

**2016 Risk Assessment Mitigation Phase  
Investigation 16-10-015  
Workpapers to  
Employee, Contractor and Public Safety  
(Chapter SDG&E-3-WP)**

January 2017



2016 Risk Assessment Mitigation Phase  
SDGE-03-WP  
Risk: Employee, Contractor and Public Safety (O&M)

Line No.	Mitigation	Project/Program	Project/Program Description	Status	Recorded (Directs, 2015 \$000)					Forecast Range (Directs, 2015 \$000)						Forecast Methodology
					2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	
1	Safety Policies & Programs	Electric & Magnetic Fields (EMF) Program	Electric & Magnetic Fields Program	B/P	\$ 374	\$ 200	\$ 277	\$ 286	\$ 288	\$ 288	\$ 346	\$ 288	\$ 346	\$ 288	\$ 346	Base Year
2		Vehicle Technology Program - Telematics	An interdisciplinary field that encompasses telecommunications, vehicular technologies, road transportation, road safety, electrical engineering (sensors, instrumentation, wireless communications, etc.) and computer science (multimedia, Internet, etc.)	P	-	-	-	-	-	988	1,186	-	-	-	-	Zero-Based
3		Safety Programs	Safety Programs	B/P	488	337	149	132	192	220	264	224	269	235	282	Zero-Based
4		Field Safety	Field Safety	B/P	816	897	1,340	1,130	842	985	1,182	993	1,192	1,005	1,206	Zero-Based
5		Safety Compliance	Safety Compliance	B/P	866	832	424	587	646	746	895	751	901	751	901	Zero-Based
6		Voluntary Protection Programs (VPP) Assessments	OSHA Voluntary Protection Programs	P	-	-	-	-	-	50	60	50	60	50	60	Zero-Based
7		Additional Industrial Hygienist	Industrial Hygiene is a science and art devoted to the anticipation, recognition, evaluation, prevention, and control of those environmental factors or stresses arising in or from the workplace which may cause sickness, impaired health and well being, or significant discomfort among workers or among citizens of the community.	P	-	-	-	-	-	100	120	100	120	100	120	Zero-Based
8		Contractor Safety System	Contractor Safety Database	P	-	-	-	-	-	40	48	40	48	40	48	Zero-Based
9		Additional Field Safety Advisor (FSA)	Field Safety Advisor	P	-	-	-	-	-	75	90	75	90	75	90	Zero-Based
10		Contractor Safety Program Manager Adjustment	True-up due to base year including only half of annual salary.	P	-	-	-	-	-	50	60	50	60	50	60	Zero-Based
11		Facilities Maintenance Program	Facility Manager addresses issues regularly and consistently. Preventative, predictive and corrective maintenance are used to address deficiencies. Web portal utilized.	B/P	393	441	422	389	365	391	469	391	469	391	469	3-Year Average
12		Personal Protection Equipment (PPE)	Includes stock items and non stock items.	B/P	-	-	-	-	232	232	278	232	278	241	289	Base Year
13		Fire Retardant Uniform Costs	Supplying and laundering of fire retardant clothing	B/P	574	445	457	469	561	501	601	501	601	501	601	5-Year Average
14		Automated External Defibrillator (AED) Project	Automated External Defibrillator	B	-	-	-	-	641	-	-	-	-	-	-	
15		Traffic Control Work Group and Equipment	Traffic control for construction work	B/P	-	-	-	-	1,814	1,814	2,177	1,814	2,177	1,814	2,177	Base Year
16		Tree Trimming	Vegetation Management Program	B/P	18,348	20,180	20,394	21,698	21,698	20,155	24,186	20,155	24,186	20,155	24,186	5-Year Average
17		Pole Brushing	Vegetation Management Program	B/P	3,407	3,741	3,176	3,166	3,166	3,373	4,048	3,373	4,048	3,373	4,048	5-Year Average
18		Work Standards and Methods	Functions related to developing and maintaining constructions standards, standard practices, and system design for electric service, secondary and primary systems.	B/P	924	3,546	3,454	3,258	2,907	2,907	3,488	2,907	3,488	2,907	3,488	Base Year
19		Leak Surveys, Pipeline Patrols, Bridge Span Inspections	Gas safety activities	B/P	1,231	1,334	917	920	1,245	1,245	1,494	1,245	1,494	1,245	1,494	Base Year
20	Safety Policies & Programs Subtotal				27,421	31,953	31,010	32,035	34,597	34,160	40,992	33,189	39,827	33,221	39,865	

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					2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	
21	Mandatory Employee Training, Retraining and Refresher programs	Operator Qualification Program	Pre-employment screenings	B	-	-	-	-	38	38	46	38	46	38	46	Base Year
22		OSHA Required Training and Training Required per Company Safety Standards	OSHA Required Training and Training Required per Company Safety Standards	B	2,145	2,194	2,323	1,940	2,480	2,480	2,976	2,480	2,976	2,480	2,976	Base Year
23		Job Skills Training and Skills Training Center (STC)-Electric	Job Skills Training and STC-Electric	B	-	-	-	-	7,324	7,324	8,789	7,324	8,789	7,324	8,789	Base Year
24		Job Skills Training and STC-Gas	Job Skills Training and STC-Gas	B	-	-	-	-	762	762	914	762	914	762	914	Base Year
25		Customer Contact Center (CCC) Emergency Call Training	CCC Emergency Call Training	B	16	16	16	16	19	21	25	21	25	21	25	Base Year
26		Apprentice Program	Apprentice Program	B	5,434	5,547	5,757	5,910	6,050	6,050	7,260	6,050	7,260	6,050	7,260	Base Year
27	Mandatory Employee Training, Retraining and Refresher programs Subtotal				7,595	7,757	8,096	7,866	16,673	16,675	20,010	16,675	20,010	16,675	20,010	
28	Field Observation and Behavior Based Safety Programs	Behavior Based Safety (BBS) Program	A proactive approach to safety and health management focusing on principles that recognize at-risk as a frequent cause of both minor and serious injuries. The purpose is to reduce the occurrence of at-risk behaviors by modifying individuals actions and/or behaviors through observation, feedback and positive interventions aimed at developing safe work habits.	B	772	868	1,098	992	631	872	1,046	872	1,046	872	1,046	5-Year Average
29		Customer Service Field (CSF) Field Observations Outside of BBS	Field observations performed by Supervisors	B	39	55	55	32	19	20	24	22	26	24	29	Base Year
30	Field Observation and Behavior Based Safety Programs Subtotal				811	923	1,153	1,024	650	892	1,070	894	1,072	896	1,075	
31	Regular Safety Meetings	Safety Stand downs	Stand downs are held annually or bi-annually to bring in experienced speakers to discuss various safety topics, provide employees with workshops to learn about safety in their area, introduce grassroots ideas to the districts and solicit participation in safety related activities.	B	428	443	414	400	408	408	490	408	490	408	490	Base Year
32		Safety Tailgates	Short meetings held at the jobsite or workplace and facilitated by a Supervisor designed to review the job prior to work starting to ensure everyone understands the task at hand.	B	1,664	1,704	1,768	1,820	1,863	1,863	2,236	1,863	2,236	1,863	2,236	Base Year
33		Safety Meetings	Bi-weekly safety meetings	B	832	979	1,077	1,098	1,202	1,202	1,442	1,202	1,442	1,202	1,442	Base Year
34		Safety Committees	Committee meetings held monthly to address district/location specific safety issues and to plan Safety Stand downs.	B	-	-	-	-	51	51	61	51	61	51	61	Base Year
35	Regular Safety Meetings Subtotal				2,924	3,126	3,259	3,318	3,524	3,524	4,229	3,524	4,229	3,524	4,229	
36	Ongoing Maintenance Programs	Training, Supervision, PPE, Tools	Training, Supervision, PPE, Tools	B	2,965	2,981	2,926	2,504	2,664	2,808	3,370	2,808	3,370	2,808	3,370	5-Year Average
37	Ongoing Maintenance Programs Subtotal				2,965	2,981	2,926	2,504	2,664	2,808	3,370	2,808	3,370	2,808	3,370	

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SDGE-03-WP  
Risk: Employee, Contractor and Public Safety (O&M)

Line No.	Mitigation	Project/Program	Project/Program Description	Status	Recorded (Directs, 2015 \$000)					Forecast Range (Directs, 2015 \$000)						Forecast Methodology
					2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	
38	Customer Communications and First Responder Training	Emergency Management First Responder Outreach Program	Provide Safety and basic operational information about electricity and SDG&E's facilities as they relate to First Responder operations and activities.	B/P	6	7	11	18	24	24	29	24	29	24	29	Base Year
39		Emergency Prep Communications	A general communications effort mainly concentrated in the High risk fire area but reaching beyond with information about preparing for emergencies.	B/P	655	564	427	195	167	167	200	167	200	167	200	Base Year
40		Customer Communications - Safety	Communications campaign (outreach and education) geared toward "wire down awareness but also other electric safety issues (e.g. car-pole contacts, tree contacts, ladder contact, etc.).	B/P	-	-	-	-	100	1,000	1,200	3,000	3,600	5,000	6,000	Zero-Based
41		Summer/Winter Prep Campaign	Bill inserts, print, radio, web, social media. Messages include Carbon Monoxide Safety, Fumigations, furnace, etc.	B/P	625	1,550	650	520	365	365	438	365	438	365	438	Base Year
42		Pipeline Safety Campaign	Provide Safety and basic operational information about SDG&E's gas pipelines and facilities to residential and business customers.	B/P	-	-	100	143	107	107	128	107	128	107	128	Base Year
43		Emergency Operations Center (EOC) First Responder Training	Incident Response Training & Exercises	B/P	716	717	608	589	623	651	781	651	781	651	781	5-Year Average
44		EOC Training-Student Costs	Training for Emergency Operations Center support personnel	B/P	215	240	247	255	250	241	289	241	289	241	289	5-Year Average
45		First Responder Outreach Program	First Responder gas related safety training and contingency planning. Also includes training and communications to internal personnel.	B/P	-	-	489	451	262	366	439	366	439	366	439	Zero-Based
46		Fire Preparedness & Outreach	Ensure public is aware of SDG&E's operation activities during high fire risk situations. Work closely with Commercial & Industrial (C&I) Services Outreach, Residential Services Outreach, Media Relations, Public Affairs and Community Relations to plan, organize, and participate in community outreach events ensuring that key external stakeholders and channels are utilized efficiently. Provide funding for programs from community partners and first responders that support fire prevention and emergency response.	B/P	20	-	73	70	75	75	90	75	90	75	90	Base Year
47	Customer Communications and First Responder Training Subtotal				2,237	3,078	2,605	2,241	1,973	2,996	3,594	4,996	5,994	6,996	8,394	

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SDGE-03-WP  
Risk: Employee, Contractor and Public Safety (O&M)

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					2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	
48	Contractor Safety Program	Contractor Safety Costs - Major Projects	Includes administration activities associated with managed construction work, oversight for construction, incident review and investigation, operations and maintenance activities that involve fixed wing aircraft and a wide range of highly skilled and experienced fire safety and fire preventative services.	B/P	-	-	7	21	6	7	8	7	8	8	10	Base Year
49		Contractor Safety Program - Construction Ops	Includes administration activities associated with managed construction work, oversight for construction, incident review and investigation, operations and maintenance activities that involve fixed wing aircraft and a wide range of highly skilled and experienced fire safety and fire preventative services.	B/P	710	646	547	598	735	735	882	735	882	735	882	Base Year
50	<b>Contractor Safety Program Subtotal</b>				<b>710</b>	<b>646</b>	<b>554</b>	<b>619</b>	<b>741</b>	<b>742</b>	<b>890</b>	<b>742</b>	<b>890</b>	<b>743</b>	<b>892</b>	
51	Customer Orders Relative to Public Safety	Call Center Volume Relative to Public Safety	Emergency calls taken by the Customer Care Center	B	266	326	387	671	912	930	1,116	940	1,128	949	1,139	Zero-Based
52		CSF Emergency Orders	Orders include Carbon Monoxide, Fumigation and Hazardous and non hazardous gas leaks	B	2,862	2,973	3,120	3,193	3,675	3,652	4,382	3,652	4,382	3,652	4,382	Zero-Based
53		Energy Diversion Investigations	Meter tampering and meter bypass investigation and remediation .	B	155	165	178	170	173	168	202	168	202	168	202	5-Year Average
54		Natural Gas Application Test (NGAT)	NGAT or CO testing is a safety-related program for Customer Assistance's ESA Program participants. SDG&E conducts CO testing on homes weatherized through the Energy Savings Assistance (ESA) Program in accordance with State wide Energy Savings Assistance Program Installation Standards and the Statewide Energy Savings Assistance Program Policy and Procedures Manual. CPUC directives order SDG&E to charge the costs for the NGAT program to base rates rather than to the public purpose funds.	B	262	343	296	227	182	296	355	296	355	296	355	Zero-Based
55		CSF Atmospheric Corrosion (ACOR) Orders	Atmospheric Corrosion orders	B	16	16	16	13	16	16	19	16	19	16	19	Base Year
56	<b>Customer Orders Relative to Public Safety Subtotal</b>				<b>3,561</b>	<b>3,823</b>	<b>3,997</b>	<b>4,274</b>	<b>4,958</b>	<b>5,062</b>	<b>6,074</b>	<b>5,072</b>	<b>6,086</b>	<b>5,081</b>	<b>6,097</b>	
57	<b>TOTAL</b>				<b>\$ 48,224</b>	<b>\$ 54,287</b>	<b>\$ 53,600</b>	<b>\$ 53,881</b>	<b>\$ 65,780</b>	<b>\$ 66,859</b>	<b>\$ 80,229</b>	<b>\$ 67,900</b>	<b>\$ 81,478</b>	<b>\$ 69,944</b>	<b>\$ 83,932</b>	

Notes:

- Baseline (B) and Proposed (P).
- Numbers in risk chapter tables may differ due to rounding.
- The purpose of Risk Assessment Mitigation Phase (RAMP) is not to request funding. Any funding requests will be made in the General Rate Case (GRC). The forecasts for mitigations are not for funding purposes, but are rather to provide a range for the future GRC filing. This range will be refined with supporting testimony in the GRC.

2016 Risk Assessment Mitigation Phase  
SDGE-03-WP  
Risk: Employee, Contractor and Public Safety (Capital)

Line No.	Mitigation	Project/Program	Project/Program Description	Status	Recorded (Directs, 2015 \$000)					Forecast Range (Directs, 2015 \$000)								
					2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	2017-2019 Low (Sum)	2017-2019 High (Sum)	Forecast Methodology
1	Safety Policies & Programs	Facilities Capital Safety Projects	Facilities Capital Safety Projects	B/P	\$ 4,434	\$ 2,176	\$ 430	\$ 1,992	\$ 205	\$ 1,895	\$ 2,274	\$ 1,895	\$ 2,274	\$ 1,895	\$ 2,274	\$ 5,685	\$ 6,822	5-Year Average
2		Traffic Control Work Group and Equipment	Traffic control for Capital construction work	B/P	-	-	-	-	3,684	3,684	4,421	3,684	4,421	3,684	4,421	11,052	13,263	Base Year
3		Asbestos/Lead/Mold inspections/Abatement Outside of Safety	Asbestos/Lead/Mold inspections/Abatement Outside of Safety	B/P	289	696	367	330	325	401	481	401	481	401	481	1,203	1,443	5-Year Average
4		Work Standards and Methods	Functions related to developing and maintaining constructions standards, standard practices, and system design for electric service, secondary and primary systems.	B/P	800	800	800	800	800	800	960	800	960	800	960	2,400	2,880	Base Year
5	<b>Safety Policies &amp; Programs Subtotal</b>				<b>5,523</b>	<b>3,672</b>	<b>1,597</b>	<b>3,122</b>	<b>5,014</b>	<b>6,780</b>	<b>8,136</b>	<b>6,780</b>	<b>8,136</b>	<b>6,780</b>	<b>8,136</b>	<b>20,340</b>	<b>24,408</b>	
6	Customer Communications and First Responder training	Emergency Operations Center (EOC) First Responder Training	Incident Response Training & Exercises	B	-	379	-	-	-	-	-	-	-	-	-	-	-	
7	<b>Customer Communications and First Responder training Subtotal</b>				-	<b>379</b>	-	-	-	-	-	-	-	-	-	-	-	
8	Contractor Safety Program	Contractor Safety Costs - Major Projects	Includes administration activities associated with managed construction work, oversight for construction, incident review and investigation, operations and maintenance activities that involve fixed wing aircraft and a wide rage of highly skilled and experienced fire safety and fire preventative services.	B/P	1,827	92	1,061	972	664	927	1,112	955	1,146	983	1,180	2,865	3,438	5-Year Average
9		Contractor Safety Program - Construction Ops	Includes administration activities associated with managed construction work, oversight for construction, incident review and investigation, operations and maintenance activities that involve fixed wing aircraft and a wide rage of highly skilled and experienced fire safety and fire preventative services.	B/P	34,800	31,700	26,800	29,300	37,500	37,500	45,000	37,500	45,000	37,500	45,000	112,500	135,000	Base Year
10	<b>Contractor Safety Program Subtotal</b>				<b>36,627</b>	<b>31,792</b>	<b>27,861</b>	<b>30,272</b>	<b>38,164</b>	<b>38,427</b>	<b>46,112</b>	<b>38,455</b>	<b>46,146</b>	<b>38,483</b>	<b>46,180</b>	<b>115,365</b>	<b>138,438</b>	
11	<b>TOTAL</b>				<b>\$ 42,150</b>	<b>\$ 35,843</b>	<b>\$ 29,458</b>	<b>\$ 33,394</b>	<b>\$ 43,178</b>	<b>\$ 45,207</b>	<b>\$ 54,248</b>	<b>\$ 45,235</b>	<b>\$ 54,282</b>	<b>\$ 45,263</b>	<b>\$ 54,316</b>	<b>\$ 135,705</b>	<b>\$ 162,846</b>	

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