Attachment B

Storage and Discharge Capacity Tables

J.C. Boyle Dam - Diversion Capacities During Dam Removal (Streambed El 3732)

Key Elevations - Dam Crest El. 3800, Top of Closed Gates El. 3793.5, Spillway Crest El. 3781.5, Penstock Invert El. 3768, Top of Dead (box culvert invert) El. 3751.5

RWS feet	Storage acre-feet	Spillway cfs	Penstock cfs	Culvert cfs	Total cfs
3732.0	0	0	0	0	0
3735.0	0	0	0	0	0
3740.0	0	0	0	0	0
3745.0	0	0	0	0	0
3750.0	0	0	0	0	0
3751.5	0	0	0	0	0
3752.0	0	0	0	13	13
3753.0	0	0	0	132	132
3754.0	0	0	0	311	311
3755.0	0	0	0	541	541
3756.0	0	0	0	810	810
3756.3	0	0	0	899	899
3756.5	1	0	0	958	958
3757.0	2	0	0	1120	1120
3758.0	8	0	0	1452	1452
3759.0	20	0	0	1817	1817
3760.0	39	0	0	2206	2206
3761.0	55	0	0	2652	2652
3762.0	75	0	0	2932	2932
3763.0	100	0	0	3188	3188
3764.0	118	0	0	3424	3424
3765.0	140	0	0	3645	3645
3766.0	165	0	0	3854	3854
3767.0	185	0	0	4051	4051
3768.0	210	0	0	4240	4240
3769.0	230	0	170	4420	4590
3770.0	255	0	340	4594	4934
3771.0	278	0	500	4761	5261
3772.0	300	0	670	4922	5592
3773.0	330	0	830	5079	5909
3774.0	350	0	1000	5230	6230
3775.0	375	0	1170	5378	6548
3776.0	400	0	1340	5521	6861
3777.0	430	0	1500	5661	7161
3778.0	480	0	1670	5797	7467
3779.0	550	0	1830	5931	7761
3780.0	610	0	2000	6061	8061
3781.0	685	0	2190	6189	8379
3781.5	723	0	2280	6251	8531
3782.0	760	120	2370	6314	8804

3783.0	850	650	2560	6436	9646
3784.0	950	1300	2740	6557	10597
3785.0	1075	2200	2930	6675	11805
3786.0	1200	3300	3000	6791	13091
3787.0	1340	5000	3000	6905	14905
3788.0	1500	6400	3000	7017	16417
3789.0	1665	8000	3000	7128	18128
3790.0	1880	10000	3000	7237	20237
3791.0	2080	12000	3000	7344	22344
3792.0	2280	14000	3000	7449	24449
3793.0	2550	16000	3000	7554	26554
3793.5	2690	17500	3000	7605	28105
3795.0	3200	21300	3000	7758	32058
3796.0	3625	24000	3000	7858	34858
3797.0	4141	26700	3000	7957	37657
3798.0	4775	29500	3000	8054	40554

Notes - Spillway discharge from plotted rating curve (2006), or Q=108*C*(RWS-3781.5)^1.5 with C>3
Penstock discharge from pressure flow equation, for discharge to river from pipe,
but limited to 3,000 cfs for 20 ft/s in pipe, or for flow in canal to wasteway.
Box culvert discharge from Manning's and orifice equations.
Notched spillway discharge from weir equation.
Revised Storage data from Figure B9.6-1, PacifiCorp data, FERC 2007 report.
All elevations in project datum as shown on original design drawings.

Copco 1 Dam - Diversion Capacities During Dam Removal (Streambed El. 2479)

Key Elevations - Dam Crest El. 2613, Top of Closed Spillway Gates El. 2607.5, Spillway Crest El. 2593.5, Penstock Invert El. 2575, Top of Dead (tunnel invert) El. 2489

RWS feet	Storage acre-feet	Spillway cfs	Penstock cfs	Tunnel cfs	Total cfs	Notching cfs	TOTAL CFS
2473.0	0	0	0	0	0	0	0
2474.0	0	0	0	0	0	0	0
2475.0	0	0	0	0	0	0	0
2476.0	0	0	0	0	0	0	0
2477.0	0	0	0	0	0	0	0
2478.0	0	0	0	0	0	0	0
2479.0	0	0	0	0	0	0	0
2484.0	0	0	0	0	0	839	839
2489.0	0	0	0	0	0	2372	2372
2494.0	0	0	0	0	0	5897	5897
2495.0	0	0	0	0	0	1934	1934
2498.0	0	0	0	1181	1181	3525	4706
2499.0	0	0	0	1275	1275	4154	5429
2500.0	0	0	0	1363	1363	4822	6185
2501.0	3	0	0	1446	1446	5530	6976
2502.0	6	0	0	1524	1524	1724	3248
2503.0	9	0	0	1598	1598	2163	3761
2504.0	13	0	0	1669	1669	2668	4337
2505.0	16	0	0	1738	1738	3227	4965
2506.0	19	0	0	1803	1803	3834	5637
2507.0	22	0	0	1866	1866	4482	6348
2508.0	25	0	0	1928	1928	5172	7100
2509.0	28	0	0	1987	1987	5897	7884
2510.0	31	0	0	2045	2045	1859	3904
2511.0	34	0	0	2101	2101	2196	4297
2512.0	38	0	0	2155	2155	2552	4707
2513.0	41	0	0	2208	2208	2925	5133
2514.0	44	0	0	2260	2260	3315	5575
2515.0	47	0	0	2311	2311	3720	6031
2516.0	50	0	0	2361	2361	4141	6502
2517.0	75	0	0	2410	2410		2410
2518.0	100	0	0	2457	2457		2457
2519.0	125	0	0	2504	2504		2504
2520.0	150	0	0	2550	2550		2550
2521.0	200	0	0	2595	2595		2595
2522.0	250	0	0	2639	2639		2639
2523.0	300	0	0	2683	2683		2683
2524.0	350	0	0	2726	2726		2726
2525.0	413	0	0	2768	2768		2768
2526.0	475	0	0	2810	2810		2810
2527.0	538	0	0	2851	2851		2851
2528.0	600	0	0	2891	2891		2891

2529.0	700	0	0	2931	2931	2931
2530.0	800	0	0	2971	2971	2971
2531.0	900	0	0	3009	3009	3009
2532.0	1000	0	0	3048	3048	3048
2533.0	1125	0	0	3086	3086	3086
2534.0	1250	0	0	3123	3123	3123
2535.0	1375	0	0	3160	3160	3160
2536.0	1500	0	0	3197	3197	3197
2537.0	1650	0	0	3233	3233	3233
2538.0	1800	0	0	3268	3268	3268
2539.0	1950	0	0	3304	3304	3304
2540.0	2100	0	0	3339	3339	3339
2541.0	2300	0	0	3373	3373	3373
2542.0	2500	0	0	3408	3408	3408
2543.0	2700	0	0	3441	3441	3441
2544.0	2900	0	0	3475	3475	3475
2545.0	3125	0	0	3508	3508	3508
2546.0	3350	0	0	3541	3541	3541
2547.0	3575	0	0	3574	3574	3574
2548.0	3800	0	0	3606	3606	3606
2549.0	4088	0	0	3638	3638	3638
2550.0	4375	0	0	3670	3670	3670
2551.0	4663	0	0	3702	3702	3702
2552.0	4950	0	0	3733	3733	3733
2553.0	5250	0	0	3764	3764	3764
2554.0	5550	0	0	3795	3795	3795
2555.0	5850	0	0	3825	3825	3825
2556.0	6150	0	0	3855	3855	3855
2557.0	6488	0	0	3885	3885	3885
2558.0	6825	0	0	3915	3915	3915
2559.0	7163	0	0	3945	3945	3945
2560.0	7500	0	0	3974	3974	3974
2561.0	7888	0	0	4003	4003	4003
2562.0	8275	0	0	4032	4032	4032
2563.0	8663	0	0	4061	4061	4061
2564.0	9050	0	0	4089	4089	4089
2565.0	9475	0	0	4117	4117	4117
2566.0	9900	0	0	4145	4145	4145
2567.0	10325	0	0	4173	4173	4173
2568.0	10750	0	0	4201	4201	4201
2569.0	11263	0	0	4229	4229	4229
2570.0	11775	0	0	4256	4256	4256
2571.0	12288	0	0	4283	4283	4283
2572.0	12800	0	0	4310	4310	4310
2573.0	13350	0	0	4337	4337	4337
2574.0	13900	0	0	4364	4364	4364
2575.0	14450	0	0	4390	4390	4390
2576.0	15000	0	0	4417	4417	4417
2577.0	15575	0	0	4443	4443	4443

2578.0	16150	0	0	4469	4469	4469
2579.0	16725	0	0	4495	4495	4495
2580.0	17300	0	0	4521	4521	4521
2581.0	17900	0	0	4546	4546	4546
2582.0	18500	0	0	4572	4572	4572
2583.0	19100	0	0	4597	4597	4597
2584.0	19700	0	0	4622	4622	4622
2585.0	20375	0	0	4647	4647	4647
2586.0	21050	0	0	4672	4672	4672
2587.0	21725	0	0	4697	4697	4697
2588.0	22400	0	2086	4722	6808	6808
2589.0	23138	0	2101	4746	6847	6847
2590.0	23875	0	2115	4771	6886	6886
2591.0	24613	0	2129	4795	6924	6924
2592.0	25350	0	2143	4819	6962	6962
2593.0	26113	0	2157	4843	7000	7000
2593.5	26494	0	2164	4855	7019	7019
2594.0	26875	190	2171	4867	7228	7228
2594.5	27256	510	2178	4879	7567	7567
2595.0	27638	940	2185	4891	8016	8016
2595.5	28019	1440	2192	4903	8535	8535
2596.0	28400	2000	2199	4914	9113	9113
2596.5	28838	2740	2206	4926	9872	9872
2597.0	29275	3460	2213	4938	10611	10611
2597.5	29713	4220	2220	4950	11390	11390
2598.0	30150	5000	2227	4961	12188	12188
2598.5	30588	5900	2234	4973	13107	13107
2599.0	31025	6810	2241	4985	14036	14036
2599.5	31463	8000	2248	4996	15244	15244
2600.0	31900	9000	2255	5008	16263	16263
2600.5	32350	10100	2262	5020	17382	17382
2601.0	32800	11600	2269	5031	18900	18900
2601.5	33350	12800	2276	5043	20119	20119
2602.0	33900	14400	2283	5054	21737	21737
2602.5	34450	15700	2290	5066	23056	23056
2603.0	35000	17600	2297	5077	24974	24974
2603.5	35550	19600	2304	5089	26993	26993
2604.0	36100	21000	2311	5100	28411	28411
2604.5	36525	22600	2318	5111	30029	30029
2605.0	36950	24200	2325	5123	31648	31648
2605.5	37375	26500	2332	5134	33966	33966
2606.0	37800	28000	2339	5145	35484	35484
2606.5	38533	29900	2346	5157	37403	37403
2607.0	39267	31600	2353	5168	39121	39121
2607.5	40000	34000	2360	5179	41539	41539

Notes - Tunnel discharge assumes existing gates at intake regulate flow

Spillway discharge from spillway rating curve, or Q=C*L*H^1.5 with C>2.8

Penstock discharge assumes existing conditions over operating range
Storage-elevation from 2004 curve at 4-foot intervals, with interpolations
All elevations in project datum as shown on design drawings.

Iron Gate Dam - Diversion Capacities During Dam Removal (Streambed El. 2154 - rock foundation*)

Key Elevations - Dam Crest El. 2343, Spillway Crest El. 2328, Spillway Throat Control El. 2289
Penstock Invert El. 2293, Top of Dead (tunnel invert) El. 2175
Top of sheet pile wall El. 2348

RWS feet	Storage acre-feet	Spillway cfs	Penstock cfs	16.5 by 18 Mod. Tunnel cfs	Total cfs
2154	0	0	0	0	0
2155	0	0	0	0	0
2156	0	0	0	0	0
2157	0	0	0	0	0
2158	0	0	0	0	0
2159	0	0	0	0	0
2160	0	0	0	0	0
2161	0	0	0	0	0
2162	0	0	0	0	0
2163	0	0	0	0	0
2164	0	0	0	0	0
2165	0	0	0	0	0
2166	0	0	0	0	0
2167	0	0	0	0	0
2168	0	0	0	0	0
2169	0	0	0	0	0
2170	0	0	0	0	0
2171	0	0	0	0	0
2172	0	0	0	0	0
2173	0	0	0	0	0
2174	0	0	0	0	0
2175	0	0	0	0	0
2176	0	0	0	47	47
2177	0	0	0	132	132
2178	0	0	0	242	242
2179	0	0	0	372	372
2180	0	0	0	520	520
2181	10	0	0	683	683
2182	20	0	0	861	861
2183	30	0	0	1052	1052
2184	40	0	0	1256	1256
2185	50	0	0	1470	1470
2186	60	0	0	1696	1696
2187	70	0	0	1933	1933
2188	80	0	0	2180	2180
2189	90	0	0	2436	2436
2190	100	0	0	2701	2701
2191	125	0	0	2976	2976
2192	150	0	0	3259	3259
2193	200	0	0	3438	3438
2194	250	0	0	3557	3557
2195	275	0	0	3671	3671
2196	300	0	0	3783	3783

2197	350	0	0	3891	3891
2198	400	0	0	3996	3996
2199	475	0	0	4098	4098
2200	550	0	0	4198	4198
2201	600	0	0	4296	4296
2202	650	0	0	4392	4392
2203	725	0	0	4485	4485
2204	800	0	0	4577	4577
2205	900	0	0	4666	4666
2206	1000	0	0	4754	4754
2207	1050	0	0	4841	4841
2208	1100	0	0	4926	4926
2209	1250	0	0	5009	5009
2210	1400	0	0	5091	5091
2211	1450	0	0	5172	5172
2212	1500	0	0	5252	5252
2213	1650	0	0	5330	5330
2214	1800	0	0	5407	5407
2215	1900	0	0	5484	5484
2216	2000	0	0	5559	5559
2217	2125	0	0	5633	5633
2218	2250	0	0	5706	5706
2219	2425	0	0	5778	5778
2220	2600	0	0	5850	5850
2221	2725	0	0	5920	5920
2222	2850	0	0	5990	5990
2223	3025	0	0	6058	6058
2224	3200	0	0	6127	6127
2225	3350	0	0	6194	6194
2226	3500	0	0	6260	6260
2227	3725	0	0	6326	6326
2228	3950	0	0	6392	6392
2229	4125	0	0	6456	6456
2230	4300	0	0	6520	6520
2231	4500	0	0	6583	6583
2232	4700	0	0	6646	6646
2233	4850	0	0	6708	6708
2234	5000	0	0	6770	6770
2235	5200	0	0	6831	6831
2236	5400	0	0	6891	6891
2237	5650	0	0	6951	6951
2238	5900	0	0	7011	7011
2239	6150	0	0	7069	7069
2240	6400	0	0	7128	7128
2241	6600	0	0	7186	7186
2242	6800	0	0	7243	7243
2243	7050	0	0	7300	7300
2244	7300	0	0	7357	7357
2245	7525	0	0	7413	7413
2246	7750	0	0	7469	7469
2247	8050	0	0	7524	7524
2248	8350	0	0	7579	7579

2249	8625	0	0	7634	7634
2250	8900	0	0	7688	7688
2251	9200	0	0	7742	7742
2252	9500	0	0	7795	7795
2253	9750	0	0	7848	7848
2254	10000	0	0	7901	7901
2255	10400	0	0	7953	7953
2256	10800	0	0	8005	8005
2257	11075	0	0	8057	8057
2258	11350	0	0	8108	8108
2259	11675	0	0	8159	8159
2260	12000	0	0	8210	8210
2261	12250	0	0	8260	8260
2262	12500	0	0	8310	8310
2263	12950	0	0	8360	8360
2264	13400	0	0	8409	8409
2265	13750	0	0	8458	8458
2266	14100	0	0	8507	8507
2267	14500	0	0	8556	8556
2268	14900	0	0	8604	8604
2269	15200	0	0	8652	8652
2270	15500	0	0	8700	8700
2271	16000	0	0	8748	8748
2272	16500	0	0	8795	8795
2273	16875	0	0	8842	8842
2274	17250	0	0	8889	8889
2275	17725	0	0	8935	8935
2276	18200	0	0	8982	8982
2277	18675	0	0	9028	9028
2278	19150	0	0	9073	9073
2279	19575	0	0	9119	9119
2280	20000	0	0	9164	9164
2281	20500	0	0	9210	9210
2282	21000	0	0	9254	9254
2283	21400	0	0	9299	9299
2284	21800	0	0	9344	9344
2285	22350	0	0	9388	9388
2286	22900	0	0	9432	9432
2287	23500	0	0	9476	9476
2288	24100	0	0	9520	9520
2289	24650	0	0	9563	9563
2290	25200	0	0	9606	9606
2291	25750	0	0	9649	9649
2292	26300	0	0	9692	9692
2293	26800	0	0	9735	9735
2294	27300	0	95	9777	9872
2295	28000	0	175	9820	9995
2296	28700	0	255	9862	10117
2297	29350	0	335	9904	10239
2298	30000	0	415	9946	10361
2299	30600	0	495	9987	10482
2300	31200	0	575	10029	10604

2301	31800	0	655	10070	10725
2302	32400	0	735	10111	10846
2303	33050	0	815	10152	10967
2304	33700	0	895	10193	11088
2305	34450	0	975	10233	11208
2306	35200	0	1055	10274	11329
2307	35800	0	1135	10314	11449
2308	36400	0	1215	10354	11569
2309	37200	0	1295	10394	11689
2310	38000	0	1375	10434	11809
2311	38650	0	1395	10474	11869
2312	39300	0	1415	10513	11928
2313	40050	0	1435	10553	11988
2314	40800	0	1455	10592	12047
2315	41800	0	1475	10631	12106
2316	42500	0	1495	10670	12165
2317	43250	0	1515	10709	12224
2318	44000	0	1535	10747	12282
2319	45150	0	1555	10786	12341
2320	46300	0	1575	10824	12399
2321	46950	0	1595	10863	12458
2322	47600	0	1615	10901	12516
2323	48500	0	1635	10939	12574
2324	49400	0	1655	10977	12632
2325	50200	0	1675	11014	12689
2326	51000	0	1695	11052	12747
2327	52400	0	1715	11089	12804
2328	53800	0	1735	11127	12862
2329	55000	2000		11164	13164
2330	56314	5970		11201	17171
2331	57172	11000		11238	22238
2332	58345	18000		11275	29275
2333	59546	26200		11311	37511
2334	60775	34500		11348	45848
2335	62033	43000		11385	54385

Notes - All elevations in project datum as shown on original design drawings.
Spillway discharge from original design drawings.
Tunnel discharge assumes new 16.5' by 18' regulating gate in gate shaft controls releases.