

Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects
(\$000)

PIN	Project Title	C-WBS	Order #	High/ Low	OD	Project Total (ISO & non-ISO)				ISO Portion			
				Voltage		Prior	2020	2021	Total	Prior	2020	2021	Total
Non-Incentive Transmission Projects includes Direct Installation and Removal Expenditures, but excludes any C-WBS or Order # with 0% ISO.													
Other Transmission													
07756	Whirlwind Sub (POS): Equip one 220 kV position to terminate the Rattlesnake-Whirlwind 220kV Line	CET-ET-TP-RN-775602	901458993	High	Nov-18	-	70	-	70	-	70	-	70
07775	Whirlwind Substation (NU): Equip one 220 kV position to terminate the Desert Flower-Whirlwind 220k	CET-ET-TP-RN-777500	901515853	High	Jul-18	100	15	-	115	100	15	-	115
Total Other Transmission						100	85	-	185	100	85	-	185
08090	Eldorado-Sloan Canyon T/L: Install one transmission structure with two spans from the SCE dead en	CET-ET-AF-CF-809000	902249126	High	May-19	1,403	3	-	1,406	1,403	3	-	1,406
08090	Eldorado Substation (NU): install the following equipment on a dedicated 220kV double breaker line p	CET-ET-LG-AF-809000	902249125	High	Dec-19	4,754	130	-	4,884	4,754	130	-	4,884
08090 Eldorado – Sloan Canyon 220 kV Interconnection						6,157	133	-	6,290	6,157	133	-	6,290
08088	Eldorado Substation (NU): Install facilities for a new 500 kV switchrack position to terminate the Eldor	CET-ET-LG-AF-808800	902245555	High	Jun-20	6,918	9,952	-	16,870	6,918	9,952	-	16,870
08088	Harry Allen - Eldorado T/L: Install one span from the SCE dead end rack to the Connecting Last Addi	CET-ET-AF-CF-808800	902245556	High	Dec-21	263	265	81	609	263	265	81	609
08088 Harry Allen - Eldorado 500kV Transmission Line Project						7,180	10,217	81	17,478	7,180	10,217	81	17,478
Total Added Facilities						13,337	10,350	81	23,768	13,337	10,350	81	23,768
TSP Projects													
05383	Chino 220/66kV - Add a 4th 280MVA, 220/66kV Transformer Bank and Split the Chino 66kV System	CET-ET-LG-TS-538303	901191112	High	Dec-20	5,602	563	-	6,165	1,961	197	-	2,158
06824	La Fresa Sub (Phase 2): Install new MEER and cut over existing protection and upgrade CTs on exis	CET-ET-LG-TS-682400	900522611	High	Dec-19	-	1,699	-	1,699	-	629	-	629
07113	El Nido: Install 230 kV (63 kA) double breakers on No. 1 A bank at position 3 and No. 3A bank at posi	CET-ET-LG-TS-711300	901241164	High	Jun-18	-	0	-	0	-	0	-	0
07834	Bailey Sub: Install a 28.8 MVAR Capacitor	CET-ET-LG-TS-783400	901618623	Low	Jun-18	-	-	-	-	-	-	-	-
06263	Vestal: Equip 220 kV A-Bank Positions (Positions 3 & 4) with CBs - PIN 6263	CET-ET-LG-TS-626302	900312889	High	Aug-17	-	(17)	-	(17)	-	(16)	-	(16)
07767	Johanna Substation: Equip New 220kV position with one 220kV Circuit Breaker and two 220kV Disco	CET-ET-LG-TS-776700	901487156	High	Jul-20	17,261	2,537	-	19,798	863	127	-	990
Total TSP Projects						22,862	4,782	-	27,644	2,824	937	-	3,760
Transmission Project Reliability													
07518	Springville Sub: Redesign high side feed from bank on bus to double CB at 220kV position 4 equippe	CET-ET-TP-RL-751800	901007168	High	May-19	-	6	-	6	-	5	-	5
07119	Walnut: Convert the Mesa 220 kV Line Position and 3A & 4A Bank High Side Positions to Double Bre	CET-ET-TP-RL-711900	900772538	High	Dec-19	-	116	-	116	-	48	-	48
07790	Eagle Mountain Substation: Install a 45 MVAR tertiary reactor (effective 34 MVAR @ 12 kV)	CET-ET-TP-RL-779000	901552346	High	Nov-18	-	2	-	2	-	2	-	2
07547	Eldorado: Engineer, remove and install equipment for changing the 500kV line pos for the Eldorado–I	CET-ET-TP-RL-754700	901107340	High	Jan-18	-	10	-	10	-	10	-	10
07547	Eldorado-Mohave 500kV: Remove two existing transmission structures. Install three new transmissio	CET-ET-TP-RL-754701	901107560	High	Jan-18	7,217	-	230	7,447	7,217	-	230	7,447
07547	Eldorado-Moenkopi 500 kV: Remove one existing transmission structure. Install one new transmissio	CET-ET-TP-RL-754702	901107562	High	Jan-18	4,266	-	-	4,266	4,266	-	-	4,266
07547 Total Eldorado-Mohave and Eldorado-Moenkopi 500kV Line Position Swap						11,484	10	230	11,724	11,484	10	230	11,724
07727	Inyokern Substation: Expand existing MEER at Inyokern Substation.	CET-ET-TP-RL-772700	901394462	Low	Dec-20	35	1,493	-	1,528	13	553	-	565
07727	Control Substation: Install 12 N60 relays, one satellite clock, and two ethernet switches	CET-ET-TP-RL-772701	901394533	Low	Oct-20	271	1,207	-	1,477	233	1,038	-	1,270
07727 Total Digital 395 Project: North-of-Kramer Area Telecom Network and RAS Upgrades						305	2,700	-	3,005	246	1,590	-	1,836
07763	Lugo 500/220 kV: Install two N60 relays Install one ethernet switch Install one satellite switch PSC- R	CET-ET-TP-RN-776301	901484303	High	Sep-16	-	-	-	-	-	-	-	-
07763	Eldorado-Lugo 500 kV line: CA side - Install 85 miles of new OPGW between CA/NV border and Pisd	CET-ET-TP-RN-776304	901665563	High	Apr-21	4,597	6,453	-	11,050	4,597	6,453	-	11,050
07763	Eldorado-Lugo 500 kV line: NV Side -Install 2 miles of new OPGW between CA/NV border and MI52-	CET-ET-TP-RN-776305	901665564	High	Apr-21	468	41	-	509	468	41	-	509
07763	Pisgah Sub: Install new telecommunication room.	CET-ET-TP-RL-776300	901671834	High	Jan-18	-	-	-	-	-	-	-	-
07763	Mohave: Install two Relays and two Switches	CET-ET-TP-RN-776302	901484315	High	Nov-20	138	121	-	259	138	121	-	259
07763	Lugo Sub: Install new control cables	CET-ET-TP-RN-776307	902249120	High	Oct-20	52	55	-	107	52	55	-	107
07763	Eldorado: Install equipment to support N-2	CET-ET-TP-RN-776308	902249121	High	May-21	18	1	-	19	18	1	-	19
07763 Total Lugo-Victorville 500 kV SPS						5,274	6,671	-	11,945	5,274	6,671	-	11,945
07120	Chino Sub: equip the No.1A 220kV A-Bank positions with circuit breakers	CET-ET-TP-RL-712000	900713964	High	Aug-19	-	3,547	824	4,371	-	2,305	536	2,841
07884	Tap the remaining Lighthipe 220kV line to Harborgen substation	CET-ET-TP-RL-788402	901822249	High	Dec-20	531	26	10	567	531	26	10	567
07884	Harbogen-Long Beach 220kV:Rmv 1 mile of line (REMOVAL ONLY)	CET-ET-TP-RL-788400	901822245	High	Dec-20	-	793	97	891	-	793	97	891
07884	Lighthipe-Long Beach 220kV:Rmv 1 mile of line (REMOVAL ONLY)	CET-ET-TP-RL-788401	901822246	High	Dec-20	-	2,255	724	2,979	-	2,255	724	2,979
07884	Long Beach Sub: Remove 220kV switchyard	CET-ET-TP-RL-788403	901822250	High	Mar-21	47	111	65	223	47	111	65	223
07884	CCR Project Phase 2 (Removal)	CET-ET-TP-RL-788498	7884-Phase2	High	Dec-21	-	-	37,598	37,598	-	-	21,807	21,807
07884 Total Cerritos Channel Relocation Project						578	3,185	38,495	42,258	578	3,185	22,704	26,467
08019	CONTROL-SILVER PEAK "A" 55KV Install 11 sets of Remote Fault Indicators (RFIs)	CET-ET-TP-RL-801900	TD1269146	Low	Jun-20	280	125	-	405	280	125	-	405
08019	CONTROL-SILVER PEAK "C" 55KV Install 11 sets of Remote Fault Indicators (RFIs)	CET-ET-TP-RL-801902	TD1269499	Low	Jul-20	165	112	-	277	165	112	-	277
08019 Total Control-Silver Peak "A" Transmission Project						445	237	-	682	445	237	-	682
06791	Lugo 500 kV Substation breaker installation for No. 1AA & No. 2AA banks	CET-ET-TP-RL-679100	800308934	High	Dec-21	5,354	100	1,737	7,191	5,354	100	1,737	7,191
07115	Johanna: Install double breakers on 3A+4A	CET-ET-TP-RL-711500	902067053	High	Dec-20	2,212	300	-	2,512	1,814	246	-	2,060
07241	Eldorado: Install (2) 500 kV CBs, (3) 500 kV gang operated disconnects and other associated equipm	CET-ET-TP-RL-724100	900713966	High	Jul-16	-	2	-	2	-	2	-	2
07248	New 500/230 kV AA-Bank at Eldorado Connected to the New 220 kV SCE Owned Switchyard	CET-ET-TP-RN-724800	900692364	High	Aug-18	-	-	-	-	-	-	-	-

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				Voltage		Prior	2020	2021	Total	Prior	2020	2021	Total
07511	Antelope-Pardee 500kV: Install Marker Balls and Lighting per FAA requirements	CET-PD-OT-LM-751101	900719387	High	Jul-19	3,250	4	-	3,254	3,250	4	-	3,254
06420	Devers Sub: Remove 220 kV CBs and DSs	CET-ET-TP-RN-642007	901455361	High	Oct-21	-	20	-	20	-	20	-	20
06420	Vista Sub: Remove 220 kV DSs	CET-ET-TP-RN-642011	901455365	High	Feb-20	-	30	-	30	-	30	-	30
06420	West of Devers 220 kV Trans Line Removals	CET-ET-TP-RN-642018	901460766	High	Dec-20	-	5,000	4,513	9,513	-	5,000	4,513	9,513
06420	Total West of Devers Upgrade Project					-	5,050	4,513	9,563	-	5,050	4,513	9,563
07227	Inyo Substation: Replace Inyo phase shifter and new hybrid circuit breaker.	CET-ET-CR-WC-722702	902379073	Low	Mar-21	227	3,283	4,943	8,453	227	3,283	4,943	8,453
07227	Control: Install two N60 relays	CET-ET-TP-RN-722700	902448105	Low	Mar-21	5	250	115	370	5	250	115	370
07227	Total Casa Diablo IV Project Interconnection					231	3,533	5,058	8,822	231	3,533	5,058	8,822
07729	Red Bluff Sub (NU): Terminate the Black Ranch - Red Bluff 220kV T/L at Red Bluff Sub: Install the fol	CET-ET-TP-RN-772900	901395606	High	Jul-20	1,121	1,517	-	2,638	1,121	1,517	-	2,638
08107	Kramer Substation (RNU): a. Engineer and construct one 220 kV line position, which includes the fol	CET-ET-CR-WC-810701	902342409	High	Nov-21	17	170	2,157	2,344	17	170	2,157	2,344
08091	Big Creek 4: Install two new N60 relays	CET-ET-TP-RL-809100	902260821	High	Dec-20	106	295	-	400	106	295	-	400
07546	EPC Vendor Compensation for delay in License/Permit Process	CET-ET-TP-RL-754600	7546-1	High	Dec-21	-	-	703	703	-	-	703	703
07546	Change Orders for AC Paving, ABB Bypass Switches, H Frame, testing and other studies	CET-ET-TP-RL-754600	7546-2	High	Dec-21	-	-	3,593	3,593	-	-	3,593	3,593
07546	(Removal /Expense) Eldorado Sub: Upgrade Terminal Equipment and Series Capacitors on Eldorado	CET-ET-TP-RL-754600	902287734	High	Dec-21	-	667	-	667	-	667	-	667
07546	(Removal /Expense) Lugo Sub: Upgrade Terminal Equipment and Series Capacitors on Eldorado-Lu	CET-ET-TP-RL-754601	902287735	High	Dec-21	-	664	534	1,198	-	664	534	1,198
07546	(Removal /Expense) Mohave Sub: Install Series Capes	CET-ET-TP-RL-754604	902287736	High	Dec-21	-	290	-	290	-	290	-	290
07546	(Removal /Expense) E-M: Install OPGW, Splice Fiber, and clear Infracrctions on the Eldorado-Mohave	CET-ET-TP-RL-754607	902287737	High	Apr-21	-	896	-	896	-	896	-	896
07546	(Removal /Expense) L-M (CA): Install OPGW, Splice Fiber, and clear Infracrctions on the Lugo-Mohave	CET-ET-TP-RL-754608	902287738	High	Apr-21	-	2,823	-	2,823	-	2,823	-	2,823
07546	(Removal /Expense) L-M (NV): Install OPGW, Splice Fiber, and clear Infracrctions on the Lugo-Mohave	CET-ET-TP-RL-754609	902288039	High	Apr-21	-	176	-	176	-	176	-	176
07546	(Removal /Expense) Eldorado-Lugo: Correct GO-95 Infracrctions on the Eldorado-Lugo 500 kV T/L	CET-ET-TP-RL-754610	902288040	High	Apr-21	-	124	-	124	-	124	-	124
07546	Total Eldorado-Lugo-Mohave (ELM) Series Cap Upgrades Project					-	5,640	4,830	10,470	-	5,640	4,830	10,470
07555	Mesa: Remove 230/66/16kV switchracks & equipment	CET-ET-TP-RL-755505	901192482	High	Aug-20	-	11,258	-	11,258	-	3,603	-	3,603
07555	Mira Loma-Vincent 500kV: Remove three structures and 4200 ckt ft of conductor	CET-ET-TP-RL-755507	901192484	High	Dec-20	-	892	-	892	-	892	-	892
07555	Eagle Rock-Mesa 220kV: Remove 2100 ckt ft of conductor	CET-ET-TP-RL-755537	902124237	High	Dec-20	-	(2)	-	(2)	-	(2)	-	(2)
07555	Lighthipe-Mesa: Remove 8 structures and conductor	CET-ET-TP-RL-755546	902124391	High	Dec-19	-	(3)	-	(3)	-	(3)	-	(3)
07555	Mesa-Rio Hondo 220kV: Remove 4 structures and 2700 ckt ft of conductor.	CET-ET-TP-RL-755547	902124392	High	Dec-20	-	226	-	226	-	226	-	226
07555	Mesa-Rio Hondo 220kV: Remove 4 structures and 2700 ckt ft of conductor.	CET-ET-TP-RL-755548	902124393	High	Dec-20	-	353	-	353	-	353	-	353
07555	Mesa-Vincent #1 220kV: Remove 3 structures, 2 shoofly ESPs, 800 ckt ft of shoofly conductor, and 2	CET-ET-TP-RL-755552	902124397	High	Dec-19	-	14	-	14	-	14	-	14
07555	Mesa-Vincent #2 220kV: Remove 3 structures and 2000 ckt ft of conductor	CET-ET-TP-RL-755554	902124579	High	Dec-20	-	(10)	-	(10)	-	(10)	-	(10)
07555	Redondo-Vincent 220kV: Remove 1500 ckt ft of shoofly conductor. Shoofly will stay in place >12 mor	CET-ET-TP-RL-755558	902124583	High	Dec-20	-	81	-	81	-	81	-	81
07555	Center-Mesa 220kV: Remove 4 structures and 2800 ckt ft of conductor	CET-ET-TP-RL-755535	902132962	High	Dec-20	-	381	-	381	-	381	-	381
07555	Goodrich-Laguna Bell 220kV: Remove 2 structures, remove 1500 ckt ft of shoofly conductor, and rer	CET-ET-TP-RL-755538	902132963	High	Dec-20	-	140	-	140	-	140	-	140
07555	Laguna Bell-Rio Hondo 220kV: Remove 2 structures, remove 1 shoofly ESP and 500 ckt ft of shoofly	CET-ET-TP-RL-755543	902132966	High	Dec-20	-	(3)	-	(3)	-	(3)	-	(3)
07555	Mesa-Walnut 220kV: Remove 2800 ckt ft of conductor	CET-ET-TP-RL-755556	902124581	High	Dec-20	-	149	-	149	-	149	-	149
07555	Total Mesa Substation Project					-	13,477	-	13,477	-	5,821	-	5,821
07866	Magunden Substation: Upgrade six 1200amp disconnects to match rating of the upgraded line. (4hr €	CET-ET-TP-RN-786601	902175272	High	Dec-19	-	219	-	219	-	219	-	219
07866	Vestal Substation: Upgrade six 1200amp disconnects to match rating of the upgraded line. (4hr emer	CET-ET-TP-RN-786602	902175273	High	Feb-20	1,896	401	-	2,297	1,896	401	-	2,297
07866	Total Big Creek Corridor Rating Increase Project					1,896	621	-	2,517	1,896	621	-	2,517
08029	Lugo Substation: Replace three 500kV CBs (CB#762, 862, 962), six 500kV disconnects (#761, 763, 1	CET-ET-TP-RL-802900	902148910	High	Sep-21	31	2,995	6,050	9,076	31	2,995	6,050	9,076
08029	Lugo-Victorville 500kV Transmission Line (SCE-owned):Eix the appropriate number of spans to achie	CET-ET-TP-RL-802901	902148911	High	May-19	-	125	-	125	-	125	-	125
08029	Total Lugo - Victorville 500kV Transmission Line Thermal Overloads Project					31	3,120	6,050	9,201	31	3,120	6,050	9,201
08077	Pisgah 220 kV (Option 2):A. 220 kV SwitchrackB. RelaysB. RacksC. L90C. C60	CET-ET-TP-RL-807701	902739837	High	Jun-21	9	315	179	503	9	315	179	503
08077	Lugo 220 KV Relay Upgrade	CET-ET-TP-RL-807701	902739830	High	Mar-21	15	350	76	440	15	350	76	440
08077	Eldorado 220 kV (Option 2):Cima-Pisgah #1 220kV (Pos 9N) and Cima-Pisgah #2 220kV (Pos 10N)A	CET-ET-TP-RL-807702	902739829	High	Jul-21	15	169	39	223	15	169	39	223
08077	Inyokern 115 kV:Relays:2 Rack1 L901 SEL311C4 C60	CET-ET-TP-RL-807701	902739835	Low	Oct-20	1	260	-	261	1	260	-	261
08077	Big Creek 3 220 kV:A. 220 kV SwitchrackB. RelaysC. RacksD. SEL587Z	CET-ET-TP-RL-807701	902459930	High	Dec-20	629	3,340	-	3,969	629	3,340	-	3,969
08077	Magunden220 kV:A. 220 kV SwitchrackB. RelaysC. RacksD. Conduit + pull-boxes	CET-ET-TP-RL-807701	902459931	High	Dec-20	666	885	1,258	2,809	666	885	1,258	2,809
08077	Pastoria 220 kV:A. 220 kV SwitchrackB. RelaysC. RacksD. Conduit + pull-boxesE. Remove conduit + pu	CET-ET-TP-RL-807701	902459932	High	Jul-20	307	566	630	1,503	307	566	630	1,503
08077	Total Annual Transmission Reliability Assessment 2016 - Protection Upgrades (San Joaquin Region)					1,640	5,885	2,182	9,707	1,640	5,885	2,182	9,707
08078	Antelope (RNU): Install two N60 relays	CET-ET-CR-WC-807802	902220556	High	Mar-21	19	24	24	67	19	24	24	67
08078	Antelope Sub (RNU) - Power System Control. i. Expand existing RTU at SCE Antelope Substation an	CET-ET-CR-WC-807803	902220557	High	Jun-20	11	24	39	74	11	24	39	74
08078	Total Antelope 2 Solar Interconnection to Antelope Substation					30	47	63	140	30	47	63	140
08081	Colorado River Sub (RNU): 1. Install one 220kV line position which includes the following equipment:	CET-ET-TP-RN-808100	902286854	High	Dec-20	596	909	847	2,352	596	909	847	2,352
08081	Colorado River Sub (RNU) - Install two GE N60 logic processing relays or equivalent successor to se	CET-ET-TP-RN-808101	902286855	High	Dec-20	32	122	47	202	32	122	47	202
08081	Colorado River (RNU) - ground grid study for interconnection	CET-ET-TP-RN-808102	902286856	High	Jun-20	2	34	-	37	2	34	-	37
08081	Total Arlington Solar Project Interconnection to Colorado River Substation					630	1,066	894	2,590	630	1,066	894	2,590
08104	Moorpark 220 kV Switchrack: Relocate the Ormond Beach No. 3 & 4 lines into positions 10N & 11N.	CET-ET-TP-RL-810400	902315805	High	Feb-21	4,911	2,131	1,076	8,118	1,129	490	248	1,867
08104	Pardee 230 kV: Equip vacant Position 16E with two CBs rated at 4000A/63kA and four disconnects r	CET-ET-TP-RL-810401	902315808	High	Nov-20	3,225	2,353	371	5,949	3,225	2,353	371	5,949
08104	New Moorpark-Pardee #4 230 kV line: String roughly 25.5 mile section on vacant side of existing str	CET-ET-TP-RL-810402	902315828	High	Aug-20	12,150	17,292	23,137	52,579	12,150	17,292	23,137	52,579

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08104	Moorpark-Santa Clara #2: String 2B-1590 one mile section on vacant side of existing structures to re	CET-ET-TP-RL-810403	902315960	High	Dec-20	157	1,689	289	2,135	157	1,689	289	2,135
08104	Moorpark-Pardee No. 1: Relocate Moorpark - Pardee No. 1 230 kV transmission line to position 16E	CET-ET-TP-RL-810404	902578087	High	Nov-20	62	1,357	75	1,494	62	1,357	75	1,494
08104	Santa Clara: Replace line relays for Moorpark No.1 230 kV line with one (1) G.E L90 relay and one (1)	CET-ET-TP-RL-810405	902578088	High	Mar-20	68	358	45	472	68	358	45	472
08104	Environmental for Moorpark-Pardee	CET-ET-TP-RL-810402	916718	High	Feb-21	-	1,050	218	1,269	-	1,050	218	1,269
08104	Total Moorpark-Pardee 230 kV No. 4 Circuit Project					20,572	26,230	25,213	72,015	16,791	24,589	24,384	65,764
07680	Santiago: Installation of one 225 MVARs synchronous condenser	CET-ET-TP-RL-768000	901333497	High	Dec-19	-	52	-	52	-	50	-	50
07059	Red Bluff Sub: Install the following additional equipment for a shared 220kV Line / Bank Position on e	CET-ET-TP-RN-705900	900346247	High	Aug-20	1,451	600	-	2,051	1,451	600	-	2,051
07073	Red Bluff RNU: Inst 220kV line position	CET-ET-TP-RN-707300	902494149	High	Dec-21	2	-	2,000	2,002	2	-	2,000	2,002
08261	Devers Substation: Revising logic diagrams and reprograming relay settings for total four N60 relays	CET-ET-TP-RL-826100	902852557	High	Feb-21	-	28	112	140	-	28	112	140
08261	Mirage Substation: Revising logic diagrams and reprograming relay settings for total four N60 relays	CET-ET-TP-RL-826101	902852558	High	Feb-21	-	28	112	140	-	28	112	140
08261	Total Path 42 (Coachella Valley-Mirage and Mirage-Ramon) RAS					-	56	224	280	-	56	224	280
08091	Springville Sub: Reconnect Big Creek 4 currents and bpallets to relays 37-1A and 37-1B	CET-ET-TP-RL-809101	902393260	High	Jun-20	56	179	-	236	56	179	-	236
08163	Red Bluff 2nd 500/220 kV AA Bank (Deliverability Network Upgrade)	CET-ET-TP-RL-816300	902494090	High	Apr-21	102	4,312	11,373	15,787	102	4,312	11,373	15,787
08205	Whirlwind Substation: Install two GE N60 logic processing relays or equivalent successor to send trip	CET-ET-TP-RN-820501	902642390	High	Aug-21	1	9	8	18	1	9	8	18
08205	Whirlwind Substation (NU): Install two GE N60 logic processing relays or equivalent successor to ser	CET-ET-TP-RN-820502	902642391	High	Aug-21	1	253	184	438	1	253	184	438
08205	Total Bigbeau Project interconnection to the Whirlwind Substation					2	262	192	456	2	262	192	456
08216	Colorado River Substation (RNU): a.Install one 220 kV line position, which includes the following equi	CET-ET-TP-RN-821601	902660304	High	Apr-21	77	154	108	338	77	154	108	338
08220	Power Systems Control (RNU):Add points/RAS Programming	CET-ET-TP-RN-822008	902699367	High	Jul-21	1	10	-	11	1	10	-	11
08220	Valley Sub (RNU):Add relays/points	CET-ET-TP-RN-822001	902699208	High	Apr-21	27	75	49	151	27	75	49	151
08220	Total Athos Power Plant Project Interconnection at Red Bluff Substation					28	85	49	161	28	85	49	161
08227	Victor (RNU) - Install two GE N60 relays	CET-ET-TP-RN-822700	902732437	High	Mar-21	64	516	152	732	64	516	152	732
08201	Whirlwind Substation (RNU): Whirlwind AA-Bank RAS: Utilize two GE N60 logic processing relays or	CET-ET-TP-RN-820100	902668204	High	Aug-21	-	410	441	851	-	410	441	851
08204	Whirlwind AA-Bank RAS. i. Whirlwind Substation: Utilize two GE N60 logic processing relays or equiv	CET-ET-TP-RN-820400	902650549	High	Dec-21	-	77	80	157	-	77	80	157
08204	Tehachapi C-RAS. i. Whirlwind Substation. Install two GE N60 logic processing relays or equivalent s	CET-ET-TP-RN-820401	902722024	High	Dec-21	-	3	3	6	-	3	3	6
08204	Whirlwind Sub: Modify the programs to add the Large Generating Facility to the Whirlwind AA-Bank R	CET-ET-TP-RN-820402	902722029	High	Dec-21	-	4	5	9	-	4	5	9
08204	Total Rabbitbrush Solar Interconnection at Whirlwind Substation					-	84	88	172	-	84	88	172
08223	Whirlwind AA Bank Centralized RAS. i. Whirlwind Substation. Utilize two GE N60 logic processing rel	CET-ET-TP-RN-822300	902705074	High	Jul-21	-	64	97	161	-	64	97	161
08223	Tehachapi CRAS: i. Whirlwind Substation. Install two GE N60 logic processing relays or equivalent s	CET-ET-TP-RN-822301	902705075	High	Jul-21	-	64	97	161	-	64	97	161
08223	Power System Controls.1. Add points to the RTUs at Whirlwind Substation.2. Modify the existing RAS	CET-ET-TP-RN-822302	902705077	High	Jul-21	-	5	6	11	-	5	6	11
08223	Total Willy Interconnection at Whirlwind Substation					-	133	200	333	-	133	200	333
08226	Antelope Substation- Tehachapi C-RAS (RNU) - 1. Antelope Substation a. Install two GE N60 logic	CET-ET-TP-RN-822600	902726865	Low	Aug-21	-	8	307	315	-	8	307	315
08226	Antelope Substation-Plan of Service (RNU) - 1. Install all necessary equipment, including one 66 kV	CET-ET-TP-RN-822602	902726867	Low	Jun-21	-	17	783	800	-	17	783	800
08226	Antelope Substation-Power System Control (RNU) - Add points to existing RTU at Antelope Substati	CET-ET-TP-RN-822603	902726869	Low	Aug-21	-	11	5	16	-	11	5	16
08226	Total Clover Energy Storage Interconnection at Antelope Substation					-	36	1,095	1,131	-	36	1,095	1,131
Total Transmission Project Reliability						56,957	90,410	108,168	255,535	52,718	78,636	91,260	222,614

Infrastructure Replacement

04211	Replace Bulk Power Circuit Breakers (220kV and Above)	CET-ET-IR-CB-421100		High	Blanket Specifics	-	2,884	3,253	6,137	-	2,884	3,253	6,137
04329	Non-Bulk Circuit Breaker Replacement Program (115kV and Below)	CET-ET-IR-CB-432911		Low	Blanket Specifics	-	932	-	932	-	932	-	932
03138	Sylmar Convertor Station: Misc Cap	CET-OT-OT-ME-313800		High	Blanket Specifics	-	2,234	1,248	3,482	-	2,234	1,248	3,482
03138	LADWP AC/DC Filter Replacement	CET-OT-OT-ME-313803	900713761	High	Dec-20	71,506	14,369	-	85,876	71,506	14,369	-	85,876
03138	Total LADWP - WORK PERFORMED BY OPERATING AGENT					71,506	16,603	1,248	89,357	71,506	16,603	1,248	89,357
06197	On-line Dissolved Gas Analysis of Bulk Power Transformer Banks	CET-ET-IR-ME-619700		High	Blanket Specifics	-	4,516	5,813	10,329	-	463	67	530
04343	Non-Bulk Relay Replacement Program ("SRRP")	CET-ET-IR-RP-434301		Low	Blanket Specifics	-	8,064	18,735	26,799	-	768	1,127	1,895
05089	Bulk Power 500kV & 220kV Line Relay Replacement	CET-ET-IR-RP-508900		High	Blanket Specifics	-	4,442	9,273	13,715	-	4,433	8,854	13,287
04756	Substation Miscellaneous Equipment Additions & Betterment	CET-ET-IR-ME-475600		High	Blanket Specifics	-	36,287	32,252	68,539	-	19,005	14,192	33,196
05210	Substation Transformer Bank Replacement Program (AA-Bank & A-Bank)	CET-ET-IR-TB-521001		High	Blanket Specifics	-	15,070	11,229	26,299	-	2,806	1,558	4,364
07716	Substation Batteries & Chargers (FERC)	CET-ET-IR-ME-771601		High	Blanket Specifics	-	-	40	40	-	-	40	40
04837	Replace SAS Infrastructure (FERC)	CET-ET-IR-RP-483701		High	Blanket Specifics	-	482	1,431	1,914	-	482	1,431	1,914
07957	Devers: Substation Maintenance and Test Building Improvements program	COS-00-RE-AD-SR0004	801432305	High	Jul-19	1,468	3,063	-	4,531	1,202	2,508	-	3,710
07959	Rector: Substation Maintenance and Test Building Improvements program	COS-00-RE-AD-SR0006	801432582	High	Dec-20	4,856	6,764	-	11,621	2,809	3,912	-	6,720
	Total Substation Maintenance and Test Building Improvements Program					6,325	9,827	-	16,152	4,011	6,420	-	10,430
07637	Substation Facility Capital Maintenance	COS-00-RE-MA-NE7637		High	Blanket Specifics	-	11,509	16,533	28,042	-	4,028	5,787	9,815
07392	Seismic Program - Trans Subs (FERC)	COS-00-SP-TD-000000		High	Blanket Specifics	-	22,096	21,000	43,096	-	14,141	13,440	27,581
07392	Seismic Program - Trans Lines	COS-00-SP-TD-000002		High	Blanket Specifics	-	4,000	3,300	7,300	-	4,000	3,300	7,300
07392	Seismic Assessment and Mitigation Program for Transmission Assets					-	26,096	24,300	50,396	-	18,141	16,740	34,881
07949	Protection of Grid Infrastructure Assets (formerly, Physical Security Systems - Electric Facilities)	COS-00-CS-CS-745400		High	Blanket Specifics	-	10,296	13,243	23,539	-	5,956	7,661	13,617

Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects
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PIN	Project Title	C-WBS	Order #	High/ Low	OD	Project Total (ISO & non-ISO)				ISO Portion			
				Voltage		Prior	2020	2021	Total	Prior	2020	2021	Total
07948	North American Electric Reliability Corporation Critical Infrastructure Protection (NERC CIP) V6	COS-00-CS-CS-745700		High	Blanket Specifics	-	100	-	100	-	46	-	46
07573	Substation Fence/Gate (Cu Theft) (FERC)	CET-ET-IR-ME-757301		High	Blanket Specifics	-	5,225	3,724	8,950		2,791	1,990	4,781
07820	NERC CIP-14 Physical Security Enhancements	COS-00-CS-CS-782000		High	Blanket Specifics	-	2,518	476	2,995	-	2,468	467	2,935
07820	500/220 kV (ES-5069): NERC CIP-14 Physical Security Enhancements	CET-ET-IR-ME-782001	901656354	High	Dec-18	-	417	263	680	-	355	224	579
07820	220/66 kV (ES-5050): NERC CIP-14 Physical Security Enhancements	CET-ET-IR-ME-782002	901656355	High	Sep-18	-	307	162	469	-	267	141	408
07820	500/220 kV (ES-5054): NERC CIP-14 Physical Security Enhancements	CET-ET-IR-ME-782005	901656358	High	May-20	18,388	2,961	1,540	22,889	18,388	2,961	1,540	22,889
07820	500/220 kV (ES-5090): NERC CIP-14 Physical Security Enhancements	CET-ET-IR-ME-782008	901657121	High	Jun-20	11,214	6,771	2,155	20,140	11,214	6,771	2,155	20,140
07820	500/220 kV (ES-5061): NERC CIP-14 Physical Security Enhancements	CET-ET-IR-ME-782009	902072001	High	Sep-19	-	313	180	494	-	313	180	494
07820	Substation Physical Security Enhancements Project					29,602	13,288	4,776	47,666	29,602	13,136	4,707	47,445
08042	500/220 kV (ES-5080): Perimeter Security Upgrade	CET-ET-IR-ME-804207	902158683	High	Dec-20	-	356	1,720	2,076	-	356	1,720	2,076
08042	500/220 kV (ES-5067): Physical Security Tier 2	CET-ET-IR-ME-804200	902210275	High	Jun-21	258	0	940	1,199	212	0	771	983
08042	500/220 kV (ES-5052): Physical Security Tier 2	CET-ET-IR-ME-804201	902210276	High	Jan-21	25	-	147	172	25	-	147	172
08042	500/220 kV (ES-5047): Physical Security Tier 2	CET-ET-IR-ME-804202	902210277	High	Nov-20	8	2	143	153	8	2	143	153
08042	500/220 kV (ES-8060): Physical Security Tier 2	CET-ET-IR-ME-804203	902210452	High	Jul-20	13	2	143	158	13	2	143	158
08042	500/220 kV (ES-5079): Physical Security Tier 2	CET-ET-IR-ME-804204	902210453	High	Mar-21	11	3	143	157	10	3	127	140
08042	220/115/66 kV (ES-5064): Physical Security Tier 3	CET-ET-IR-ME-804205	902210454	High	May-21	67	-	-	67	67	-	-	67
08042	Physical Security Projects (Tiers 2 & 3)					382	363	3,237	3,982	334	363	3,052	3,749
	Total Physical Security Enhancement Programs					29,984	29,273	24,981	84,237	29,936	22,293	17,409	69,638
	Total Infrastructure Replacement					107,815	165,984	149,089	422,888	105,453	99,257	71,707	276,417
Grid Applications													
07666	Centralized Remedial Action Scheme (C-RAS) Program - Phase 1: Colorado River Corridor RAS	CET-ET-GA-CR-766600		High	Blanket Specifics	-	2,039	7,542	9,581	-	2,039	7,542	9,581
08009	Northern C-RAS to Tehachapi C-RAS	CET-ET-GA-CR-800900		High	Blanket Specifics	-	1,133	-	1,133	-	1,133	-	1,133
06446	Phasor Measurement System Installations	CET-ET-GA-EM-644606		High	Blanket Specifics	-	9,900	5,165	15,066	-	3,737	2,175	5,912
	Total Grid Apps					-	13,073	12,707	25,780	-	6,910	9,716	16,626
PWRD Blankets													
03363	Substation Planned Maintenance Replacements	CET-PD-IR-SP-SUBSNW		High	Blanket Specifics	-	6,718	-	6,718	-	358	-	358
03363	Substation Unplanned Maintenance Replacements	CET-PD-BM-SU-SUBSNW		High	Blanket Specifics	-	11,644	11,905	23,548	-	533	545	1,079
03363	Substation - Storm	CET-PD-ST-SS-SUBSNW		High	Blanket Specifics	-	1,643	1,678	3,320	-	363	371	734
03363	Substation Maintenance, Breakdown, & Storm					-	20,004	13,582	33,587	-	1,254	916	2,170
07888	Transmission Maintenance Planned - Pothead Replacement	CET-PD-IR-TP-788800		High	Blanket Specifics	-	957	4,500	5,457	-	957	4,500	5,457
03364	Transmission Breakdown Maintenance Unplanned	CET-PD-BM-TU-TREAST		High	Blanket Specifics	-	3,100	3,065	6,165	-	737	729	1,466
03364	Transmission Tower Corrosion Program	CET-PD-IR-TS-TRSJAC		High	Blanket Specifics	-	6,020	21,027	27,047	-	6,020	21,027	27,047
03364	Transmission Grid-Based Maintenance	CET-PD-IR-TG-TRSJAC		High	Blanket Specifics	-	15,424	43,079	58,502	-	4,572	12,768	17,340
07511	Install Tower Lights and Marker Balls per FAA Standards	CET-PD-OT-LM-751101		High	Blanket Specifics	-	4	-	4	-	4	-	4
	Transmission Maintenance & Breakdown Maintenance					-	25,504	71,671	97,175	-	12,289	39,024	51,314
03364	Transmission Deteriorated Pole Repl & Restoration	CET-PD-IR-TR-TRMETW		High	Blanket Specifics	-	81,765	95,819	177,584	-	246	289	535
03364	Pole Loading Transmission Pole Replacements	CET-PD-IR-PT-TRMETW		High	Blanket Specifics	-	16,900	43,980	60,880	-	51	133	184
04056	Steel Stub Pole Remediation (Trans)	CET-PD-OT-SF-TRORAN		High	Blanket Specifics	-	125	154	279	-	2	2	4

Summary of ISO Capital Expenditure Forecast - Non-Incentive Projects
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				High/ Low	Project Total (ISO & non-ISO)				ISO Portion				
PIN	Project Title	C-WBS	Order #	Voltage	OD	Prior	2020	2021	Total	Prior	2020	2021	Total
Transmission Poles (Pole Loading & Deteriorated Pole Programs)						-	98,790	139,952	238,743	-	299	424	723
07298	Transmission Line Rating Remediation (Exempt from Licensing)	CET-PD-OT-PJ-729801		High	Blanket Specifics	-	118,322	92,284	210,606	-	92,040	62,631	154,671
03362	Critical Infrastructure Spares - FERC Spare Transformer Equipment Program (STEP)/Emergency	CET-PD-CI-CI-CRINSP		High	Blanket Specifics	-	8,529	10,200	18,729	-	8,529	10,200	18,729
03367	Substation - Claim	CET-PD-CL-SC-SUBSNW		High	Blanket Specifics	-	174	355	529	-	4	9	13
03367	Transmission - Claim	CET-PD-CL-TC-TREAST		High	Blanket Specifics	-	3,422	3,511	6,933	-	99	101	200
03367	Transmission - Storm	CET-PD-ST-TS-TREAST		High	Blanket Specifics	-	4,778	4,370	9,148	-	1,266	1,158	2,424
03367	Transmission Storm & Claims					-	8,374	8,236	16,609	-	1,369	1,268	2,637
08224	Transmission Enhanced Overhead Inspections (EOI) Capital Remediations	CET-PD-WM-TP-822400		High	Blanket Specifics	-	64,896	8,839	73,735	-	17,522	2,386	19,908
Total PWRD Blankets						-	279,524	335,925	615,449	-	115,781	114,463	230,244
Total Non-Incentive Transmission Projects						201,072	629,104	614,809	1,444,985	174,432	329,476	289,614	793,522
Total Forecast Specific Project Expenditures (Closing by December 2021)						201,072	140,956	115,786	457,815	174,432	121,827	98,633	394,892
Total Forecast Blanket Expenditures (Closing by December 2021)						-	488,147	499,023	987,171	-	207,649	190,981	398,630