12	7	18	131	27	33	4	33	0	0	5	260	130	130
NOV	14	13	10	97	9	32	4	8	0	0	3	180	95	85
DEC	10	6	7	91	19	32	4	7	0	0	3	170	145	25
Total	340	258	277	1692	331	591	69	515	172	4	74	4140	1400	2740

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**Losses are Estimated per WAPA Contractual Provisions**  
**Capacity Based on Estimated Gross Head (All values in MW)**

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Tot. Cap. at Plant	Total Losses	Total Capacity at Tracy			
													CVP	Sch. Out	PU	Net CVP
JAN	61	154	182	378	8	152	3	373	0	0	1309	23	1285	295	125	1160
FEB	62	154	182	406	0	167	0	375	0	0	1346	23	1325	310	180	1145
MAR	63	154	182	426	7	177	5	188	0	0	1202	21	1180	375	115	1065
APR	64	150	182	568	21	185	5	187	170	1	1533	26	1505	355	55	1450
MAY	65	147	182	568	46	199	14	186	138	5	1551	26	1525	185	85	1440
JUN	64	147	182	568	62	207	9	366	112	0	1719	29	1690	125	190	1500
JUL	63	147	182	568	72	198	11	360	89	0	1691	29	1660	160	235	1425
AUG	62	147	182	559	62	187	7	353	67	0	1627	28	1600	200	220	1380
SEP	61	147	182	539	50	121	3	346	0	0	1448	25	1425	210	175	1250
OCT	0	150	182	525	25	118	6	340	0	0	1345	23	1320	180	170	1150
NOV	60	154	182	650	0	58	6	338	0	0	1448	25	1425	155	125	1300
DEC	61	154	182	656	9	114	3	341	0	0	1519	26	1490	95	180	1310

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**Project Use Pumping**

**Project Energy Use at Tracy Load Center (All values in GWh)**

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									CVP	On Peak	Off Peak
JAN	51	0	2	12	59	1	4	10	140	45	95
FEB	57	0	2	12	57	1	7	17	155	55	100
MAR	45	0	2	7	22	1	9	11	100	40	55
APR	11	0	2	0	0	2	11	11	40	20	15
MAY	12	0	2	0	0	3	16	26	60	35	25
JUN	62	0	2	2	0	4	23	33	125	70	55
JUL	64	5	2	1	0	6	31	47	155	90	65
AUG	63	5	2	3	0	6	23	39	140	85	55
SEP	63	5	2	6	10	4	8	18	115	60	55
OCT	63	2	3	9	28	3	3	18	130	60	70
NOV	50	0	3	8	19	3	6	8	95	45	55
DEC	62	0	3	15	52	2	3	8	145	65	80
Total	602	16	28	75	248	37	144	246	1400	670	725

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**Project Capacity Use at Tracy Load Center (All values in MW)**

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
JAN	81	81	0	0	3	3	20	20	0	201	1	1	6	6	14
FEB	96	96	0	0	3	3	20	20	25	199	1	1	12	12	25
MAR	66	66	0	0	3	3	12	12	0	71	2	2	18	18	15
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	15
MAY	18	18	0	0	3	3	0	0	0	0	4	4	24	24	36
JUN	96	96	0	0	2	2	4	4	0	0	6	6	36	36	46
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	63
AUG	96	96	20	0	3	3	4	4	0	0	8	8	36	36	53
SEP	96	96	20	0	3	3	12	12	0	41	6	6	12	12	24
OCT	96	96	20	0	4	4	16	16	0	103	5	5	6	6	24
NOV	81	81	0	0	4	4	12	12	0	78	4	4	12	12	11
DEC	96	96	0	0	4	4	20	20	42	111	3	3	6	6	11