

Order Instituting Investigation into the November)2019 Submission of Southern California Gas)Company's Risk Assessment and Mitigation Phase.)

Investigation 19-11-010

RISK ASSESSMENT MITGATION PHASE

WORKPAPERS TO

CHAPTER SCG-2

EMPLOYEE SAFETY

November 27, 2019

Chapter	SCG-2
Risk	Employee Safety

Employee Safety- SCG

			Model Inputs
	Incident Rates		
	Injury Rate	Fatality Rate	
SCG	1.216	0.237	1.45
Incident rates per year			

Fatality Incident Rate

Total Fatalities	2009	2010	2011	2012	2013	2014	2015	2016	AVG
2212	5	3	6	1	3	2	4	4	3.5
Total Employees									
2212 Natural gas distribution	109,000	107,600	109,900	111,300	110,600	116,000	116,000	112,400	112,700
Fatality Rate (Death/Total employees)									
2212 Natural gas distribution									0.003%
								Employee	Rate
							SCG	7546	0.237

Injury Incident Rate

	Average Incident Rate,	All Employment Sizes	2009	2010	2011	2012	2013	2014	2015	2016	AVG
221 Utilities	Total Recordable Incidenc	e									
2212	Natural gas distribution		4.2	3.7	4.0	2.9	3.0	2.6	2.4	2.8	3
	Rate Per 1 FTE										
2212	Natural gas distribution		0.042	0.037	0.04	0.029	0.03	0.026	0.024	0.028	0.0
		Total Employees									
	2212	Natural gas distribution	109,000	107,600	109,900	111,300	110,600	116,000	116,000	112,400	112,70
		Total Recordable Incidence									
	2212	Natural gas distribution	4,578	3,981	4,396	3,228	3,318	3,016	2,784	3,147	
		Total Hospitalization & Amputation									
	2212	Natural gas distribution	23	20	22	16	17	15	13	17	
		Severe Injury Rate									0.5
	2212	Natural gas distribution									0.016

	Employee	Rate
SCG	7546	1.216

Utility Industry NAICS Code Structure

https://www.census.gov/econ/isp/sampler.php?naicscode=221&naicslevel=3

National data was filtered on NAICS subsector code 2212 Natural Gas Distribution to represent the SCG gas business

Employment Data

https://www.bls.gov/web/empsit/ceseeb1b.htm

https://www.bls.gov/opub/ee/archive.htm

Chapter Risk Single Point SCG-2 Employee Safety Cost Forecast (O&M, \$M) Cost Forecast Pre-Mitigation Project Life ID Activity (Capital, \$M) Single Point

ID	Activity	Project Life	Cost Forecast (O&M, \$M)		ost Foreca Capital, \$N		Pre-M	itigation	% risk reduction (use if % risk addressed not	RSE	Post-M	litigation
ID.	Activity		(U&IVI, \$IVI)	(capital, și	<i>n</i>)	Single	e Point	available)		Single	e Point
		In Years	2022	2020	2021	2022	LORE	CORE	(%)	Single Point	LORE	CORE
SCG-2-C3	Wellness Programs	1	3.17	0.00	0.00	0.00	1.45	765.29	0.33%	1.10	1.46	765.29
SCG-2-C5	Safe Driving Programs	1	0.90	0.00	0.00	0.00	1.45	765.29	0.33%	3.90	1.46	765.29
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs	1	0.28	0.00	0.00	0.00	1.45	765.29	0.33%	12.48	1.46	765.29
SCG-2-C8	Safety Culture	1	0.52	0.00	0.00	0.00	1.45	765.29	0.33%	6.69	1.46	765.29
SCG-2-C9	Utilizing Occupational Safety and Health Administration (OSHA) and industry best practices and industry benchmarking	1	1.11	0.00	0.00	0.00	1.45	765.29	0.33%	3.15	1.46	765.29
SCG-2-M1	OSHA 30-hour construction certification training	1	0.09	0.00	0.00	0.00	1.45	765.29	0.06%	6.47	1.45	765.29
SCG-2-M2	Industrial hygiene program refresh	1	0.32	0.00	0.00	0.00	1.45	765.29	0.06%	1.80	1.45	765.29
SCG-2-M3	Establish proactive monitoring for indoor air quality (IAQ) and chemicals of concern	1	0.06	0.00	0.00	0.00	1.45	765.29	0.06%	9.71	1.45	765.29
SCG-2-M4	Safety video library	1	0.05	0.00	0.00	0.00	1.45	765.29	0.06%	11.65	1.45	765.29
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council	1	0.04	0.00	0.00	0.00	1.45	765.29	0.06%	16.64	1.45	765.29
SCG-2-M6	Expanded Safety Culture Assessments	1	0.05	0.00	0.00	0.00	1.45	765.29	0.06%	11.65	1.45	765.29
SCG-2-A1	Develop internal expertise for expanded safety culture assessment	1	0.22	0.00	0.00	0.00	1.45	765.29	0.06%	2.89	1.45	765.29
SCG-2-A2	OSHA Voluntary Protection Program	1	0.35	0.00	0.00	0.00	1.45	765.29	0.06%	1.81	1.45	765.29
SCG-2-A3	Additional Industrial Hygenist	1	0.10	0.00	0.00	0.00	1.45	765.29	0.06%	6.03	1.45	765.29

% risk reduction

Low Alternative

		Project Life	Cost Forecast (O&M, \$M)		ost Foreca Capital, \$N		Pre-Mi	tigation	% risk reduction (use if % risk	RSE	Post-M	litigation
ID	Activity			, t	capital, și	"	Low Alt	ernative	addressed not		Low Alt	ernative
		In Years	2022	2020	2021	2022	LORE	CORE	available) (%)	Low Alternative	LORE	CORE
SCG-2-C3	Wellness Programs	1	3.17	0.00	0.00	0.00	1.45	80.25	0.33%	0.12	1.46	80.25
SCG-2-C5	Safe Driving Programs	1	0.90	0.00	0.00	0.00	1.45	80.25	0.33%	0.41	1.46	80.25
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs	1	0.28	0.00	0.00	0.00	1.45	80.25	0.33%	1.31	1.46	80.25
SCG-2-C8	Safety Culture	1	0.52	0.00	0.00	0.00	1.45	80.25	0.33%	0.70	1.46	80.25
SCG-2-C9	Utilizing Occupational Safety and Health Administration (OSHA) and industry best practices and industry benchmarking	1	1.11	0.00	0.00	0.00	1.45	80.25	0.33%	0.33	1.46	80.25
SCG-2-M1	OSHA 30-hour construction certification training	1	0.09	0.00	0.00	0.00	1.45	80.25	0.06%	0.68	1.45	80.25
SCG-2-M2	Industrial hygiene program refresh	1	0.32	0.00	0.00	0.00	1.45	80.25	0.06%	0.19	1.45	80.25
SCG-2-M3	Establish proactive monitoring for indoor air quality (IAQ) and chemicals of concern	1	0.06	0.00	0.00	0.00	1.45	80.25	0.06%	1.02	1.45	80.25
SCG-2-M4	Safety video library	1	0.05	0.00	0.00	0.00	1.45	80.25	0.06%	1.22	1.45	80.25
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council	1	0.04	0.00	0.00	0.00	1.45	80.25	0.06%	1.74	1.45	80.25
SCG-2-M6	Expanded Safety Culture Assessments	1	0.05	0.00	0.00	0.00	1.45	80.25	0.06%	1.22	1.45	80.25
SCG-2-A1	Develop internal expertise for expanded safety culture assessment	1	0.22	0.00	0.00	0.00	1.45	80.25	0.06%	0.30	1.45	80.25
SCG-2-A2	OSHA Voluntary Protection Program	1	0.35	0.00	0.00	0.00	1.45	80.25	0.06%	0.19	1.45	80.25
SCG-2-A3	Additional Industrial Hygenist	1	0.10	0.00	0.00	0.00	1.45	80.25	0.06%	0.63	1.45	80.25

High Alternativ	/e											
		Project Life	Cost Forecast (O&M, \$M)		ost Foreca Capital, \$N			tigation	% risk reduction (use if % risk	RSE		litigation
ID	Activity	In Years	2022	2020	2021	2022	LORE	core	addressed not available) (%)	High Alternative	LORE	CORE
SCG-2-C3	Wellness Programs	1	3.17	0.00	0.00	0.00	1.45	1907.02	0.33%	2.75	1.46	1907.02
SCG-2-C5	Safe Driving Programs	1	0.90	0.00	0.00	0.00	1.45	1907.02	0.33%	9.72	1.46	1907.02
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs	1	0.28	0.00	0.00	0.00	1.45	1907.02	0.33%	31.10	1.46	1907.02
SCG-2-C8	Safety Culture	1	0.52	0.00	0.00	0.00	1.45	1907.02	0.33%	16.66	1.46	1907.02
SCG-2-C9	Utilizing Occupational Safety and Health Administration (OSHA) and industry best practices and industry benchmarking	1	1.11	0.00	0.00	0.00	1.45	1907.02	0.33%	7.85	1.46	1907.02
SCG-2-M1	OSHA 30-hour construction certification training	1	0.09	0.00	0.00	0.00	1.45	1907.02	0.06%	16.13	1.45	1907.02
SCG-2-M2	Industrial hygiene program refresh	1	0.32	0.00	0.00	0.00	1.45	1907.02	0.06%	4.48	1.45	1907.02
SCG-2-M3	Establish proactive monitoring for indoor air quality (IAQ) and chemicals of concern	1	0.06	0.00	0.00	0.00	1.45	1907.02	0.06%	24.19	1.45	1907.02
SCG-2-M4	Safety video library	1	0.05	0.00	0.00	0.00	1.45	1907.02	0.06%	29.03	1.45	1907.02
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council	1	0.04	0.00	0.00	0.00	1.45	1907.02	0.06%	41.46	1.45	1907.02
SCG-2-M6	Expanded Safety Culture Assessments	1	0.05	0.00	0.00	0.00	1.45	1907.02	0.06%	29.03	1.45	1907.02
SCG-2-A1	Develop internal expertise for expanded safety culture assessment	1	0.22	0.00	0.00	0.00	1.45	1907.02	0.06%	7.21	1.45	1907.02
SCG-2-A2	OSHA Voluntary Protection Program	1	0.35	0.00	0.00	0.00	1.45	1907.02	0.06%	4.51	1.45	1907.02
SCG-2-A3	Additional Industrial Hygenist	1	0.10	0.00	0.00	0.00	1.45	1907.02	0.06%	15.02	1.45	1907.02

SCG-2-C3: Employee	Wellness Programs						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.33%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

	ive
.5 LORE 1.45	
Lore 1.45 Core 80.25 765.29 1907.0 Risk Score 116.58 1111.83 2770.5	2
Risk Score 116.58 1111.83 2770.5	8
c LORE 1.46	
to RE 80.25 765.29 1907.0	2
Lork 1.46 Core 80.25 765.29 1907.0 Risk Score 116.97 1115.54 2779.8	1
RSE 0.12 1.10 2.75	

SCG-2-C5: Safe Drivi	ng Programs						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.33%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 0.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 CORE 80.25 765.29 1907.02 Risk Score 116.97 1115.54 2779.81			Low Alternative	Single Point	High Alternative
	ion	LoRE		1.45	
	Pre- igat	CoRE	80.25	765.29	1907.02
LoRE 1.46 CORE 80.25 765.29 1907.02	Σi	Risk Score	116.58	1111.83	2770.58
CoRE 80.25 765.29 1907.02	Ę	LoRE		1.46	
	st- atio	CoRE	80.25	765.29	1907.02
Risk Score 116.97 1115.54 2779.81	litig	Risk Score	116.97	1115.54	2779.81
RSE 0.41 3.90 9.72	2	RSE	0.41	3.90	9.72

Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.33%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

Lore 1.45 Core 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58	
CoRE 80.25 765.29 1907.02	
Risk Score 116.58 1111.83 2770.58	
LORE 1.46	
to RE 80.25 765.29 1907.02	
Loke 1.46 CoRE 80.25 765.29 1907.02 Risk Score 116.97 1115.54 2779.81	
RSE 1.31 12.48 31.10	

SCG-2-C8: Safety Cul	ture						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.33%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

b LoRE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 1116.58 1111.83 2770.58
E LORE 1.46
t ORE 80.25 765.29 1907.02
Loke 1.46 CoRE 80.25 765.29 1907.02 Risk Score 116.97 1115.54 2779.81
2 RSE 0.70 6.69 16.66

6.44	Risk Reduction	Fla	F	SE Inputs and Ba	sis	Deferrer	Project Lif
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.33%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

Lore 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 Lore 1.46 1.46			Low Alternative	Single Point	High Alternative
	ion	LoRE		1.45	
	Pre- igat	CoRE	80.25	765.29	1907.02
E LORE 1.46	Ξi	Risk Score	116.58	1111.83	2770.58
	Ę	LoRE		1.46	
CoRE 80.25 765.29 1907.02	st- atio	CoRE	80.25	765.29	1907.02
Risk Score 116.97 1115.54 2779.81	Post- Mitigation	Risk Score	116.97	1115.54	2779.81
2 RSE 0.33 3.15 7.85	2	RSE	0.33	3.15	7.85

SCG-2-M1: OSHA 30-	hour construction certificati	on training					
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results.	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 0.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04 Risk Score 116.52 1111.21 2769.04			Low Alternative	Single Point	High Alternative
L DC	ion	LoRE		1.45	
L DC	Pre- igat	CoRE	80.25	765.29	1907.02
LORE 1.45 CORE 80.25 765.29 1907.02	Ξi	Risk Score	116.58	1111.83	2770.58
CORE 80.25 765.29 1907.02	Ę	LoRE		1.45	
	CoRE	CoRE	80.25	765.29	1907.02
Risk Score 116.52 1111.21 2769.04	litig	Risk Score	116.52	1111.21	2769.04
2 RSE 0.68 6.47 16.13	2	RSE	0.68	6.47	16.13

SCG-2-M2:Industrial	hygiene program refresh						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 1.45 CORE 0.25 CORE 80.25 765.29 1907.02 Risk Score 1.45 CORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04			Low Alternative	Single Point	High Alternative
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	io	LoRE		1.45	
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Pre- igat	CoRE	80.25	765.29	1907.02
Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Ĕ	Risk Score	116.58	1111.83	2770.58
Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Ē	LoRE		1.45	
Risk Score 116.52 1111.21 2769.04	ti CoRE	CoRE	80.25	765.29	1907.02
	litig	Risk Score	116.52	1111.21	2769.04
RSE 0.19 1.80 4.48	2	RSE	0.19	1.80	4.48

SCG-2-M3: Establish	proactive monitoring for inc	loor air quality (IAQ) and chemicals	of concern				
Attribute	Risk Reduction	Formula	R	SE Inputs and Ba	sis	Reference	Project Life
Attibute	Total	Formula	Scope	Effectiveness	Risk Addressed	Kelerence	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

Lore 1.45 Core 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 Lore 0.02 1.45 1.45 Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04 Core 1.65.2 1111.21 2769.04			Low Alternative	Single Point	High Alternative
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	<u>e</u> Lo	RE		1.45	
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Pre- igat	RE	80.25	765.29	1907.02
CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	ž Ris	sk Score	116.58	1111.83	2770.58
Log CoRE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	e Lo	RE		1.45	
Risk Score 116.52 1111.21 2769.04	st- atio	RE	80.25	765.29	1907.02
2	litig Bi	sk Score	116.52	1111.21	2769.04
RSE 1.02 9.71 24.19	≥ RS	iΕ	1.02	9.71	24.19

SCG-2-M4: Safety vic	leo library						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

		Low Alternative	Single Point	High Alternative
ġ	LoRE		1.45	
Pre- Mitigation	CoRE	80.25	765.29	1907.02
Ë	Risk Score	116.58	1111.83	2770.58
5	LoRE		1.45	
st- atio	CoRE	80.25	765.29	1907.02
Post- Mitigation	Risk Score	116.52	1111.21	2769.04
	RSE	1.22	11.65	29.03

SCG-2-M5: Expanded	l Safety Congress and expan	ded Executive Safety Council					
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 1.45 1007.02 Risk Score 116.58 1111.83 2770.58 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04			Low Alternative	Single Point	High Alternative
LOBE 1.45	ion	LoRE		1.45	
LOBE 1.45	Pre- igat	CoRE	80.25	765.29	1907.02
LoRE 1.45 CoRE 80.25 765.29 1907.02 Rick Score 116.52 1111.21 2769.04	Ξi	Risk Score	116.58	1111.83	2770.58
CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	c	LoRE		1.45	
Bisk Score 116 52 1111.21 2769.04	Post- tigatio	CoRE	80.25	765.29	1907.02
	Aiti <u>e</u>	Risk Score	116.52	1111.21	2769.04
RSE 1.74 16.64 41.46	2	RSE	1.74	16.64	41.46

SCG-2-M6: Expanded	Safety Culture Assessments	5					
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LoRE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04 PCF 1.652 1116.52 2769.04			Low Alternative	Single Point	High Alternative
LoRE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	ion	LoRE		1.45	
LoRE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Pre- igat	CoRE	80.25	765.29	1907.02
Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	Ξi	Risk Score	116.58	1111.83	2770.58
Core 80.25 765.29 1907.02 Risk Score 116.52 1111.21 2769.04	c	LoRE		1.45	
Risk Score 116.52 1111.21 2769.04	Post- Mitigatio	CoRE	80.25	765.29	1907.02
2		Risk Score	116.52	1111.21	2769.04
RSE 1.22 11.65 29.03		RSE	1.22	11.65	29.03

SCG-2-A1: Develop in	nternal expertise for expand	ed safety culture assessment					
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

Lore 1.45 Core 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 Lore 0.25 765.29 1907.02 Core 80.25 765.29 1907.02			Low Alternative	Single Point	High Alternative
	ion	LoRE		1.45	
	Pre- igat	CoRE	80.25	765.29	1907.02
LORE 1.45	Ξi	Risk Score	116.58	1111.83	2770.58
CORE 80.25 765.29 1907.02	c	LoRE		1.45	
	Post- Mitigation	CoRE	80.25	765.29	1907.02
Risk Score 116.51 1111.16 2768.91		Risk Score	116.51	1111.16	2768.91
RSE 0.30 2.89 7.21		RSE	0.30	2.89	7.21

SCG-2-A2: OSHA Vol	untary Protection Program						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed		(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

Lore 1.45 Core 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 Lore 0.02 1.45 1.45 Core 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91 Core 0.02 765.29 1907.02			Low Alternative	Single Point	High Alternative
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	ion	LoRE		1.45	
LORE 1.45 CORE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	Pre- igat	CoRE	80.25	765.29	1907.02
CoRE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	Σi	Risk Score	116.58	1111.83	2770.58
Core 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	Ę	LoRE		1.45	
Risk Score 116.51 1111.16 2768.91	st- atio	CoRE	80.25	765.29	1907.02
	Po Miti <u>e</u>	Risk Score	116.51	1111.16	2768.91
RSE 0.19 1.81 4.51		RSE	0.19	1.81	4.51

SCG-2-A3: Additiona	l Industrial Hygenist						
Attribute	Risk Reduction	Formula	R	SE Inputs and Bas	sis	Reference	Project Life
Attribute	Total	Formula	Scope	Effectiveness	Risk Addressed	Reference	(Years)
Safety							
Reliability	0.06%	SME Estimate based on historical safety performance results	SME Estimate	SME Estimate	SME Estimate	Historical safety performance	1
Financial							

LoRE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.58 1111.83 2770.58 LORE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91 Provide Score 1.651 1111.16 2768.91			Low Alternative	Single Point	High Alternative
	ion	LoRE		1.45	
	Pre- igat	CoRE	80.25	765.29	1907.02
LoRE 1.45 CoRE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	Ξi	Risk Score	116.58	1111.83	2770.58
CoRE 80.25 765.29 1907.02 Risk Score 116.51 1111.16 2768.91	c	LoRE		1.45	
Risk Score 116.51 1111.16 2768.91	Post- Mitigatio	CoRE	80.25	765.29	1907.02
		Risk Score	116.51	1111.16	2768.91
RSE 0.63 6.03 15.02		RSE	0.63	6.03	15.02