

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 2/27/2019
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
FEB	6	0	17	60	14	76	0	45	0	0	218	4	110	100	60	130
MAR	9	2	15	73	15	82	0	61	0	0	257	4	105	150	100	180
APR	30	26	15	131	25	58	0	79	36	0	400	7	40	350	240	420
MAY	47	0	1	218	36	54	3	96	54	3	512	9	60	440	340	500
JUN	71	46	41	227	43	62	7	81	27	0	605	10	125	470	410	510
JUL	58	45	41	269	51	64	8	54	35	0	625	11	155	460	400	500
AUG	45	46	41	223	45	45	6	47	20	0	518	9	140	370	270	430
SEP	42	45	41	161	35	35	4	36	0	0	399	7	120	270	190	320
OCT	12	7	18	134	28	33	4	34	0	0	270	5	135	130	80	160
NOV	15	13	10	110	9	31	4	8	0	0	200	4	145	50	0	100
DEC	10	6	7	117	23	32	4	7	0	0	206	4	170	30	0	80
JAN	6	0	10	92	19	39	5	8	0	0	179	3	150	30	0	70
Total	351	236	257	1815	343	611	45	556	172	3	4389	77	1455	2850	2090	3400

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Forecast of CVP Generation
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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
FEB	62	153	182	414	15	115	0	379	0	0	1319	23	1295	380	130	1165
MAR	63	154	182	568	14	119	0	191	0	0	1292	23	1270	350	130	1140
APR	65	150	182	568	35	125	0	190	169	1	1483	25	1460	415	55	1405
MAY	66	147	182	568	50	200	0	189	141	5	1547	26	1520	190	85	1435
JUN	65	147	182	568	62	204	10	376	120	0	1735	29	1705	125	190	1515
JUL	64	147	182	568	72	195	11	374	104	0	1717	29	1690	160	235	1455
AUG	63	147	182	568	62	185	8	369	96	0	1681	28	1650	200	220	1430
SEP	62	147	182	553	50	119	3	363	0	0	1479	26	1455	215	180	1275
OCT	0	150	182	540	25	117	6	358	0	0	1377	24	1355	180	150	1205
NOV	61	154	182	666	0	57	6	357	0	0	1484	26	1460	155	145	1315
DEC	61	154	182	668	11	113	3	359	0	0	1551	27	1525	100	165	1360
JAN	62	154	182	688	17	169	4	362	0	0	1637	29	1610	65	150	1460

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Forecast of CVP Generation
Based on USBR 50 Pct Forecast -B2, Dated 2/27/2019
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 Felipe	Dos Amigos	Other Uses	Total at Tracy		
					San Luis					Exp CVP PU	Expected On Peak	Expected Off Peak
FEB	48	0	2	9	33	1	5	12	110	45	65	
MAR	49	0	2	8	21	1	9	12	105	45	60	
APR	13	0	2	0	0	2	11	11	40	25	15	
MAY	13	0	2	0	0	3	15	27	60	35	25	
JUN	62	0	2	2	0	4	22	32	125	70	55	
JUL	64	7	2	1	0	5	30	47	155	90	65	
AUG	63	7	2	3	0	5	23	40	140	85	55	
SEP	63	7	2	6	8	3	11	18	120	60	55	
OCT	63	0	3	9	35	2	3	18	135	55	75	
NOV	58	0	3	13	55	1	3	12	145	50	95	
DEC	62	0	3	15	78	1	3	10	170	60	110	
JAN	51	0	2	12	70	1	4	11	150	50	100	
Total	608	20	28	79	301	28	142	251	1455	670	775	

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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	
FEB	81	81	0	0	3	3	16	16	0	124	1	1	12	12	18
MAR	81	81	0	0	3	3	12	12	0	73	2	2	18	18	16
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	16
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	5	5	36	36	45
JUL	96	96	20	0	2	2	4	4	0	0	6	6	42	42	63
AUG	96	96	20	0	3	3	4	4	0	0	6	6	36	36	53
SEP	96	96	20	0	3	3	12	12	0	34	4	4	18	18	25
OCT	96	96	0	0	4	4	16	16	0	114	3	3	6	6	25
NOV	96	96	0	0	4	4	20	20	0	180	2	2	6	6	17
DEC	96	96	0	0	4	4	20	20	25	199	2	2	6	6	13
JAN	81	81	0	0	3	3	20	20	25	196	1	1	6	6	15

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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
FEB	6	0	17	60	14	76	0	45	0	0	4	210	110	100
MAR	9	2	15	73	15	82	0	61	0	0	4	250	105	145
APR	30	26	15	131	25	58	0	79	36	0	7	390	40	350
MAY	47	0	1	218	36	54	3	96	54	3	9	500	60	440
JUN	71	46	41	227	43	62	7	81	27	0	10	590	125	465
JUL	58	45	41	269	51	64	8	54	35	0	11	610	155	455
AUG	45	46	41	223	45	45	6	47	20	0	9	510	140	370
SEP	42	45	41	161	35	35	4	36	0	0	7	390	120	270
OCT	12	7	18	134	28	33	4	34	0	0	5	260	135	125
NOV	15	13	10	110	9	31	4	8	0	0	4	200	145	55
DEC	10	6	7	117	23	32	4	7	0	0	4	200	170	30
JAN	6	0	10	92	19	39	5	8	0	0	3	180	150	30
Total	350	238	257	1814	342	611	46	556	171	4	76	4290	1455	2835

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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
FEB	62	153	182	414	15	115	0	379	0	0	1319	23	1295	380	130	1165
MAR	63	154	182	568	14	119	0	191	0	0	1292	23	1270	350	130	1140
APR	65	150	182	568	35	125	0	190	169	1	1483	25	1460	415	55	1405
MAY	66	147	182	568	50	200	0	189	141	5	1547	26	1520	190	85	1435
JUN	65	147	182	568	62	204	10	376	120	0	1735	29	1705	125	190	1515
JUL	64	147	182	568	72	195	11	374	104	0	1717	29	1690	160	235	1455
AUG	63	147	182	568	62	185	8	369	96	0	1681	28	1650	200	220	1430
SEP	62	147	182	553	50	119	3	363	0	0	1479	26	1455	215	180	1275
OCT	0	150	182	540	25	117	6	358	0	0	1377	24	1355	180	150	1205
NOV	61	154	182	666	0	57	6	357	0	0	1484	26	1460	155	145	1315
DEC	61	154	182	668	11	113	3	359	0	0	1551	27	1525	100	165	1360
JAN	62	154	182	688	17	169	4	362	0	0	1637	29	1610	65	150	1460

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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
FEB	48	0	2	9	33	1	5	12	110	45	65
MAR	49	0	2	8	21	1	9	12	105	45	60
APR	13	0	2	0	0	2	11	11	40	25	15
MAY	13	0	2	0	0	3	15	27	60	35	25
JUN	62	0	2	2	0	4	22	32	125	70	55
JUL	64	7	2	1	0	5	30	47	155	90	65
AUG	63	7	2	3	0	5	23	40	140	85	55
SEP	63	7	2	6	8	3	11	18	120	60	55
OCT	63	0	3	9	35	2	3	18	135	55	75
NOV	58	0	3	13	55	1	3	12	145	50	95
DEC	62	0	3	15	78	1	3	10	170	60	110
JAN	51	0	2	12	70	1	4	11	150	50	100
Total	608	20	28	79	301	28	142	251	1455	670	775

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Project Use Pumping
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	
FEB	81	81	0	0	3	3	16	16	0	124	1	1	12	12	18
MAR	81	81	0	0	3	3	12	12	0	73	2	2	18	18	16
APR	18	18	0	0	3	3	0	0	0	0	3	3	18	18	16
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	5	5	36	36	45
JUL	96	96	20	0	2	2	4	4	0	0	6	6	42	42	63
AUG	96	96	20	0	3	3	4	4	0	0	6	6	36	36	53
SEP	96	96	20	0	3	3	12	12	0	34	4	4	18	18	25
OCT	96	96	0	0	4	4	16	16	0	114	3	3	6	6	25
NOV	96	96	0	0	4	4	20	20	0	180	2	2	6	6	17
DEC	96	96	0	0	4	4	20	20	25	199	2	2	6	6	13
JAN	81	81	0	0	3	3	20	20	25	196	1	1	6	6	15