Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects

($000)

PIN	Project Title	Order #	High/Low Voltage	OD	Project Total (ISO & non-ISO) Prior	2014	2015	Total	ISO Portion Prior	2014	2015	Total
Non-Incentive Transmission Projects includes Direct Installation and Removal Expenditures												
Other Transmission												
07390	Antelope-Plainview ---- Antelope(NU):Equip 66kV pos for gen-tie.		Low	**Aug-14**	649	600	-	1,249	649	600	-	1,249
07420	Antelope Sub (NU): 2 ---- Antelope Sub (NU): 2 66kV CBs for GenTie		Low	**Jun-14**	418	600	-	1,018	418	600	-	1,018
07439	Julian Hinds: Install (3) 220kV VTs		High	**Jun-14**	78	100	-	178	78	100	-	178
07559	Colorado Riv(NU) install 220kV CBs & Remote Terminal Unit (RTU)		High	**May-15**	2	1,000	1,000	2,002	2	1,000	1,000	2,002
06694	Devers: Upgrade the Devers RTU		High	**Sep-14**	8,824	-	-	8,824	8,824	-	-	8,824
06694	Vista Sub: Upgrade line protection at the Devers #1 220kV T/L position.		High	**Sep-14**	551	100	-	651	551	100	-	651
06694	El Casco Sub: Install one SEL-2407 satellite synchronized clock and two N60 relays		High	**Sep-14**	172	150	-	322	172	150	-	322
06694	Etiwanda Sub: Install one SEL-2407 satellite synchronized clock and two N60 relays		High	**Sep-14**	307	150	-	457	307	150	-	457
06694	Valley Sub: Install one SEL-2407 satellite synchronized clock and two N60 relays		High	**Sep-14**	199	200	-	399	199	200	-	399
06694	San Bernardino Sub: Install one SEL-2407 satellite synchronized clock and four N60 relays		High	**Sep-14**	324	150	-	474	324	150	-	474
06694	**Total CPV Sentinel Project - Sentinel-Devers 220kV**				**10,375**	**750**	**-**	**11,125**	**10,375**	**750**	**-**	**11,125**
	Total Other Transmission				**11,523**	**3,050**	**1,000**	**15,573**	**11,523**	**3,050**	**1,000**	**15,573**
TSP Projects												
06107	Pardee Sub: Install new double breaker 220 kV CB's in position 11 to terminate bank leads		High	**Dec-15**	1,333	1,071	161	2,566	1,333	1,071	161	2,566
06263	Vestal: Equip 230kV A-Bank positions (no.1 and 2) with circuit breakers		High	**Jun-15**	3,849	2,000	500	6,349	3,580	1,860	465	5,905
06284	La Cienega: Phase 2- Upgrade remaining SCADA and protection systems to SA-2 standard		High	**Jun-14**	2,742	1,022	-	3,764	494	184	-	678
06824	La Fresa Sub (Phase 2): Install new MEER building and cut over existing protection and upgrade CTs on existing banks.		High	**Dec-15**	8,321	5,249	2,598	16,168	2,496	1,575	779	4,851
06824	La Fresa Sub (Phase 1 Scope): Add a 280MVA TRANSFORMER BANK 220/66KV		High	**Aug-13**	23,731	1,000	500	25,231	6,882	290	145	7,317
06824	**Total La Fresa 'A' 220/66 - Increase Transformer Capacity**				**32,052**	**6,249**	**3,098**	**41,399**	**9,378**	**1,865**	**924**	**12,167**
												-
	Total TSP Projects				**39,976**	**10,342**	**3,759**	**54,078**	**14,785**	**4,980**	**1,551**	**21,316**
Transmission Project Reliability												
04928	TRTP Seg 1 Vegetation Remediation		High	**Jul-14**	1,942	-	-	1,942	1,942	-	-	1,942
05453	TRTP Seg 2 Vegetation Remediation		High	**Jul-14**	584	-	-	584	584	-	-	584
06434	TRTP Seg 3A Vegetation Remediation		High	**Jul-14**	543	672	-	1,215	543	672	-	1,215
	Total TRTP Seg 1-3A				**3,069**	**672**	**-**	**3,741**	**3,069**	**672**	**-**	**3,741**
07511	TRTP Seg 1 Antelope-Pardee 500kV T/L: Install Marker Balls and Lighting		High	**Dec-14**	37	1,700	-	1,737	37	1,700	-	1,737
07511	TRTP Seg 2 Antelope-Vincent #1 500kV T/L: Install Marker Balls		High	**Dec-14**	129	400	-	529	129	400	-	529
07511	**TRTP 1&2 FAA Costs**				**166**	**2,100**	**-**	**2,266**	**166**	**2,100**	**-**	**2,266**
04956	Big Creek #3-Springville 220-kV: Construct approx. 23 miles of new double-circuit 230kV T/L		High	**Sep-14**	47,155	48,487	10,000	105,643	47,155	48,487	10,000	105,643
04956	Big Creek 3-Springville 220kV: Licensing Phase - Site Selection, PEA /Application Preparation, Environmental Surveys and CPUC Licensing Review		High	**Sep-14**	7,051	17	-	7,068	7,051	17	-	7,068
04956	BIG CREEK #3: INSTALL NECESSARY PROTECTIVE RELAYS ON THE NEW BIG CREEK #3		High	**Sep-14**	600	191	-	791	600	191	-	791
04956	Rector: Equip Positions 1 & 2 220kV switchrack to terminate the new Rector-Springville T/L		High	**Sep-14**	9,483	985	-	10,468	9,483	985	-	10,468
04956	Springville: Install necessary protective relays on the new Rector-Springville 220kV T/L		High	**Sep-14**	1,240	350	-	1,590	1,240	350	-	1,590
04956	Vestal: Install necessary protective relays on Rector-Vestal No. 1 and Rector-Vestal No.2 Line		High	**Sep-14**	2,098	723	-	2,821	2,098	723	-	2,821
04956	Big Creek #3-Springville 220kV: Construct 18.5 miles of new double-circuit 220-kV with 1B-1033 ACSR conductor per circuit in order to loop the existing Big Creek 3-Springville 220-kV transmission line into Rector Substation		High	**Sep-14**	142	10	-	152	142	10	-	152
04956	BC1-Rector & BC3-Rector 220-kV: Construct approx. 12 miles of new double-circuit 220kV T/L		High	**Jun-13**	25,069	26	-	25,095	25,069	26	-	25,095
04956	SJXVL ---- ACQ / FERC San Joaquin Cross Valley Land Acquisition		High	**Sep-14**	5,787	1,700	-	7,487	5,787	1,700	-	7,487
04956	**Total SJXVL**				**98,626**	**52,488**	**10,000**	**161,114**	**98,626**	**52,488**	**10,000**	**161,114**

Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects

($000)

PIN	Project Title	Order #	High/Low Voltage	OD	Project Total (ISO & non-ISO)				ISO Portion			
					Prior	2014	2015	Total	Prior	2014	2015	Total
05146	Various Substations: Fire Mitigation		High	**Blanket Specifics**		903	730	1,633	-	903	730	1,633
06154	N of Magunden : Install a 2nd set of Bushing Current Transformer's on 220kV CB #1 on position 1		High	**Dec-15**	392	-	250	642	392	-	250	642
06154	RECTOR: INSTALL BUSHING CURRENT TRANSFORMERS. (PHASE 2)		High	**Dec-15**	298	50	-	348	298	50	-	348
06154	Vestal - Install a second set of BCT's on 220kV CB's #1 and 2 on position 1		High	**Dec-15**	538	50	250	838	538	50	250	838
06154	**Total North of Magunden Redundant Bushing Current Transformer (BCT) Upgrades**				**1,229**	**100**	**500**	**1,829**	**1,229**	**100**	**500**	**1,829**
06415	Devers Sub: PHASE 2 - Disconnect upgrades for Mirage No. 1 terminating at position 2N		High	**Dec-14**	606	325	-	931	606	325	-	931
06415	Mirage Sub: PHASE 2 - Replace two (2) 2000A 220kV CB's at positions 2S and 3S		High	**Dec-14**	2,119	1,104	-	3,223	2,119	1,104	-	3,223
06415	Devers-Mirage #1 230kV T/L: Build 15 mil (Path 42) Double Circuit 220kV T/L		High	**Dec-14**	8,975	16,967	-	25,942	8,975	16,967	-	25,942
06415	Devers Sub: PHASE 1 - Install relays, meters and logic controllers as necessary for IID's new SPS		High	**Dec-14**	148	197	-	345	148	197	-	345
06415	Mirage Sub: PHASE 1 - Install relays, meters and logic controllers as necessary for IID's new SPS		High	**Dec-14**	220	69	-	289	220	69	-	289
06415	Coachella Valley-Mirage 220kV: PHASE 2 -Reconductor SCE-owned portion of the Coachella Valley-Mirage 220kV T/L (from Towers 19-2, 19-3 and 19-4 into Mirage Substation)		High	**Dec-14**	253	1,000	-	1,253	253	1,000	-	1,253
06415	**Total Path 42 and Devers-Mirage 230kV Upgrades**				**12,320**	**19,662**	**-**	**31,982**	**12,320**	**19,662**	**-**	**31,982**
06477	Victor: Reconstruct 115KV switchrack and terminate existing 115KV lines to new rack positions		Low	**Dec-13**	20,752	354	-	21,106	18,884	322	-	19,206
06714	Rio Hondo: Equip the 230kV A-Banks at positions 2, 3, 9 & 10 with double breaker configuration		High	**Apr-14**	15,153	248	-	15,401	6,061	99	-	6,160
06714	Vincent: Replace/upgrade L90 relays on Rio Hondo #1 and #2 220kV lines		High	**Mar-14**	33	30	-	63	33	30	-	63
06714	**Total Rio Hondo Sub: 230kV Double Breakers for A Banks**				**15,186**	**278**	**-**	**15,464**	**6,094**	**129**	**-**	**6,223**
06791	Lugo 500kV Sub breaker installation for No. 1AA & No. 2AA banks		High	**Dec-15**	6,467	200	200	6,867	6,467	200	200	6,867
06791	Lugo-Rancho Vista 500kV Line: Relocate Rancho Vista 500kV line from Pos 5 E to Pos 4 W Bus		High	**Dec-15**	-	200	1,500	1,700	-	200	1,500	1,700
06791	**Total Lugo 500kV Substation Breaker Installation**				**6,467**	**400**	**1,700**	**8,567**	**6,467**	**400**	**1,700**	**8,567**
07248	Eldorado: Install (1) 500 kV Switchyard Operating Bus extension, (8) bus dead-end structures, (48) bus dead-end insulator assemblies.		High	**Dec-15**	2,878	43,034	45,503	91,415	2,878	43,034	45,503	91,415
07241	Eldorado: Install (2) 500 kV CBs, (3) 500 kV gang operated disconnects and other associated equipment to terminate the 3 AA bank to the number 3 position on the Eldorado 500 kV bus		High	**Dec-15**	240	5,420	5,859	11,519	240	5,420	5,859	11,519
	Total Eldorado AA Bank				**3,118**	**48,454**	**51,362**	**102,934**	**3,118**	**48,454**	**51,362**	**102,934**
07376	Eldorado-Install Fire Mitigation 3AA		High	**Dec-15**	2	1,089	1,180	2,271	2	1,089	1,180	2,271
07426	Primm (POS NU): New 220kV Sub		High	**Oct-15**	1,300	12,273	4,466	18,039	1,300	12,273	4,466	18,039
07426	Eldorado-Ivanpah #1(NU): Loop into Primm		High	**Oct-15**	0	3,359	1,282	4,641	0	3,359	1,282	4,641
07426	**Total New 220kV Primm Substation - Network Upgrade**				**1,301**	**15,632**	**5,748**	**22,681**	**1,301**	**15,632**	**5,748**	**22,681**
07111	La Cienega: Equip the 230 KV A-Bank positions (no.3 & 4) with circuit breakers		High	**Dec-14**	3,552	2,217	-	5,769	3,197	1,996	-	5,192
07116	Villa Park: Equip the 230 KV A-Bank positions (no. 1 & 2) with circuit breakers		High	**Dec-15**	2,140	4,280	200	6,620	2,055	4,109	192	6,355
07117	Kramer Sub: Equip 1A & 2A with CBs ---- Kramer: Equip 1A & 2A with CBs		High	**Dec-14**	1,676	1,003	-	2,679	1,676	1,003	-	2,679
07121	Padua: Equip 2A & 3A with CBs		High	**Dec-14**	1,631	2,095	-	3,726	979	1,257	-	2,236
07237	Tortilla: Install two (2) 115 kV 14.4 M		Low	**Dec-13**	2,790	50	-	2,840	2,790	50	-	2,840
06792	Rector 220/66kV Sub: Install 2X79.2 MVAR switching shunt cap		High	**Oct-14**	8,995	1,155	-	10,150	8,995	1,155	-	10,150
07252	Antelope 220 Sub: Replace/Upgrade 10 CBs		High	**Jun-13**	3,103	100	-	3,203	3,103	100	-	3,203
07374	Serrano: 1AA, 2AA & 3AA Fire Mitigation		High	**May-14**	303	2,000	-	2,303	303	2,000	-	2,303
07375	Vincent 3AA Transformer Bank Fire Mitigation Project		High	**Dec-14**	283	1,500	-	1,783	283	1,500	-	1,783
07406	Viejo Sub:Install one 79.2 MVAR Cap Bank		High	**Jul-13**	3,157	50	-	3,207	3,157	50	-	3,207
07407	Santiago: Install one 79.2 MVAR Cap Bank (SONGS Mitigation)		High	**Jun-13**	2,510	100	-	2,610	2,510	100	-	2,610
07410	Ellis Sub:Extend 220kV buses 2 positions (Barre-Ellis Loop-in)		High	**Aug-13**	5,712	200	-	5,912	5,712	200	-	5,912
	Total Transmission Project Reliability				**198,088**	**156,881**	**71,420**	**426,390**	**186,035**	**155,470**	**71,412**	**412,917**

Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects

($000)

PIN	Project Title	Order #	High/Low Voltage	OD	Project Total (ISO & non-ISO) Prior	2014	2015	Total	ISO Portion Prior	2014	2015	Total
Infrastructure Replacement												
04211	Replace Bulk Power Circuit Breakers		High	**Blanket Specifics**	-	1,655	328	1,983	-	1,655	328	1,983
04329	Non-Bulk Circuit Breaker Replacement		Low	**Blanket Specifics**	-	50,749	25,010	75,759	-	165	-	165
03138	Sylmar Converter Station & HVDC T/L: Capital Additions & Betterment		High	**Blanket Specifics**	-	563	-	563	-	563	-	563
04484	Coupling Capacitor Voltage Transformers		High	**Blanket Specifics**	-	839	678	1,517	-	440	-	440
04651	Palo Verde Switchrack		High	**Blanket Specifics**	-	2,000	2,250	4,250	-	2,000	2,250	4,250
06197	On-line Dissolved Gas Analysis of Bulk Power Transformer Banks		High	**Blanket Specifics**	-	3,020	5,911	8,931	-	570	2,486	3,056
04343	Substation Relay Replacement Program (SRRP)		High	**Blanket Specifics**	-	3,590	8,160	11,750	-	3,590	8,160	11,750
05089	Bulk Power 500kV Line Relay Replacement		High	**Blanket Specifics**	-	1,338	1,397	2,735	-	1,338	1,397	2,735
04756	Substation Equipment, Additions & Betterment		High	**Blanket Specifics**	-	24,288	19,376	43,664	-	3,153	3,549	6,702
05210	Substation Transformer Bank Replacement Program (AA-Bank & A-Bank)		High	**Blanket Specifics**	-	42,938	66,101	109,039	-	14,446	18,301	32,747
	Total Infrastructure Replacement				**-**	**130,980**	**129,211**	**260,191**	**-**	**27,921**	**36,471**	**64,391**
Grid Applications												
06446	Phasor Measurement System Installations		High	**Blanket Specifics**	-	**2,383**	**2,737**	5,120	-	2,383	2,737	5,120
06428	Centralized Remedial Action Scheme (C-RAS) Project Phase		High	**Dec-14**	3,047	1,731	-	4,778	3,047	1,731	-	4,778
06428	Centralized Remedial Action Scheme (C-RAS) Program Phase		High	**Blanket Specifics**	-	-	12,933	12,933	-	-	12,933	12,933
	Total Grid Apps				**3,047**	**4,114**	**15,670**	**22,832**	**3,047**	**4,114**	**15,670**	**22,832**
PWRD Blankets												
03363	Substation Breakdown Maintenance Replacements - Northwest		High	**Blanket Specifics**	-	13,500	11,311	24,811	-	2,513	2,106	4,619
03363	Substation Planned Maintenance Replacements - Northwest		High	**Blanket Specifics**	-	11,570	8,026	19,596	-	1,529	1,061	2,590
03363	Facilities - Operational		High	**Blanket Specifics**	-	13,600	5,749	19,349	-	1,429	604	2,033
03363	Control Room Upgrades		High	**Dec-14**	3,773	68,328	15,197	87,298	1,813	34,024	10,291	46,128
03363	Control Room Upgrades - Energy Management System (EMS) Control		High	**Dec-15**	-	-	6,000	6,000	-	-	4,058	4,058
03363	**Substation Equipment Additions & Replacements**				**3,773**	**106,998**	**46,283**	**157,053**	**1,813**	**39,495**	**18,120**	**59,428**
03364	Transmission Breakdown Maintenance Planned		High	**Blanket Specifics**	-	6,058	6,222	12,280	-	2,360	2,425	4,785
03364	Transmission Breakdown Maintenance Unplanned		High	**Blanket Specifics**	-	4,526	4,646	9,173	-	1,572	1,614	3,186
03364	Transmission Maintenance Planned		High	**Blanket Specifics**	-	1,173	800	1,973	-	1,173	800	1,973
03364	**Transmission Equipment Additions & Replacements**				**-**	**11,757**	**11,669**	**23,426**	**-**	**5,105**	**4,839**	**9,944**
07298	Transmission Line Rating Remediation		High	**Blanket Specifics**	-	12,632	33,081	45,712	-	12,632	33,081	45,712
03362	Critical Infrastructure Spare		High	**Blanket Specifics**	-	-	800	800	-	-	800	800
03367	Substation Claim - Northwest		High	**Blanket Specifics**	-	486	494	980	-	26	26	52
03367	Transmission Claim		High	**Blanket Specifics**	-	2,305	2,366	4,672	-	202	207	410
03367	Transmission Storm - Eastern		High	**Blanket Specifics**	-	4,562	4,683	9,245	-	1,576	1,618	3,194
03367	**Transmission Storm & Claims**				**-**	**7,353**	**7,543**	**14,896**	**-**	**1,804**	**1,851**	**3,655**
	Total PWRD Blankets				**3,773**	**138,739**	**99,376**	**241,888**	**1,813**	**59,036**	**58,690**	**119,539**
Total Non-Incentive Transmission Projects					**256,408**	**444,107**	**320,436**	**1,020,951**	**217,204**	**254,571**	**184,794**	**656,568**
Total Forecast Expenditures (Closing by December 2015)					**256,408**	**239,430**	**96,646**	**592,483**	**217,204**	**198,352**	**87,581**	**503,137**
Total Forecast Blanket Expenditures (Closing by December 2015)					**-**	**204,677**	**223,790**	**428,467**	**-**	**56,219**	**97,212**	**153,431**