TABLES

Table 6-1
SCE A-Bank Substation Load Forecast (MW)
with 1-in-10 Year Heat Wave Adjustment

Substation	2004	2005	2006	2007	2008	2009	2010
Alamitos	151	152	154	155	157	158	158
Antelope-Bailey	592	602	614	623	634	642	650
Barre	660	669	673	733	756	763	769
Blythe	61	62	63	64	64	65	66
Camino	2	2	2	2	2	2	2
Center	474	480	496	500	505	507	510
Chevmain	51	51	51	51	51	51	51
Chino	649	674	694	712	731	745	761
Cima	2	2	2	2	2	2	2
Del Amo	459	475	485	445	452	455	463
Devers-Mirage	776	800	825	847	872	435	400
Eagle Mt.	5	5	5	5	5	5	5
Eagle Rock	184	186	188	189	191	191	192
Ellis	586	598	609	638	645	649	656
El Nido	336	343	350	357	361	363	367
Etiwanda	544	567	581	595	619	630	644
Ameron	57	57	57	57	57	57	57
Goleta	233	236	239	241	244	245	247
Gould	98	100	101	102	104	104	105
Hinson	455	459	405	408	412	410	411
Johanna	394	402	411	418	425	431	436
Kramer	305	309	312	315	318	329	334
La Cienega	392	399	406	410	416	418	421
La Fresa	647	654	661	666	674	675	679
Laguna Bell	549	552	563	576	577	584	588
Lewis	596	603	616	630	644	656	665
Lighthipe	536	545	612	614	623	629	635
Mesa	535	542	547	552	562	563	566
Mirage	0	0	0	0	0	470	476
Mira Loma	570	596	623	648	666	681	697
Moorpark	595	610	624	636	649	677	806
Oak Valley	0	0	0	0	0	0	173
Olinda	354	360	370	377	381	385	388
Padua	595	603	616	627	643	650	658
Rector	514	526	535	543	552	557	563
Rio Hondo	669	678	682	689	694	697	701
San Bernardino	494	501	514	526	530	539	550
Santa Clara	521	534	544	552	559	562	567
Santiago	957	642	664	692	710	728	749
Saugus	575	594	613	631	649	666	581
Springville	173	176	180	182	186	188	189
Valley	1077	1127	1174	1220	1266	1306	1347
Vestal	175	179	184	188	193	196	201
Victor	515	525	538	547	559	565	573
Viejo	0	361	370	374	381	388	397
Villa Park	689	708	717	721	727	732	740
Vista 66kV	671	690	707	727	745	752	766
Vista 115kV	407	428	441	450	474	494	385
Walnut	626	634	648	657	667	672	680
Total	**20,506**	**20,998**	**21,466**	**21,894**	**22,334**	**22,669**	**23,027**

Table 6-2
SCE A-Bank Substation Load Forecast (MW)
60% of 1-in-10 Year Heat Adjusted Forecast

Substation	2004	2005	2006	2007	2008	2009	2010
Alamitos	91	91	92	93	94	95	95
Antelope-Bailey	355	361	368	374	380	385	390
Barre	396	401	404	440	454	458	461
Blythe	37	37	38	38	38	39	40
Camino	1	1	1	1	1	1	1
Center	284	288	298	300	303	304	306
Chevmain	31	31	31	31	31	31	31
Chino	389	404	416	427	439	447	457
Cima	1	1	1	1	1	1	1
Del Amo	275	285	291	267	271	273	278
Devers-Mirage	466	480	495	508	523	261	240
Eagle Mt.	3	3	3	3	3	3	3
Eagle Rock	110	112	113	113	115	115	115
Ellis	352	359	365	383	387	389	394
El Nido	202	206	210	214	217	218	220
Etiwanda	326	340	349	357	371	378	386
Ameron	34	34	34	34	34	34	34
Goleta	140	142	143	145	146	147	148
Gould	59	60	61	61	62	62	63
Hinson	273	275	243	245	247	246	247
Johanna	236	241	247	251	255	259	262
Kramer	183	185	187	189	191	197	200
La Cienega	235	239	244	246	250	251	253
La Fresa	388	392	397	400	404	405	407
Laguna Bell	329	331	338	346	346	350	353
Lewis	358	362	370	378	386	394	399
Lighthipe	322	327	367	368	374	377	381
Mesa	321	325	328	331	337	338	340
Mirage	0	0	0	0	0	282	286
Mira Loma	342	358	374	389	400	409	418
Moorpark	357	366	374	382	389	406	484
Oak Valley	0	0	0	0	0	0	104
Olinda	212	216	222	226	229	231	233
Padua	357	362	370	376	386	390	395
Rector	308	316	321	326	331	334	338
Rio Hondo	401	407	409	413	416	418	421
San Bernardino	296	301	308	316	318	323	330
Santa Clara	313	320	326	331	335	337	340
Santiago	574	385	398	415	426	437	449
Saugus	345	356	368	379	389	400	349
Springville	104	106	108	109	112	113	113
Valley	646	676	704	732	760	784	808
Vestal	105	107	110	113	116	118	121
Victor	309	315	323	328	335	339	344
Viejo	0	217	222	224	229	233	238
Villa Park	413	425	430	433	436	439	444
Vista 66kV	403	414	424	436	447	451	460
Vista 115kV	244	257	265	270	284	296	231
Walnut	376	380	389	394	400	403	408
Total	**12,304**	**12,599**	**12,880**	**13,136**	**13,400**	**13,601**	**13,816**

Table 7-1
Heavy Summer Power Flow Study Results

Outage Case	Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating MVA	Rating Amp	Pre-Project Amps	Pre-Project Percent	Post Project Amps	Post Project Percent	Project Impact Amps	Project Impact Percent
0	None	Base Case	Antelope-Cottonwind 230 kV	494	1240	1203	97.0%	1261	101.7%	58	4.7%
			Antelope-Mesa 230 kV	357	895	996	111.3%	1026	114.7%	31	3.4%
6	Single	Pardee-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1331	107.4%	1470	118.6%	139	11.2%
7	Single	Bailey-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1370	110.5%	1513	122.0%	142	11.5%
			Antelope-Cottonwind 230 kV	494	1240	1370	110.5%	1435	115.7%	65	5.2%
8	Single	Bailey-Pardee 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1300	104.8%	1437	115.8%	137	11.0%
14	Single	Antelope-Cottonwind 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1281	103.3%	1398	112.7%	116	9.4%
			Antelope-Magunden No. 1 230 kV	357	895	1028	114.9%	1097	122.6%	69	7.7%
15	Single	Antelope-Magunden No. 1 230kV	Antelope-Cottonwind 230 kV	494	1240	1418	114.3%	1493	120.4%	75	6.0%
19	Single	New Antelope-Vincent 230 kV	Existing Vincent-Antelope 230 kV	494	1240	1268	102.3%	1350	108.9%	82	6.6%
21	Single	Mesa-Vincent 230 kV	Mesa-Antelope 230 kV	357	895	1167	130.4%	1202	134.3%	35	3.9%
27	Single	Eagle Rock-Mesa 230 kV	Antelope-Mesa 230 kV	357	895	1133	126.6%	1169	130.6%	36	4.1%
41	Double	Pardee-Pastoria 230 kV Pardee-Pastoria-Warne 230 kV	Bailey-Pastoria 230 kV	598	1500	1982	132.2%	2210	147.3%	227	15.2%
			Bailey-Pardee 230 kV	598	1500	1764	117.6%	1972	131.5%	208	13.9%
			Antelope-Magunden No. 1 230 kV	357	895	996	111.3%	1092	122.0%	96	10.8%
			Antelope-Cottonwind 230 kV	494	1240	1598	128.8%	1705	137.5%	108	8.7%
42	Double	Bailey-Pastoria-230 kV Pardee-Pastoria-Warne 230 kV	Pardee-Pastoria 230 kV	598	1500	1898	126.5%	2118	141.2%	221	14.7%
			Antelope-Magunden No. 1 230 kV	357	895	1037	115.9%	1139	127.2%	101	11.3%
			Antelope-Cottonwind 230 kV	494	1240	1641	132.3%	1754	141.4%	112	9.1%
43	Double	Bailey-Pastoria 230 kV Pardee-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	2086	168.2%	2315	186.7%	229	18.5%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1885	152.0%	2111	170.2%	226	18.2%
			Antelope-Magunden No. 1 230 kV	357	895	1055	117.9%	1157	129.3%	102	11.4%
			Antelope-Cottonwind 230 kV	494	1240	1659	133.8%	1771	142.8%	112	9.1%
44	Double	Bailey-Pardee 230 kV Pardee-Pastoria-Warne 230 kV	Pardee-Pastoria 230 kV	598	1500	1763	117.6%	1969	131.3%	206	13.7%
			Antelope-Magunden No. 1 230 kV	357	895	966	107.9%	1059	118.3%	93	10.4%
			Antelope-Cottonwind 230 kV	494	1240	1566	126.3%	1670	134.7%	104	8.3%

Table 7-1
Heavy Summer Power Flow Study Results

Outage Case	Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating MVA	Rating Amp	Pre-Project Amps	Pre-Project Percent	Post Project Amps	Post Project Percent	Project Impact Amps	Project Impact Percent
45	Double	Bailey-Pardee 230 kV Pardee-Pastoria 230kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1944	156.8%	2158	174.0%	214	17.3%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1744	140.6%	1955	157.7%	211	17.0%
			Antelope-Magunden No. 1 230 kV	357	895	983	109.8%	1076	120.2%	93	10.4%
			Antelope-Cottonwind 230 kV	458	1240	1583	127.7%	1687	136.0%	104	8.3%
50	Double	Antelope-Magunden No. 1 230 kV Cottonwind-Magunden 230kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1367	110.3%	1507	121.5%	140	11.3%
			Bailey-Pastoria 230 kV	598	1500	1376	91.7%	1522	101.5%	146	9.7%
51	Double	Antelope-Cottonwind 230 kV Antelope-Magunden No. 1 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1631	131.5%	1775	143.1%	144	11.6%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1430	115.3%	1571	126.7%	141	11.4%
			Bailey-Pastoria 230 kV	598	1500	1662	110.8%	1812	120.8%	151	10.0%
			Pardee-Pastoria 230 kV	598	1500	1478	98.5%	1615	107.7%	137	9.1%
			Bailey-Pardee 230 kV	598	1500	1402	93.5%	1534	102.3%	132	8.8%
53	Double	New Antelope-Vincent 230 kV Antelope-Mesa 230 kV	Existing Antelope-Vincent 230 kV	494	1240	1825	147.2%	1926	155.3%	101	8.2%
54	Double	Existing Antelope-Vincent 230 kV New Antelope-Vincent 230 kV	Antelope-Mesa 230 kV	357	895	1400	156.4%	1457	162.8%	57	6.4%
55	Double	Rio Hondo-Vincent No. 1 230 kV Antelope-Mesa 230 kV	Mesa-Vincent 230 kV	956	2400	2460	102.5%	2512	104.7%	52	2.2%
56	Double	Rio Hondo-Vincent No. 2 230 kV Antelope-Mesa 230 kV	Mesa-Vincent 230 kV	956	2400	2452	102.2%	2504	104.3%	51	2.1%
57	Double	Rio Hondo-Vincent No. 1 230 kV Rio Hondo-Vincent No. 2 230 kV	Antelope-Mesa 230 kV	357	895	1323	147.8%	1360	152.0%	38	4.2%
			Mesa-Vincent 230 kV	956	2400	2844	118.5%	2905	121.0%	61	2.6%
58	Double	Gould-Sylmar 230 kV Eagle Rock-Sylmar S 230 kV	Eagle Rock-Pardee 230 kV	494	1240	1387	111.8%	1432	115.5%	45	3.6%
59	Double	Lugo-Vincent No. 1 500 kV Lugo-Vincent No. 2 500 kV	Failed to converge								

Table 7-2
Light Spring (with Ventura Gen) Power Flow Study Results
Stressing the Antelope leg of the Big Creek Corridor

Outage Case	Transmission Outage	Trasmission Overloaded Facilities	Rating		Pre Project		Post Project		Project Impact	
			MVA	Amps	Amps	Percent	Amps	Percent	Amps	Percent
0	Base Case	Antelope-Cottonwind 230 kV	494	1240	1332	107.4%	1389	112.0%	57	4.6%
		Antelope-Mesa 230 kV	357	895	994	111.0%	1023	114.3%	29	3.3%
5	Pardee-Pastoria-Warne 230 kV	Bailey-Pastoria 230 kV	598	1500	1553	103.5%	1696	113.0%	143	9.5%
		Pardee-Pastoria 230 kV	598	1500	1466	97.7%	1600	106.6%	134	8.9%
		Bailey-Pardee 230 kV	598	1500	1436	95.7%	1566	104.4%	131	8.7%
		Antelope-Magunden No. 1 230 kV	357	895	896	100.1%	960	107.3%	64	7.2%
6	Pardee-Pastoria 230 kV	Antelope-Cottonwind 230 kV	494	1240	1495	120.6%	1712	138.1%	217	17.5%
		Pardee-Pastoria-Warne 230 kV	494	1240	1631	131.6%	1772	142.9%	141	11.4%
		Bailey-Pardee 230 kV	494	1240	1449	116.9%	1580	127.4%	131	10.6%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1437	115.9%	1567	126.3%	130	10.4%
		Antelope-Magunden No. 1 230 kV	357	895	909	101.6%	974	108.8%	65	7.2%
7	Bailey-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1655	133.4%	1798	145.0%	144	11.6%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1460	117.7%	1587	127.9%	127	10.2%
		Pardee-Pastoria 230 kV	598	1500	1502	100.1%	1639	109.3%	137	9.1%
		Antelope-Magunden No. 1 230 kV	357	895	927	103.6%	994	111.1%	67	7.5%
		Antelope-Cottonwind 230 kV	494	1240	1513	122.0%	1601	129.1%	88	7.1%
8	Bailey-Pardee 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1602	129.2%	1741	140.4%	139	11.2%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1408	113.5%	1544	124.5%	137	11.0%
		Pardee-Pastoria 230 kV	598	1500	1451	96.8%	1584	105.6%	133	8.8%
		Antelope-Magunden No. 1 230 kV	357	895	893	99.8%	957	106.9%	64	7.1%
13	Magunden-Cottonwind 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1356	109.4%	1471	118.6%	115	9.2%
		Antelope-Magunden No. 1 230 kV	357	895	945	105.6%	1012	113.1%	67	7.5%
14	Antelope-Conttonwind 230 kV	Bailey-Pastoria 230 kV	494	1240	1492	120.3%	1614	130.1%	122	9.8%
		Pardee-Pastoria-Warne 230 kV	494	1240	1537	123.9%	1655	133.5%	118	9.5%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1341	108.2%	1457	117.5%	116	9.3%
		Bailey-Pardee 230 kV	494	1240	1350	108.9%	1459	117.7%	109	8.8%
		Antelope-Magunden No. 1 230 kV	357	895	1197	133.7%	1266	141.4%	69	7.7%
		Pardee-Pastoria 230 kV	598	1500	1388	92.5%	1501	100.1%	113	7.5%

Table 7-2
Light Spring (with Ventura Gen) Power Flow Study Results
Stressing the Antelope leg of the Big Creek Corridor

Outage Case	Transmission Outage	Trasmission Overloaded Facilities	Rating		Pre Project		Post Project		Project Impact	
			MVA	Amps	Amps	Percent	Amps	Percent	Amps	Percent
15	Antelope-Magunden No. 1 230 kV	Bailey-Pastoria 230 kV	494	1240	1340	108.1%	1456	117.4%	116	9.4%
		Pardee-Pastoria-Warne 230 kV	494	1240	1394	112.4%	1508	121.6%	113	9.1%
		Antelope-Cottonwind 230 kV	494	1240	1581	127.5%	1652	133.2%	72	5.8%
19	New Antelope-Vincent 230 kV	Existing Antelope-Vincent 230 kV	494	1240	1495	120.6%	1572	126.8%	77	6.2%
		Antelope-Mesa 230 kV	357	895	1126	125.8%	1160	129.6%	34	3.8%
21	Mesa-Vincent 230 kV	Antelope-Mesa 230 kV	357	895	1137	127.0%	1168	130.5%	31	3.5%
38	Magunden-Pastoria No. 1 230 kV Magunden-Pastoria No. 2 230 kV	Antelope-Magunden No. 1 230 kV	357	895	928	103.7%	965	107.8%	37	4.1%
39	Magunden-Pastoria No. 1 230 kV Magunden-Pastoria No.3 230 kV	Antelope-Magunden No.1 230 kV	357	895	931	104.0%	968	108.1%	37	4.1%
40	Magunden-Pastoria No. 2 230 kV Magunden-Pastoria No. 3 230 kV	Antelope-Magunden No.1 230 kV	357	895	931	104.0%	968	108.1%	37	4.1%
41	Pardee-Pastoria 230 kV Pardee-Pastoria-Warne 230 kV	Bailey-Pastoria 230 kV	494	1240	2425	195.6%	2663	214.7%	237	19.1%
		Bailey-Pardee 230 kV	494	1240	2250	181.4%	2466	198.9%	217	17.5%
		Antelope-Magunden No. 1 230 kV	357	895	1227	137.0%	1327	148.3%	100	11.2%
		Antelope-Cottonwind 230 kV	494	1240	1838	148.2%	1950	157.2%	112	9.0%
42	Bailey-Pastoria 230 kV Pardee-Pastoria-Warne 230 kV	Pardee-Pastoria 230 kV	598	1500	2348	156.5%	2579	171.9%	231	15.4%
		Antelope-Magunden No. 1 230 kV	357	895	1264	141.2%	1370	153.0%	106	11.9%
		Antelope-Cottonwind 230 kV	494	1240	1875	151.2%	1993	160.8%	118	9.5%
43	Bailey-Pastoria 230 kV Pardee-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	2555	206.0%	2801	225.9%	246	19.9%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	2353	189.8%	2595	209.3%	242	19.5%
		Antelope-Magunden No. 1 230 kV	357	895	1279	142.9%	1387	155.0%	108	12.1%
		Antelope-Cottonwind 230 kV	494	1240	1891	152.5%	2012	162.3%	121	9.8%
44	Bailey-Pardee 230 kV Pardee-Pastoria-Warne 230 kV	Pardee-Pastoria 230 kV	598	1500	2230	148.7%	2443	162.9%	213	14.2%
		Antelope-Magunden No. 1 230 kV	357	895	1194	133.4%	1289	144.0%	96	10.7%
		Antelope-Cottonwind 230 kV	494	1240	1805	145.5%	1911	154.1%	106	8.6%
45	Bailey-Pardee 230 kV Pardee-Pastoria 230kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	2430	196.0%	2655	214.1%	225	18.2%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	2230	179.8%	2451	197.7%	221	17.9%
		Antelope-Magunden No. 1 230 kV	357	895	1208	135.0%	1305	145.8%	97	10.8%
		Antelope-Cottonwind 230 kV	494	1240	1820	146.7%	1928	155.5%	108	8.7%

Table 7-2
Light Spring (with Ventura Gen) Power Flow Study Results
Stressing the Antelope leg of the Big Creek Corridor

Outage Case	Transmission Outage	Trasmission Overloaded Facilities	Rating		Pre Project		Post Project		Project Impact	
			MVA	Amps	Amps	Percent	Amps	Percent	Amps	Percent
50	Antelope-Magunden No.1 230 kV Cottonwind-Magunden 230kV	Bailey-Pastoria 230 kV	494	1240	1647	132.8%	1792	144.5%	146	11.8%
		Pardee-Pastoria-Warne 230 kV	494	1240	1682	135.6%	1823	147.0%	141	11.3%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1486	119.8%	1624	131.0%	138	11.1%
		Bailey-Pardee 230 kV	494	1240	1483	119.6%	1613	130.0%	129	10.4%
		Pardee-Pastoria 230 kV	598	1500	1527	101.8%	1662	110.8%	134	8.9%
51	Antelope-Cottonwind 230 kV Antelope-Magunden No. 1 230 kV	Bailey-Pastoria 230 kV	494	1240	1939	156.4%	2088	168.4%	149	12.0%
		Pardee-Pastoria-Warne 230 kV	494	1240	1956	157.7%	2099	169.3%	143	11.6%
		Pardee-**Pastoria**-Warne 230 kV	494	1240	1756	141.6%	1897	153.0%	141	11.4%
		Bailey-Pardee 230 kV	494	1240	1731	139.6%	1862.8	150.2%	132	10.6%
		Pardee-Pastoria 230 kV	598	1500	1788	119.2%	1925	128.3%	137	9.1%
		Existing Antelope-Vincent 230 kV	494	1240	2059	166.1%	2158	174.0%	99	7.9%
54	Existing Antelope-Vincent 230 kV New Antelope-Vincent 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1395	112.5%	1510	121.8%	115	9.3%
		Antelope-Mesa 230 kV	357	895	1466	163.8%	1520	169.8%	54	6.0%
57	Rio Hondo-Vincent No. 1 230 kV Rio Hondo-Vincent No. 2 230 kV	Mesa-Vincent 230 kV	956	2400	2562	106.7%	2614	108.9%	52	2.2%
59	Lugo-Vincent No. 1 500 kV Lugo-Vincent No. 2 500 kV	Failure to converge								

Table 7-3
Light Spring NoVgen Power Flow Study Results
Stressing the Pardee leg of the Big Creek corridor (NoVgen)

Outage Case	Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating MVA	Rating Amps	Pre-Project Amps	Pre-Project Percent	Post-Project Amps	Post-Project Percent	Project Impact Amps	Project Impact Percent
0	Single	Base Case	**Pardee**-Pastoria-Warne 230 kV	494	1240	1255	101.2%	1360	109.7%	106	8.5%
			Antelope-Cottonwind 230 kV	494	1240	1294	104.4%	1354	109.2%	60	4.8%
			Antelope-Mesa 230 kV	357	895	954	106.5%	984	109.9%	31	3.4%
5	Single	Pardee-Pastoria-Warne 230 kV	Bailey-Pastoria 230 kV	598	1500	1584	105.6%	1729	115.3%	146	9.7%
			Pardee-Pastoria 230 kV	598	1500	1502	100.1%	1639	109.2%	137	9.1%
			Bailey-Pardee 230 kV	598	1500	1475	98.3%	1608	107.2%	133	8.9%
6	Single	Pardee-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1670	134.7%	1809	145.9%	139	11.2%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1475	118.9%	1611	129.9%	137	11.0%
			Bailey-Pastoria 230 kV	598	1500	1600	106.7%	1742	116.1%	141	9.4%
			Bailey-Pardee 230 kV	598	1500	1488	99.2%	1618	107.9%	129	8.6%
			Antelope-Cottonwind 230 kV	494	1240	1465	118.1%	1536	123.8%	71	5.7%
7	Single	Bailey-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1691	136.4%	1838	148.2%	147	11.8%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1495	120.6%	1639	132.2%	144	11.6%
			Pardee-Pastoria 230 kV	598	1500	1537	102.4%	1676	111.8%	140	9.3%
			Antelope-Magunden No. 1 230 kV	357	895	897	100.2%	965	107.8%	68	7.6%
			Antelope-Cottonwind 230 kV	494	1240	1482	119.5%	1559	125.7%	77	6.2%
8	Single	Bailey-Pardee 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1641	132.3%	1781	143.7%	141	11.4%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1445	116.6%	1584	127.7%	138	11.1%
			Pardee-Pastoria 230 kV	598	1500	1488	99.2%	1623	108.2%	134	8.9%
13	Single	Cottonwind-Magunden 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1376	110.9%	1492	120.3%	116	9.4%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1182	95.3%	1296	104.5%	114	9.2%
			Antelope-Magunden No. 1 230 kV	357	895	900	100.5%	967	108.1%	67	7.5%
14	Single	Antelope-Cottonwind 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1558	125.7%	1673	134.9%	115	9.3%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1361	109.8%	1475	119.0%	114	9.2%
			Bailey-Pastoria 230 kV	598	1500	1505	100.3%	1624	108.2%	119	7.9%
			Antelope-Magunden No. 1 230 kV	357	895	1153	128.9%	1219	136.2%	65	7.3%
			Pardee-Pastoria 230 kV	598	1500	1408	93.9%	1518	101.2%	110	7.3%
15	Single	Antelope-Magunden No. 1 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1414	114.1%	1531	123.4%	116	9.4%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1220	98.4%	1334	107.6%	114	9.2%
			Antelope-Cottonwind 230 kV	494	1240	1534	123.7%	1607	129.6%	74	6.0%
21	Single	Mesa-Vincent 230 kV	Antelope-Mesa 230 kV	357	895	1095	122.4%	1127	125.9%	32	3.6%
41	Double	Pardee-Pastoria 230 kV Pardee-Pastoria-Warne 230 kV	Bailey-Pastoria 230 kV	598	1500	2478	165.2%	2709	180.6%	231	15.4%
			Bailey-Pardee 230 kV	598	1500	2310	154.0%	2521	168.1%	211	14.1%
			Antelope-Magunden No. 1 230 kV	357	895	1207	134.9%	1303	145.6%	96	10.7%
			Antelope-Cottonwind 230 kV	494	1240	1820	146.8%	1923	155.1%	103	8.3%

Table 7-3
Light Spring NoVgen Power Flow Study Results
Stressing the Pardee leg of the Big Creek corridor (NoVgen)

Outage Case	Outage Type	Transmission Outage	Overloaded Transmission Facilities	Rating MVA	Rating Amps	Pre-Project Amps	Pre-Project Percent	Post-Project Amps	Post-Project Percent	Project Impact Amps	Project Impact Percent
42	Double	Bailey-Pastoria 230 kV Pardee-Pastoria-Warne 230 kV	Antelope-Cottonwind 230 kV	494	1240	1851	149.3%	2626	211.8%	775	62.5%
			Pardee-Pastoria 230 kV	598	1500	2398	159.9%	2626.2	175.1%	228	15.2%
			Antelope-Magunden No. 1 230 kV	357	895	1241	138.6%	1345	150.2%	104	11.6%
43	Double	Bailey-Pastoria 230 kV Pardee-Pastoria 230 kV	**Pardee**-Pastoria-Warne 230 kV	598	1240	2615	210.8%	2849	229.7%	234	18.9%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	2410	194.4%	2643	213.1%	233	18.8%
			Antelope-Magunden No. 1 230 kV	357	895	1261	140.8%	1362	152.2%	101	11.3%
			Antelope-Cottonwind 230 kV	494	1240	1874	151.1%	1983	159.9%	109	8.8%
50	Double	Antelope-Magunden No. 1 230 kV Cottonwind-Magunden 230kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1688	136.1%	1826	147.2%	138	11.1%
			Bailey-Pastoria 230 kV	598	1500	1643	109.6%	1786	119.1%	143	9.5%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1491	120.3%	1627	131.2%	136	11.0%
			Bailey-Pardee 230 kV	598	1500	1493	99.5%	1620	108.0%	127	8.5%
			Pardee-Pastoria 230 kV	598	1500	1533	102.2%	1665	111.0%	132	8.8%
51	Double	Antelope-Cottonwind 230 kV Antelope-Magunden No. 1 230 kV	Bailey-Pastoria 230 kV	598	1500	1933	128.8%	2102	140.1%	169	11.3%
			Pardee-Pastoria-Warne 230 kV	494	1240	1959	158.0%	2121	171.0%	162	13.0%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1759	141.9%	1914	154.4%	155	12.5%
			Bailey-Pardee 230 kV	598	1500	1739	115.9%	1884.6	125.6%	146	9.7%
			Pardee-Pastoria 230 kV	598	1500	1792	119.4%	1944	129.6%	153	10.2%
53	Double	New Antelope-Vincent 230 kV Mesa-Antelope 230 kV	Existing Antelope-Vincent 230 kV	494	1240	1859	149.9%	1957	157.8%	98	7.9%
54	Double	Existing Antelope-Vincent 230 kV New Antelope-Vincent 230 kV	**Pardee**-Pastoria-Warne 230 kV	494	1240	1405	113.3%	1516	122.2%	110	8.9%
			Pardee-**Pastoria**-Warne 230 kV	494	1240	1208	97.4%	1317	106.2%	109	8.8%
			Antelope-Mesa 230 kV	357	895	1373	153.4%	1421	158.7%	48	5.4%
57	Double	Rio Hondo-Vincent No. 1 230 kV Rio Hondo-Vincent No. 2 230 kV	Mesa -Vincent 230 kV	956	2400	2528	105.3%	2582	107.6%	54	2.3%
44	Double	Bailey-Pardee 230 kV Pardee-Pastoria-Warne 230 kV	Failed to converge								
45	Double	Bailey-Pardee 230 kV Pardee-Pastoria 230kV	Failed to converge								
59	Double	Lugo-Vincent No. 1 230 kV Lugo-Vincent No. 2 230 kV	Failed to converge								

WATER RESOURCES

Appendix B (g) (1) ...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Appendix B (g) (14) (B): Ground water bodies and related geologic structures;

Response: The existing ground water bodies and related geologic structures remain unchanged from the AFC submitted for the existing PEF (99-AFC-7). Section 5.5 Water Resources from 99-AFC-7 is included in Volume II Attachment D of the AFC for the PEF Expansion (05-AFC-1). Ground water information as it applies to the existing PEF plant site is included in Section 5.5 as follows: Sections 5.5.1.1.2 (page 5.5-3), 5.5.2.1.2 (page 5.5-8), 5.5.3 (page 5.5-10), and 5.5.4 (page 5.5-11).

Appendix B (g) (14) (B) (ii): Surface water bodies;

Response: The existing surface water bodies remain unchanged from the AFC submitted for the existing PEF (99-AFC-7). Section 5.5 Water Resources from 99-AFC-7 is included in Volume II Attachment D of the AFC for the PEF Expansion (05-AFC-1). Surface water information as it applies to the existing PEF plant site is included in Section 5.5 as follows: Sections 5.5.1.1.2 (page 5.5-3), 5.5.2.1.2 (page 5.5-8), 5.5.3 (page 5.5-10), and 5.5.4 (page 5.5-11. The measured flow data for Pastoria Creek also remains unchanged from 99-AFC-7 and is presented in Table 5.5-1 (page 5.5-13) of Section 5.5 from 99-AFC-7.

Appendix B (g) (14) (B) (iii): Water inundation zones, such as the 100-year flood plain and tsunami run-up zones.

Response: The existing water inundation zones remain unchanged from the AFC submitted for the existing PEF (99-AFC-7). Section 5.5 Water Resources from 99-AFC-7 is included in Volume II Attachment D of the AFC for the PEF Expansion (05-AFC-1). Water inundation information as it applies to the existing PEF plant site is included in Section 5.5 as follows: Sections 5.5.1.1.2 (page 5.5-2), 5.5.2.1.2 (page 5.5-7), 5.5.3 (page 5.5-10), and 5.5.4 (page 5.5-11.

Because of the location of the existing PEF in an alluvial fan, flood modeling was conducted as part of pre-construction compliance that resulted in the need to raise areas of the plant site above the 100-year floodplain. The expansion project will be located at this same, elevated grade as the existing facility, above the 100-year floodplain, as approved by the Commission as part of 99-AFC-7. These PEF floodplain studies were reviewed and approved by the Kern

County CBO prior to the start of construction of the existing PEF and all measures have been implemented to the satisfaction of the Kern County CBO. The final accepted hydrology and hydraulics studies for the existing PEF were achieved through both the submittal of reports as well as through numerous meetings attended by URS technical staff members, Calpine representatives, and representatives from Kern County in the Spring/Summer 2001. The studies that support the hydrology and hydraulics are as follows: 1) Draft Hydrology Analysis for the Pastoria Energy Facility, dated July 12, 2001. This analysis was accepted by Kern County and is included as part of the 99-AFC-7C compliance proceedings; 2) The Flood Inundation Study for the Pastoria Energy Facility, dated September 6, 2001, addresses floodplain hydraulics and is also included in Compliance proceedings. In addition to the floodplain studies, all of the Kern County CBO approvals are on file at the CEC (see Compliance Project Manager Files for 99-AFC-7C). If after further consultation between the applicant and CEC technical staff regarding confirming the technical understanding of this issue, additional information is still needed, the applicant will submit this information as part of the Discovery Process.

Appendix B (g) (14) (C) (iii): Average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project;

Response: Section 3.4.8 includes information on Water Supply and Treatment for the PEF Expansion Project (pages 3-16 through 3-21). Average and maximum daily and annual water demand for operations is addressed in Table 3.4.8-1 that presents the PEF Expansion incremental water usage rates as compared to the existing PEF, Figure 3.4-4 that shows the water balance diagram for the existing PEF, and Figure 3.4-5 that shows the PEF Expansion water balance. Wastewater treatment and discharge for operations is addressed in Section 3.4.8.4 (pages 3-17 through 3-21). Average and maximum daily and annual water demand and wastewater discharge for the construction phase of the project is expected to be minimal. Construction water usage is expected to be approximately 7650 gallons per day (average and maximum basis) and approximately 1.53 million gallons during the 12-month construction period for dust control and potable uses for construction personnel. Wastewater of approximately 150 gallons per day (average and maximum basis) and approximately 30,000 gallons during the 12-month construction phase is expected to be limited to construction staff sanitary sewage waste in portable chemical toilets.

Appendix B (g) (14) (D) (i): Precipitation and storm runoff patterns; and

Response: The existing precipitation and storm water runoff patterns for the project area remains unchanged from the AFC submitted for the existing PEF (99-AFC-7). Section 5.5 Water Resources from 99-AFC-7 is included in Volume II Attachment D of the AFC for the PEF Expansion (05-AFC-1). Precipitation and Storm Water runoff information as it applies

to the existing PEF plant site is included in Section 5.5 as follows: Sections 5.5.1.1.2 (page 5.5-3), 5.5.2.1.2 (page 5.5-8), 5.5.3 (page 5.5-10), and 5.5.4 (page 5.5-11). Precipitation data also remains unchanged from 99-AFC-7 and is included in Tables 5.5-2 and 5.5-3 (page 5.5-13) of Section 5.5 from 99-AFC-7.

Appendix B (g) (14) (D) (ii): Drainage facilities and design criteria.

Response: See response to **Appendix B (g) (14) (B) (iii)** above.

Appendix B (g) (14) (iii): The effects of the project on the 100-year flood plain or other water inundation zones

Response: See response to **Appendix B (g) (14) (B) (iii)** above.

Appendix B (h) (1) (A) Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Response: Exhibit 6 includes an update to the LORS that apply to Water Resources as both a revised narrative and a revised matrix.

Appendix B (h) (2) A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).

Response: A revised Section 7.5.5, is included in Exhibit 6 that addresses this request

Appendix B (h) (3) The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency

Response: The contact information for the administering agencies responsible for implementing LORS for Water Resources are included in Section 7.0, pages 7-32 through 7-37.

Appendix B (h) (4): A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.

Response: Since the PEF Expansion will be using the existing linears for existing PEF, no impacts to wetlands or waters of the U.S. will occur as a result of construction of the PEF Expansion project. Therefore, the only regulatory compliance issues are related to the management of stormwater that will occur through the preparation of a new or amended

Construction SWPPP that will be prepared prior to the start of construction of the PEF Expansion. In addition, the existing PEF Operational SWPPP will be amended to address the PEF Expansion facilities prior to the commencement of operation of the PEF Expansion unit. The preparation and implementation of these plans will ensure that the project complies with NPDES and RWQCB stormwater pollution prevention requirements.