



2021 RISK ASSESSMENT MITIGATION PHASE

Workshop: SoCalGas Medium Pressure, High Pressure, and Storage Incident Risks



Agenda

Descriptions	Start	End
Introduction	9:00	9:15
Overview SoCalGas Risks with High-Cost Mitigations	9:15	9:30
Risk: Incident Related to the Medium Pressure System		
• LoRE, CoRE, Risk Score for Risk	9:30	9:45
• DIMP Program: VIPP Mitigation RSE and Discussion	9:45	10:15
• Overview High-Cost Mitigations: Safety Related Field Orders		
Risk: Incident Related to the High-Pressure System		
• LoRE, CoRE, Risk Score for Risk	10:15	10:30
• TIMP Program: TIMP-HCA Mitigation RSE and Discussion	10:30	11:00
Risk: Incident Related to the Storage System		
• LoRE, CoRE, Risk Score for Risk	11:00	11:15
• SIMP Program: SIMP Mitigation RSE and Discussion	11:15	11:30
• Overview High-Cost Mitigations: Well Abandonment and Replacement	11:30	11:45
Wrap-Up / Next Steps	11:45	12:00

CONTROLS & MITIGATIONS

Summary of High-Cost Mitigations

Risk Chapter	Risk	ID	Control/Mitigation Name	Total Cost (\$M)
SCG	MP	C21-T1	Distribution Integrity Management Program (DIMP) – Distribution Risk Evaluation and Monitoring System (DREAMS): Vintage Integrity Plastic Plan (VIPP)	\$ 657
SCG	HP	C21-T2	TIMP: Integrity Assessments & Remediation (Non-HCA)	\$ 428
SCG	STOR	C01	SIMP: Integrity Demonstration, Verification, and Monitoring Practices	\$ 309
SCG	MP	C32	Safety Related Field Orders	\$ 299
SCG	MP	C21-T2	DIMP – DREAMS: Bare Steel Replacement Program (BSRP)	\$ 282
SCG	HP	C22-T3.4	PSEP: Hydrotesting (Phase 2A, GRC base, non-HCA)	\$ 270
SCG	HP	C21-T1	TIMP: Integrity Assessments & Remediation (HCA)	\$ 247
SCG	HP	C23-T2	Ventura Compressor Station Modernization	\$ 179
SCG	HP	M01-T1	Gas Transmission Safety Rule - MAOP Reconfirmation (HCA)	\$ 171
SCG	STOR	C02	Well Abandonment and Replacement	\$ 127
SCG	HP	C22-T3.2	PSEP: Pipeline Replacement (Phase 2A, GRC base, non-HCA)	\$ 94
SCG	MP	C22	DIMP: Gas Infrastructure Protection Program (GIPP)	\$ 85
SCG	MP	C20	DIMP – DREAMS: Distribution Riser Inspection Program (DRIP)	\$ 74
SCG	MP	C23	DIMP – DREAMS: Sewer Lateral Inspection Project (SLIP)	\$ 74
SCG	MP	C19	Main Replacements- Leakage, Abnormal Op. Conditions, CP Related	\$ 72
SCG	HP	M01-T2	Gas Transmission Safety Rule - MAOP Reconfirmation (Non-HCA)	\$ 70
SCG	HP	C22-T2.4	PSEP: Pipeline Replacement (Phase 1B, GRC base, non-HCA)	\$ 69
SCG	MP	C30	Meter Set Assembly (MSA) Inspection Program	\$ 67
SCG	MP	C08/C17	Leak Survey and Main & Service Leak Repair	\$ 67
SCG	HP	C10	Compressor Stations – Capital	\$ 61

Notes: Dollars present the sum of the years 2022, 2023, and 2024 or a three-year total.

INCIDENT RELATED TO THE MEDIUM PRESSURE SYSTEM (EXCLUDING DIG-IN)

Incident Related to the Medium Pressure Gas System (Excluding Dig-in)

Risk Description & Scope	Risk Quantification						
The risk of damage, caused by a medium pressure system (maximum allowable operating pressure (MAOP) at or lower than 60 psig) failure event, which results in serious consequences such as injuries, fatalities, or outages and includes consequences beyond the customer meter	<table><tr><th>LoRE</th><th>CoRE</th><th>Risk Score</th></tr><tr><td>544.99</td><td>5.63</td><td>3,071</td></tr></table>	LoRE	CoRE	Risk Score	544.99	5.63	3,071
LoRE	CoRE	Risk Score					
544.99	5.63	3,071					

Summary of Risk Plan
<ul style="list-style-type: none">• SoCalGas's Risk Plan includes:<ul style="list-style-type: none">○ 32 existing activities<ul style="list-style-type: none">○ 19 mitigations (C1 – C19) holistically pertaining to the medium pressure system○ 4 mitigations (C20 – C23) specific to the Distribution Integrity Management Program○ 1 mitigation (C24) specific to the Control Center Modernization, and○ 8 mitigations (C25-C32) pertaining to Customer Service Fields○ No planned new mitigations○ Nine of the mitigations are in the top 20 highest cost mitigations

CONTROLS & MITIGATIONS

Summary of High-Cost Controls & Mitigations				
	2020 Capital	2022-2024 Capital	2020 O&M	2024 O&M
C21-T1 DIMP: DREAMS - Vintage Integrity Plastic Plan (VIPP)	\$106,945	\$501,070 - \$606,560	\$4,095	\$45,515 - \$55,100
C32: Safety Related Field Orders	\$4,878	\$16,965 - \$20,540	\$61,126	\$90,198 - \$109,187
C21-T2 DIMP: DREAMS - Bare Steel Replacement Program (BSRP)	\$73,630	\$214,745 - \$259,955	\$3,055	\$19,505 - \$23,615
C22: DIMP: Gas Infrastructure Protection Project (GIPP)- Medium Pressure and High pressure	\$13,575	\$49,145 - 62,800	\$2,110	\$10,430 - \$13,325
C20: DIMP: Distribution Riser Inspection Project (DRIP)	N/A	N/A	\$19,820	\$22,260 - \$28,445
C23: DIMP: Sewer Lateral Inspection Project (SLIP)	N/A	N/A	\$15,970	\$22,260 - \$28,445
C19: Main Replacements (Leakage, AOC, CP)	\$23,000	\$63,000 - \$83,320	N/A	N/A
C30: Meter Set Assembly (MSA) Inspection Program	N/A	N/A	\$24,650	\$21,065 - \$25,499

Notes:

Dollars are shown in \$000s. Capital is presented as the sum of the years 2022, 2023, and 2024 or a three-year total.

QUANT: MP RISK

QUANT: DIMP VIPP MITIGATION

DISCUSSION: DIMP

INCIDENT RELATED TO THE HIGH-PRESSURE SYSTEM (EXCLUDING DIG-IN)

Incident Related to the High-Pressure System (Excluding Dig-in)

Risk Description & Scope	Risk Quantification		
The Incidents Related to the High Pressure System risk is the risk of damage caused by a high pressure pipeline (maximum allowable operating pressure greater than 60 psig) failure event that results in significant consequences including injuries, fatalities and/or damages to the infrastructure.			
	LoRE	CoRE	Risk Score
	8.64	382	3,301

Summary of Risk Plan
<ul style="list-style-type: none">• SoCalGas’s Risk Plan includes:<ul style="list-style-type: none">○ 23 existing activities – 40 including tranches pertaining to HCA vs Non-HCA○ 1 incremental/new activity<ul style="list-style-type: none">○ Development of a Facilities Integrity Management Program.○ Nine of the mitigations are in the top 20 highest cost mitigations

CONTROLS & MITIGATIONS

Summary of High-Cost Controls & Mitigations				
	2020 Capital	2022-2024 Capital	2020 O&M	2024 O&M
C21-T2: Integrity Assessments & Remediation – NON-HCA	\$42,387	\$262,520 - \$335,442	\$57,844	\$33,579 - \$42,906
C22-T3.4: Pipeline Safety Enhancement Plan (PSEP) - Hydrotesting (Phase 2A, GRC base): Non-HCA	\$8,210	\$74,845 - 90,601	\$20,709	\$181,374 - 219,558
C21-T1: Integrity Assessments & Remediation - HCA	\$34,008	\$158,154 - \$202,086	\$45,410	\$20,581 - \$26,297
C23-T2: Ventura Compressor Station Modernization Projects	\$3,231	\$169,728 - \$205,459	N/A	N/A
M1-T1: Gas Transmission Safety Rule - MAOP Reconfirmation: HCA	N/A	\$43,843 - \$140,296	N/A	\$28,755 - \$92,016
C22-T3.2: PSEP - Pipeline Replacement (Phase 2A, GRC base): Non-HCA	\$4,645	\$88,982 - 107,715	N/A	N/A
M1-T2: Gas Transmission Safety Rule - MAOP Reconfirmation: Non-HCA	N/A	\$17,908 - \$57,304	N/A	\$11,745 - 37,584
C22-T2.4: PSEP - Pipeline Replacement (Phase 1B, GRC base): Non-HCA	\$34,155	\$65,785 - \$79,634	N/A	N/A

Notes:

Dollars are shown in \$000s. Capital is presented as the sum of the years 2022, 2023, and 2024 or a three-year total.

QUANT: HP RISK

QUANT: TIMP HCA MITIGATION

DISCUSSION: TIMP

INCIDENT RELATED TO THE STORAGE SYSTEM (EXCLUDING DIG-IN)

Incident Related to the Storage System (Excluding Dig-In)

Risk Description & Scope	Risk Quantification						
The risk of damage to the storage system, including wellheads, reservoirs, and surface assets (compressors, laterals, oi/brine systems, etc.) which results in consequences such as injuries, fatalities or outages. Includes equipment at SoCalGas’s four Storage Fields: Aliso Canyon, Honor Rancho, La Goleta, and Playa del Rey.	<table><tr><th>LoRE</th><th>CoRE</th><th>Risk Score</th></tr><tr><td>0.29</td><td>9,306</td><td>2,721</td></tr></table>	LoRE	CoRE	Risk Score	0.29	9,306	2,721
LoRE	CoRE	Risk Score					
0.29	9,306	2,721					

Summary of Risk Plan
<ul style="list-style-type: none">• SoCalGas's Risk Plan includes:<ul style="list-style-type: none">○ 7 existing activities○ 1 planned new activity○ Two of mitigations are in the top 20 highest cost mitigations

CONTROLS & MITIGATIONS

Summary of High-Cost Controls & Mitigations				
	2020 Capital	2022-2024 Capital	2020 O&M	2024 O&M
C1: Integrity Demonstration, Verification, and Monitoring Practices	\$66,676	\$263,720 - \$319,240	\$13,413	\$14,834 - \$17,957
C2: Well Abandonments	\$14,926	\$120,625 – 146,020	\$0	\$0

Notes:

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QUANT: STORAGE RISK

QUANT: SIMP MITIGATION

DISCUSSION: SIMP

WRAP UP