

**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 8/23/2019**  
**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
AUG	48	52	46	250	49	62	7	70	36	0	620	11	125	480	360	560
SEP	45	35	31	186	37	45	5	52	0	0	436	8	105	320	240	370
OCT	17	12	23	183	36	41	5	37	0	0	354	6	135	210	140	250
NOV	16	13	10	137	27	39	4	11	0	0	257	5	155	100	0	160
DEC	10	4	6	120	23	32	4	10	0	0	209	4	170	40	0	80
JAN	7	0	10	119	23	32	4	12	0	0	207	4	90	110	30	160
FEB	7	1	17	174	33	51	7	16	0	0	306	5	50	250	130	320
MAR	25	23	34	235	44	51	6	61	0	0	479	8	65	410	220	520
APR	24	16	5	153	27	78	9	80	36	0	428	7	40	380	210	480
MAY	99	5	5	214	36	117	10	98	52	3	639	11	60	570	380	680
JUN	94	67	62	210	43	79	9	82	36	0	682	12	105	570	430	650
JUL	64	50	46	253	49	63	7	93	31	0	656	11	150	500	370	570
Total	456	278	295	2234	427	690	77	622	191	3	5273	92	1250	3940	2510	4800

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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
AUG	67	148	182	568	69	128	5	383	127	0	1676	28	1650	230	175	1475
SEP	65	74	182	568	35	123	4	383	0	0	1434	25	1410	290	145	1265
OCT	65	75	182	698	33	119	4	381	0	0	1556	27	1530	170	155	1375
NOV	65	77	182	549	25	173	0	380	0	0	1451	25	1425	200	155	1270
DEC	65	154	182	689	21	169	3	381	0	0	1664	29	1635	65	195	1440
JAN	65	0	182	705	21	170	6	382	0	0	1531	27	1505	215	90	1415
FEB	66	154	182	710	33	175	5	383	0	0	1708	30	1680	30	85	1595
MAR	133	154	91	710	42	183	9	192	0	0	1514	27	1485	200	90	1395
APR	136	150	91	568	25	196	13	192	168	1	1538	26	1510	330	55	1455
MAY	136	147	182	568	33	206	14	192	136	5	1619	28	1590	185	85	1505
JUN	134	147	182	426	62	207	13	383	107	0	1662	28	1635	280	165	1470
JUL	132	147	182	426	69	199	10	380	82	0	1628	28	1600	165	230	1370

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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
AUG	60	0	2	1	0	5	23	35	125	75	55
SEP	62	0	2	5	10	4	6	16	105	50	55
OCT	63	0	3	9	34	3	5	19	135	60	75
NOV	62	0	3	13	56	2	5	13	155	55	100
DEC	63	0	3	15	71	2	5	9	170	65	105
JAN	34	0	2	8	30	1	6	7	90	35	55
FEB	27	0	2	4	3	1	8	6	50	25	25
MAR	35	0	2	5	5	1	9	7	65	35	30
APR	13	0	2	0	0	2	11	11	40	25	15
MAY	13	0	2	0	0	3	15	27	60	35	30
JUN	49	0	2	0	0	4	22	27	105	60	45
JUL	61	7	2	0	0	6	29	45	150	85	65
Total	542	7	28	60	210	33	145	222	1250	605	655

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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	
AUG	81	81	0	0	3	3	4	4	0	0	6	6	36	36	47
SEP	96	96	0	0	3	3	8	8	0	45	5	5	12	12	22
OCT	96	96	0	0	4	4	16	16	0	113	4	4	12	12	25
NOV	96	96	0	0	4	4	20	20	0	179	3	3	12	12	18
DEC	96	96	0	0	4	4	24	24	44	175	2	2	12	12	13
JAN	51	51	0	0	3	3	12	12	0	101	1	1	12	12	9
FEB	51	51	0	0	3	3	8	8	0	24	1	1	12	12	8
MAR	51	51	0	0	3	3	8	8	0	24	2	2	18	18	10
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	37
JUN	81	81	0	0	2	2	0	0	0	0	6	6	36	36	38
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	60

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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
AUG	48	52	46	250	49	62	7	70	36	0	11	610	125	485
SEP	45	35	31	186	37	45	5	52	0	0	8	430	105	325
OCT	17	12	23	183	36	41	5	37	0	0	6	350	135	215
NOV	16	13	10	137	27	39	4	11	0	0	5	250	155	95
DEC	10	4	6	120	23	32	4	10	0	0	4	210	170	40
JAN	7	0	10	119	23	32	4	12	0	0	4	200	90	110
FEB	7	1	17	174	33	51	7	16	0	0	5	300	50	250
MAR	25	23	34	235	44	51	6	61	0	0	9	470	65	405
APR	24	16	5	153	27	78	9	80	36	0	7	420	40	380
MAY	99	5	5	214	36	117	10	98	52	3	11	630	60	570
JUN	94	67	62	210	43	79	9	82	36	0	12	670	105	565
JUL	64	50	46	253	49	63	7	93	31	0	11	650	150	500
Total	456	278	295	2236	427	690	80	623	190	4	92	5190	1250	3940

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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
AUG	67	148	182	568	69	128	5	383	127	0	1676	28	1650	230	175	1475
SEP	65	74	182	568	35	123	4	383	0	0	1434	25	1410	290	145	1265
OCT	65	75	182	698	33	119	4	381	0	0	1556	27	1530	170	155	1375
NOV	65	77	182	549	25	173	0	380	0	0	1451	25	1425	200	155	1270
DEC	65	154	182	689	21	169	3	381	0	0	1664	29	1635	65	195	1440
JAN	65	0	182	705	21	170	6	382	0	0	1531	27	1505	215	90	1415
FEB	66	154	182	710	33	175	5	383	0	0	1708	30	1680	30	85	1595
MAR	133	154	91	710	42	183	9	192	0	0	1514	27	1485	200	90	1395
APR	136	150	91	568	25	196	13	192	168	1	1538	26	1510	330	55	1455
MAY	136	147	182	568	33	206	14	192	136	5	1619	28	1590	185	85	1505
JUN	134	147	182	426	62	207	13	383	107	0	1662	28	1635	280	165	1470
JUL	132	147	182	426	69	199	10	380	82	0	1628	28	1600	165	230	1370

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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
AUG	60	0	2	1	0	5	23	35	125	75	55
SEP	62	0	2	5	10	4	6	16	105	50	55
OCT	63	0	3	9	34	3	5	19	135	60	75
NOV	62	0	3	13	56	2	5	13	155	55	100
DEC	63	0	3	15	71	2	5	9	170	65	105
JAN	34	0	2	8	30	1	6	7	90	35	55
FEB	27	0	2	4	3	1	8	6	50	25	25
MAR	35	0	2	5	5	1	9	7	65	35	30
APR	13	0	2	0	0	2	11	11	40	25	15
MAY	13	0	2	0	0	3	15	27	60	35	30
JUN	49	0	2	0	0	4	22	27	105	60	45
JUL	61	7	2	0	0	6	29	45	150	85	65
Total	542	7	28	60	210	33	145	222	1250	605	655

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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	
AUG	81	81	0	0	3	3	4	4	0	0	6	6	36	36	47
SEP	96	96	0	0	3	3	8	8	0	45	5	5	12	12	22
OCT	96	96	0	0	4	4	16	16	0	113	4	4	12	12	25
NOV	96	96	0	0	4	4	20	20	0	179	3	3	12	12	18
DEC	96	96	0	0	4	4	24	24	44	175	2	2	12	12	13
JAN	51	51	0	0	3	3	12	12	0	101	1	1	12	12	9
FEB	51	51	0	0	3	3	8	8	0	24	1	1	12	12	8
MAR	51	51	0	0	3	3	8	8	0	24	2	2	18	18	10
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	37
JUN	81	81	0	0	2	2	0	0	0	0	6	6	36	36	38
JUL	96	96	20	0	2	2	4	4	0	0	8	8	42	42	60