

ATTACHMENT I

Cornerstone Improvement Project Summary
(April 5, 2010)



Cornerstone Improvement Project

Summary

April 5, 2010



Cornerstone Policy Question

Cornerstone is designed to provide the Commission a choice between two reliability levels for PG&E

Cornerstone
Improvement
Project

Invest to fundamentally
change design practices
to achieve a new
standard of reliability

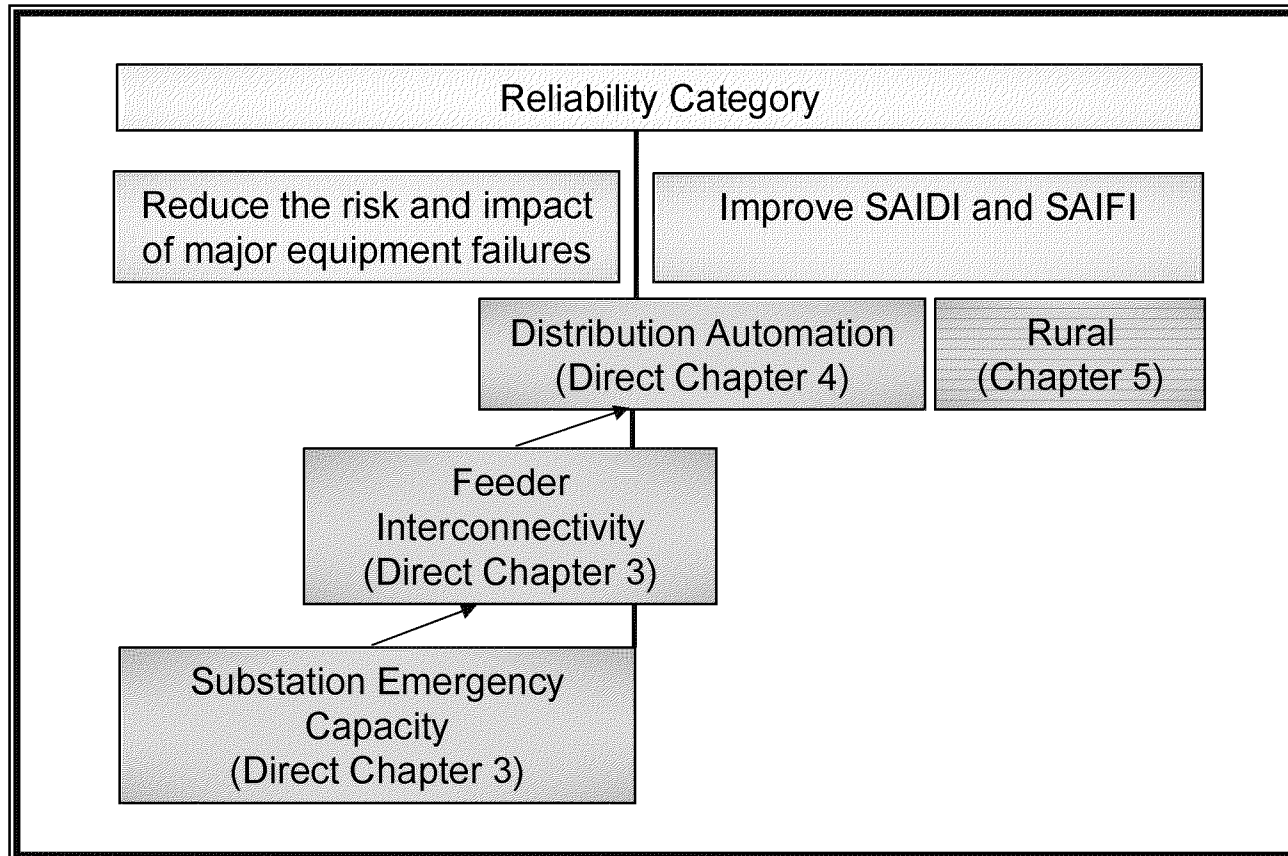
2011
GRC

Continue the current
“adequate service” standard

PG&E has structured Cornerstone so the question can be considered separately from the complexities of the GRC



Reliability Is More Than SAIDI and SAIFI



Other benefits from Cornerstone

- Operational Flexibility, Extended Asset Life, Reduced Losses, Buffer for Load Forecast Errors
- Anticipating Changes to the Grid (Smart Grid, Distributed Generation, Electric Vehicles)
- Bring New Job opportunities to Northern California



Cornerstone Project Details

INCREASE SYSTEM CAPACITY

Substation Capacity
\$ 610 M Capital

Distribution System
Interconnectivity for 1800 Circuits
\$ 697M Capital

Area and Bank
Loss Studies

Bank Loss
Studies

Feeder
Outlet
Loss Studies

Zones Beyond
Feeder
Outlet

95 Substation Projects
Direct Table 3-1
Rebut Table 2-1
70 New Feeder Bkrs
Direct Table 3-5

546 Deficiencies
Direct Table 3-2
Rebut Table 2-3
110 New Feeder Bkrs
Direct Table 3-5

2.8 Multiplier

Studies

- 113 urban and suburban distribution planning areas covering 85 percent of customers
- 1,800 individual feeder studies
- 800 specific prioritized circuits for automation

DISTRIBUTION AUTOMATION \$605M CAPITAL

400-17 kV
and 21 kV
Circuits
Rebut Table 3-4

400 Worst
Performing
12 kV Circuits
Rebut Table 3-4

400 Adjacent
12 kV
Circuits

- Large # of customers
- Longer lines
- Poorest performing class

- Large # of customers
- Poorest Performers

- Improve restoration

RURAL RELIABILITY \$62M CAPITAL

500
Reclosers

5000 Fuse
Locations



Cornerstone Controls

Cornerstone is designed to keep costs and projects separate from normal course of business expenditures and requires annual reporting of progress

Balancing Account
Treatment of Costs

Specific project costs captured and trued up relative to approved spending

Annual Project
Progress Reporting

- Actual projects compared to identified projects
- Forecast updates for coming year
- Load forecasts, actual escalation rates updated

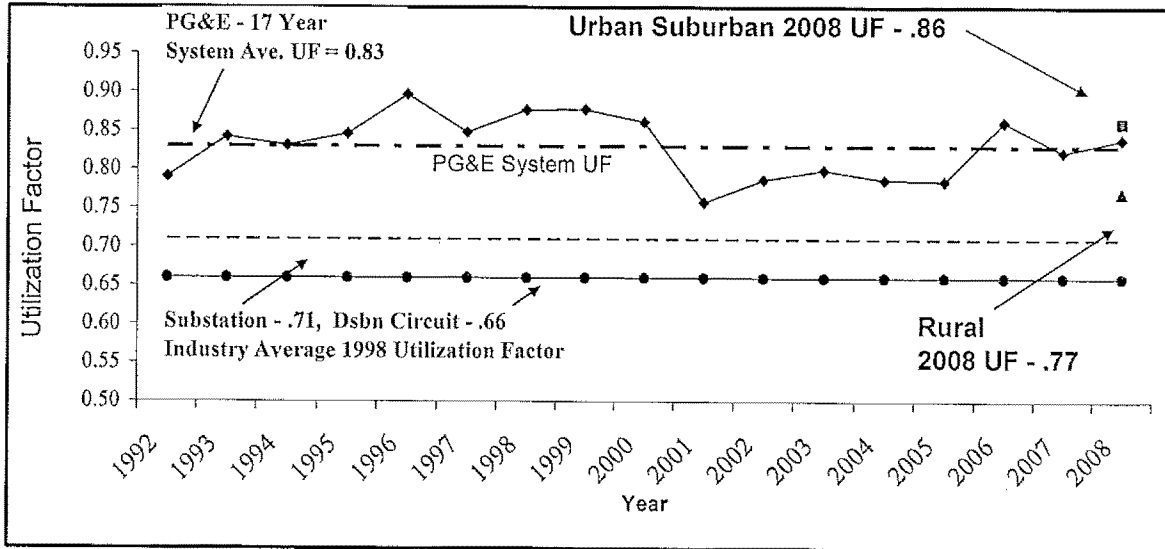
Based on concerns raised by Parties, PG&E proposes to withdraw the Reliability Performance Incentive Mechanism

ATTACHMENT II

PG&E-1 Direct, Chapter 3

Figure 3-1
Pacific Gas and Electric Company
Asset Utilization Graph
(Page 3-6)

FIGURE 3-1
 PACIFIC GAS AND ELECTRIC COMPANY
 ASSET UTILIZATION GRAPH



1 **3. Capacity Planning Criteria and Procedures**

2 The following discussion provides a high-level overview of the planning
 3 process and identifies the system criteria and procedures in PG&E's
 4 capacity planning criteria that will **stay the same** and those PG&E
 5 **proposes to change** as part of the Cornerstone Improvement Project.

6 **a. Distribution Planning Areas**

7 PG&E's distribution system is large and diverse, serving customers
 8 in high density populated urban areas, medium density suburban
 9 communities, and low-density areas in rural portions of the state.
 10 Therefore, the adequacy of the distribution system cannot effectively be
 11 evaluated as a whole. In light of this, PG&E's planning process requires
 12 dividing its service territory into distribution planning areas (DPA) in
 13 order to facilitate studies to determine how and where to expand the
 14 system. Physical boundaries for the DPAs are typically selected based
 15 upon geographic barriers that prevent or impede distribution system
 16 interconnection or electric system characteristics such as a difference in
 17 distribution system voltages. PG&E **is not proposing** any changes to
 18 how the Company defines DPAs as part of the Cornerstone
 19 Improvement Project.

ATTACHMENT III

CUE Rebuttal, Marcus
(Page 20)

1 included in the CIP application but not sufficiently well justified to be
 2 approved by the Commission in this proceeding, makes good sense.

3 **G. TURN Proposes To Allow PG&E To Include Additional**
 4 **Reliability-improving Measures In Its TY2014 GRC**

5 Another one of TURN's alternative suggestions for the outcome of this
 6 case is that, even if the Commission approves some of the CIP in this
 7 proceeding, it should approve no more than 11% of the requested dollars,⁶²
 8 with PG&E then able to come back in the TY2014 GRC to justify further
 9 expenditures as appropriate.⁶³ CUE believes PG&E coming back to justify
 10 further expenditures is also a worthwhile suggestion if the Commission is
 11 going to substantially cut back the scope of the CIP.

12 PG&E has proposed the CIP as a program whose capital investments
 13 would be made over a 7-year period, from 2010-2016, inclusive. If the
 14 program is cut back as TURN proposes in its second alternative, or even if
 15 the program is cut back by "only" 50%, PG&E should be able to fully
 16 implement the scaled back program before 2014. (PG&E's current proposal
 17 would have over 58% of the CIP capital investment occurring prior to 2014).⁶⁴
 18 It would then make perfect sense for the TY2014 GRC to be used for PG&E to
 19 argue for extension and expansion of those CIP components which have
 20 proved worthwhile over the preceding years. The TY2014 GRC could also
 21 include staffing-based reliability measures that were excluded from

⁶² TURN, Testimony of William B. Marcus and Gayatri M. Schilberg, p. 93.

⁶³ TURN, Testimony of William B. Marcus and Gayatri M. Schilberg, p. 99.

⁶⁴ PG&E, p. 7-6, Table 7-2.

ATTACHMENT IV

PG&E Rebuttal, Chapter 2

TABLE 2-1
Pacific Gas and Electric Company
Electric Distribution Capacity
95 Specific Emergency Capacity Projects
(Pages 2-7 and 2-8)

TABLE 2-1
 PACIFIC GAS AND ELECTRIC COMPANY
 ELECTRIC DISTRIBUTION CAPACITY
 95 SPECIFIC EMERGENCY CAPACITY PROJECTS

PG&E LIST OF EMERGENCY SUBSTATION CAPACITY PROJECTS PROVIDED IN CHAPTER 3 WORKPAPERS PAGE 3-11 TO 3-13

Line No.	Project No.	Division	DPA	Project Description	MW Def	Functional Group	Operative Date	CAPITAL EXPENDITURES							
								YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	Total	
1	EDRJ_009	DeAnza	Los Gatos	Install Circuit Switcher and Breaker at Los Gatos Sub	6.3	FDP	7/1/2011	\$ 851,032							from page 3-10 line 34
2	EDRJ_010	Kern	Urban Bakersfield East	Install Circuit Switcher and Breaker at Columbus Sub	3.38	EDP	7/1/2011	\$ 851,032							from page 3-10 line 34
3	EDRJ_011	Diablo	Brontwood	Install 75 MVA Transformer at Contra Costa Sub	35.5	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
4	EDRJ_012	Diablo	Walnut Creek 21kv	Install 75 MVA Transformer and Breaker at Tassajara Sub	31.8	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
5	EDRJ_013	Sierra	Horseshoe	Install 45 MVA Transformer and Breaker at Horseshoe Sub	28.7	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
6	EDRJ_014	North Bay	Napa	Install 45 MVA Transformer at Pueblo Sub	28.6	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
7	EDRJ_015	San Jose	Downtown San Jose	Install 45 MVA Transformer and Breakers at Station A Sub	28.6	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
8	EDRJ_016		EDRJ 48 & 48 & 7D	Purchase Land & Regulatory Work For 3 New Substations		EDP	7/1/2011	\$ 7,920,087							from page 3-0 line 40
9	EDRJ_017	Stockton	Tracy	Install 45 MVA Transformer at Tracy Sub	29.3	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
10	EDRJ_018	North Bay	Vallejo 12kv	Install 45 MVA Transformer at Highway Sub	22.4	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
11	EDRJ_019	Misslon	San Ramon	Install 45 MVA Transformer and Breaker at North Dublin Sub	22.1	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
12	EDRJ_020	Sacramento	Suisun Cordella	Install 45 MVA Transformer and Breakers at Jameson Sub	22.0	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
13	EDRJ_021	Stockton	Tracy	Install 45 MVA Transformer at Tracy Sub	21.1	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
14	EDRJ_022	Los Padres	Paso Robles	Install 30 MVA Transformer and Breakers at Paso Robles Sub	21.0	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
15	EDRJ_023	North Valley	Radiating	Install 30 MVA Transformer and Breaker at Cottonwood Sub	21.0	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
16	EDRJ_024	Los Padres	Santa Maria	Install 45 MVA Transformer at Santa Maria Sub	19.5	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
17	EDRJ_025	Stockton	Manteca 17kv	Install 45 MVA Transformer at Manteca Sub	18.4	EDP	7/1/2011	\$ 4,888,711							from page 3-10 line 12
18	EDRJ_026	North Coast	Petaluma	Install 45 MVA Transformer and Breakers at Corona Sub	18.0	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
19	EDRJ_027	Central Coast	Salinas	Install 45 MVA Transformer at Salinas Sub	16.4	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
20	EDRJ_028	Diablo	Walnut Creek 12kv	Install 45 MVA Transformer at Moraga Sub	17.3	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
21	EDRJ_029	Stockton	Manteca 17KV	Install 30 MVA Transformer at Ripon Sub	17.3	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
22	EDRJ_030	North Coast	Santa Rosa	Install 30 MVA Transformer and Breaker at Rincon Sub	16.8	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
23	EDRJ_031	North Valley	Oroville	Install 45 MVA Transformer and Breaker at Wyandotte Sub	18.9	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
24	EDRJ_032	Stockton	South Stockton 12kv	Install 45 MVA Transformer at Weber Sub	16.6	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
25	EDRJ_033	Sacramento	Peabody	Install 75 MVA Transformer at Peabody Sub	15.8	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
26			Diamond Springs - Placerville	Install 45 MVA Transformer and Breaker at Diamond Springs Sub	15.4	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
27	EDRJ_034	Sierra	Sebastopol	Install 30 MVA Transformer at Molino Sub	14.7	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
28	EDRJ_035	North Coast	Woodland	Install 45 MVA Transformer at Lakewood Sub	14.8	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
29	EDRJ_036	Diablo	Woodland	Install 30 MVA Transformer and Breaker at Plainfield Sub	14.4	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
30	EDRJ_037	Sacramento	Stoney	Install 30 MVA Transformer and Breaker at Borden Sub	14.2	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
31	EDRJ_038	Yosemite	Urban Bakersfield North East	Install 45 MVA Transformer at Kern Oil Sub	13.8	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
32	EDRJ_039	Kern	Sloroy	Install 16 MVA Transformer and Breaker at Bonita Sub	13.6	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
33	EDRJ_040	Yosemite	Sloroy	Install 30 MVA Transformer at Calistoga Sub	12.7	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
34	EDRJ_041	North Bay	Lincoln	Install 45 MVA Transformer and Breaker at Lincoln Sub	12.6	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
35	EDRJ_042	Sierra	West Sacramento	Install 45 MVA Transformer at Deepwater Sub	11.6	EDP	7/1/2012	\$ 4,712,155							from page 3-10 line 12
36	EDRJ_043	Sacramento	West Sacramento	Purchase Land & Regulatory Work For Windsor, Pine Hill, New Cottonwood Subs		EDP	7/1/2012	\$ 13,803,533							from page 3-0 line 40
37	EDRJ_044	Various	Various	Purchase Land & Regulatory Work For Windsor, Pine Hill, New Cottonwood Subs		EDP	7/1/2013		\$ 14,110,033						from page 3-0 line 40
38	EDRJ_045	Sacramento	Suisun Cordella	Install 45 MVA Transformer at Suisun Sub	10.4	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
39	EDRJ_046	North Coast	Fulton-Flich Mtn	Construct and install 30 MVA Transformer and Breakers at Windsor Sub	29.5	EDP	7/1/2014			\$ 8,660,331					from page 3-10 line 45
40	EDRJ_047	Central Coast	Hollister	Construct and install 45 MVA Transformer and Breakers at San Justo Sub	16.7	EDP	7/1/2014				\$ 6,660,331				from page 3-10 line 45
41	EDRJ_048	Kern	Urban Bakersfield East	Install 30 MVA Transformer at Columbus Sub	10.4	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
42	EDRJ_049	San Jose	West San Jose	Install 45 MVA Transformer and Breaker at El Patio Sub	10.1	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
43	EDRJ_050	Yosemite	Morcedo 12kv	Install 45 MVA Transformer at El Capitán Sub	9.8	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
44	EDRJ_051	Sacramento	Vacaville Dixon	Install 30 MVA Transformer at Dixon Sub	9.7	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
45	EDRJ_052	East Bay	South Richmond	Install 45 MVA Transformer at Station G Sub	9.2	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
46	EDRJ_053	Sierra	Yuba City	Install 45 MVA Transformer and Breakers at Harter Sub	9.0	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
47	EDRJ_054	Yosemite	Sloroy	Install 30 MVA Transformer and Breaker at Cassidy Sub	9.6	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
48	EDRJ_055	North Coast	Sonoma	Install 45 MVA Transformer and Breaker at Sonoma Sub	9.6	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
49	EDRJ_056	Sierra	North Placer	Install 30 MVA Transformer at Placer Sub	9.7	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12
50	EDRJ_057	East Bay	South Richmond	Install 45 MVA Transformer at Station R Sub	9.6	EDP	7/1/2013	\$ 4,833,825							from page 3-10 line 12

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TABLE 2-1
PACIFIC GAS AND ELECTRIC COMPANY
ELECTRIC DISTRIBUTION CAPACITY
95 SPECIFIC EMERGENCY CAPACITY PROJECTS
(CONTINUED)

PG&E LIST OF EMERGENCY SUBSTATION CAPACITY PROJECTS PROVIDED IN CHAPTER 3 WORKPAPERS PAGE 3-11 TO 3-13

Line No.	Project No.	Division	DPA	Project Description	MW Def	Functional Group	Operative Date	CAPITAL EXPENDITURES									
								YR2011	YR2012	YR2013	YR2014	YR2015	YR2016	Total			
51	EDR1_059	Sacramento	Peabody	Install 75 MVA Transformer at Peabody Sub	8.1	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
52	EDR1_060	East Bay	Station C/D/L	Install 45 MVA Transformer at Station D Sub	7.9	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
53	EDR1_061	East Bay	K-X	Install 45 MVA Transformer at Station K Sub	7.7	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
54	EDR1_062	Mission	Fremont 12kV	Install 45 MVA Transformer at Newark Sub	7.2	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
55	EDR1_063	San Jose	Gilroy	Install 45 MVA Transformer at Llagas Sub	0.0	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
56	EDR1_064	North Valley	Red Bluff	Install 30 MVA Transformer at Red Bluff Sub	0.8	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
57	EDR1_065	Stockton	South Stockton 12kV	Install 30 MVA Transformer at French Camp Sub	6.7	EDP	7/1/2013			\$ 4,833,626							from page 3-10 line 12
58	EDR1_066	Stockton	South Stockton 12kV	Install 30 MVA Transformer at French Camp Sub	6.7	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
59	EDR1_067	Stockton	Tracy	Install 30 MVA Transformer and Breaker at Carbonsa Sub	0.7	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
60	EDR1_068	North Valley	Rodding	Install 30 MVA Transformer at Oregon Trail Sub	0.0	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
61	EDR1_069	Sierra	Clarksville Shingle Springs	Construct and install 2-45 MVA Transformers and Breakers at Pine Hill Sub	11.0	EDP	7/1/2015					\$ 6,015,307					from page 3-10 line 45
62	EDR1_070	North Coast	Sonoma	Install 30 MVA Transformer at Dunbar Sub	0.3	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
63	EDR1_071	Sierra	Marquette	Install 45 MVA Transformer and Breaker at Olivehurst Sub	0.0	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
64	EDR1_072	North Bay	North Marin	Install 30 MVA Transformer at Ignacio Sub	5.8	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
65	EDR1_073	Mission	Fremont 12kV	Install 45 MVA Transformer at Newark Sub	8.8	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
66	EDR1_074	Sierra	North Placer	Install 12 MVA Transformer at Flint Sub	3.7	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
67	EDR1_075	North Bay	North Marin	Install 16 MVA Transformer at Novato Sub	5.5	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
68	EDR1_076	DeAnza	Los Altos	Install 45 MVA Transformer at Strolling Sub	6.0	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
69	EDR1_077	North Bay	Napa	Install 30 MVA Transformer and Breaker at Basalt Sub	4.8	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
70	EDR1_078	DeAnza	Cupertino	Install 45 MVA Transformer at Saratoga Sub	4.4	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
71	EDR1_079	North Valley	Pennino	Install 16 MVA Transformer and Breaker at Controville Sub	4.2	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
72	EDR1_080	Yosemite	Storoy	Install 16 MVA Transformer at El Pecco Sub	4.0	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
73	EDR1_081	Ken	Urban Bakerfield East	Construct and install 45 MVA Transformer and Breakers at New Cottonwood Sub	3.7	EDP	7/1/2015					\$ 6,015,307					from page 3-10 line 45
74	EDR1_082	Yosemite	Atwater	Install 45 MVA Transformer at Atwater Sub	3.6	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
75	EDR1_083	North Coast	Belleuve Cotati	Install 45 MVA Transformer and Breaker at Belleuve Sub	3.5	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
76	EDR1_084	Diablo	Alhambra	Install 16 MVA Transformer at Alhambra Sub	3.3	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
77	EDR1_085	Diablo	Walnut Creek 21kV	Install 45 MVA Transformer and Breaker at Research Sub	3.2	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
78	EDR1_086	Peninsula	South Peninsula	Install 30 MVA Transformer and Breaker at Bell Haven Sub	2.8	EDP	7/1/2014				\$ 4,072,495						from page 3-10 line 12
79	EDR1_087	North Valley	Chico	Install 46 MVA Transformer and Breaker at Notre Dame Sub	2.6	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
80	EDR1_088	Diablo	Clayton Willow Pass	Install 30 MVA Transformer and Breaker at Willow Pass Sub	2.5	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
81	EDR1_089	Yosemite	Oakdale	Install 30 MVA Transformer and Breaker at Valley Home Sub	2.4	EDP	7/1/2016					\$ 5,115,392					from page 3-10 line 12
82	EDR1_090	Peninsula	Half Moon Bay	Install 30 MVA Transformer and Breaker at Half Moon Bay	2.4	EDP	7/1/2016					\$ 5,115,392					from page 3-10 line 12
83	EDR1_091	Peninsula	Half Moon Bay	Install 30 MVA Transformer and Breaker at Half Moon Bay	2.4	EDP	7/1/2016					\$ 5,115,392					from page 3-10 line 12
84	EDR1_092	North Coast	Sebastopol	Install 12 MVA Transformer at Mirabel Sub	2.1	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
85	EDR1_093	Stockton	North Stockton 12 kV	Install 30 MVA Transformer and Breaker at Cherokee Sub	2.0	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
86	EDR1_094	North Valley	Chico	Install 30 MVA Transformer and Breaker at Dayton Road Sub	2.4	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
87	EDR1_095	Sacramento	Vacaville Dixon	Install 45 MVA Transformer and Breaker at Vacca Dixon Sub	1.8	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
88	EDR1_096	Kern	Urban Bakerfield East	Install 30 MVA Transformer and Breaker at Cal Water Sub	1.7	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
89	EDR1_097	East Bay	North Richmond	Install 45 MVA Transformer at San Pablo Sub	1.4	EDP	7/1/2016					\$ 5,115,392					from page 3-10 line 12
90	EDR1_098	Kern	Urban Bakerfield Southwest	Install 45 MVA Transformer at Stockdale Sub	0.1	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
91	EDR1_099	Mission	Hayward	Install 45 MVA Transformer and Breaker at Castro Valley Sub	0.8	EDP	7/1/2015					\$ 5,115,392					from page 3-10 line 12
92	EDR1_100	Mission	Fremont 12kV	Install 45 MVA Transformer and Breaker at Jarvis Sub	0.2	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
93	EDR1_101	North Coast	Santa Rosa	Install 18 MVA 12/21 Transformer at Monroe Sub	4.4	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
94	EDR1_102	Central Coast	Santa Cruz	Install 45 MVA Transformer at Paul Sweet Sub	3.4	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
95	EDR1_103	Diablo	Concord	Install 45MVA Transformer and Breaker at Clayton Sub	3.4	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
96	EDR1_104	San Jose	Milpitas	Install 45 MVA Transformer and Breaker at Milpitas Sub	0.0	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
97	EDR1_105	Sierra	Yuba City	Install 30 MVA Transformer at Poaso Sub	Fdr	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
98	EDR1_106	Stockton	South Stockton 12kV	Install 18 MVA Transformer at East Stockton Sub	Fdr	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
99	EDR1_107	Sierra	North Placer	Install 18 MVA Transformer at Halsey Sub	Fdr	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
100	EDR1_108	Stockton	Manitoba 17kV	Install 45 MVA Transformer and Breaker at Manitoba Bank #7	Fdr	EDP	7/1/2016						\$ 5,202,884				from page 3-10 line 12
MWC 48 E Distr New Capacity - Distribution Substation Banks								\$ 73,864,286	\$ 98,592,343	\$ 191,126,912	\$ 130,672,300	\$ 150,830,095	\$ 84,728,311	\$ 855,715,050	sum of lines 11 to 110		

Note: MW Def column was not provided in workpapers but was provided in data response OCSF 1-9, TJRN 7-12

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ATTACHMENT V

PG&E – Direct, Chapter 1

Table 1-4
Pacific Gas and Electric Company
Total Expenditures and Revenue Requirement
(In Millions of Dollars)
(Page 1-20)

TABLE 1-4
PACIFIC GAS AND ELECTRIC COMPANY
TOTAL EXPENDITURES AND REVENUE REQUIREMENT
(IN MILLIONS OF DOLLARS)

Line No.	Work Activities	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	<u>Capital Expenditure Request</u>									
2	Distribution Capacity	\$0	\$55	\$188	\$254	\$262	\$241	\$188	\$136	\$1,324
3	Distribution Automation	—	\$41	\$85	\$117	\$121	\$94	\$80	\$66	\$605
4	Rural Protective Devices	—	\$4	\$9	\$12	\$12	\$10	\$8	\$7	\$62
5	Total Capital Expenditures	\$0	\$101	\$283	\$384	\$395	\$344	\$277	\$209	\$1,992
6	<u>Expense Request</u>									
7	Distribution Capacity	—	\$0.0	\$0.0	\$0.7	\$1.8	\$2.9	\$4.1	\$5.0	\$14.5
8	Distribution Automation	—	\$0.0	\$1.0	\$3.0	\$5.9	\$9.0	\$11.5	\$13.8	\$44.1
9	Rural Protective Devices	—	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.2
10	Total Expense	—	\$0.0	\$1.0	\$3.8	\$7.7	\$11.9	\$15.6	\$18.9	\$58.9
11	Total CapEx and Expense	\$0	\$101	\$284	\$388	\$403	\$356	\$292	\$228	\$2,051
12	Revenue Requirement	\$0	\$0	\$41	\$98	\$164	\$225	\$276	\$310	\$1,112

Note: The total amounts may differ from the sum of the individual amounts due to rounding.