

**2016 Risk Assessment Mitigation Phase  
Investigation 16-10-016  
Workpapers to  
Climate Change Adaptation  
(Chapter SCG-9-WP)**

January 2017



2016 Risk Assessment Mitigation Phase  
SCG-09-WP  
Risk: Climate Change Adaptation (O&M)

Line No.	Mitigation	Project/Program	Project/Program Description	Recorded (Directs, 2015 \$000)						Forecast Range (Directs, 2015 \$000)						Forecast Methodology
				Status	2011	2012	2013	2014	2015	2017 Low	2017 High	2018 Low	2018 High	2019 Low	2019 High	
1	Land Movement Satellite Monitoring	Land Movement Satellite Monitoring	Research partnership with the Pipeline Research Council International developed the geological hazard engineering program, including satellite monitoring	B	\$ -	\$ -	\$ -	\$ -	\$ 210							
2	<b>Land Movement Satellite Monitoring Subtotal</b>				-	-	-	-	210	-	-	-	-	-	-	
3	Geological Hazard Engineering Analysis and Flood Hazard Dashboard	Geotechnical Hazard Satellite Monitoring & Flood Hazard Analysis	Research related to the increase in extreme weather events and subsidence	B/P	-	-	-	-	20	800	2,000	800	2,000	800	2,000	Zero-Based
4	<b>Geological Hazard Engineering Analysis and Flood Hazard Dashboard Subtotal</b>				-	-	-	-	20	800	2,000	800	2,000	800	2,000	
5	Storage Field Slope Stability & Erosion Projects	Erosion Mitigation Projects	Promotes safety by making sure pipelines are not inhibited by land movement/loss	B	-	-	-	-	-	-	-	-	-	-	-	
6	<b>Storage Field Slope Stability &amp; Erosion Projects Subtotal</b>				-	-	-	-	-	-	-	-	-	-	-	
7	Gas Infrastructure Resilience & Vulnerability Report	Study of impact to SoCalGas system over a 50 to 100 year period	Addresses/identifies potential risks posed to the gas infrastructure in SoCalGas by climate change	P						200	400	200	400	200	400	Zero-Based
8	<b>Gas Infrastructure Resilience &amp; Vulnerability Report Subtotal</b>				-	-	-	-	-	200	400	200	400	200	400	
9	Strain Gauge Installation Projects	Strain Gauge Installation Projects	Monitors land movement via current infrastructure	P						50	100	50	100	50	100	Zero-Based
10	<b>Strain Gauge Installation Projects Subtotal</b>				-	-	-	-	-	50	100	50	100	50	100	
11	<b>TOTAL</b>				\$ -	\$ -	\$ -	\$ -	\$ 230	\$ 1,050	\$ 2,500	\$ 1,050	\$ 2,500	\$ 1,050	\$ 2,500	

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  
SCG-09-WP  
Risk: Climate Change Adaptation (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	Land Movement Satellite Monitoring	Land Movement Satellite Monitoring	Research partnership with the Pipeline Research Council International developed the geological hazard engineering program, including satellite monitoring	B	\$ -	\$ -	\$ -	\$ -	\$ -									
2	<b>Land Movement Satellite Monitoring Subtotal</b>				-	-	-	-	-	-	-	-	-	-	-	-	-	
3	Geological Hazard Engineering Analysis and Flood Hazard Dashboard	Geotechnical Hazard Satellite Monitoring & Flood Hazard Analysis	Research related to the increase in extreme weather events and subsidence	B/P	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	<b>Geological Hazard Engineering Analysis and Flood Hazard Dashboard Subtotal</b>				-	-	-	-	-	-	-	-	-	-	-	-	-	
5	Storage Field Slope Stability & Erosion Projects	Erosion Mitigation Projects	Promotes safety by making sure pipelines are not inhibited by land movement/loss	B	-	-	-	-	470	4,200	4,800	4,200	4,800	4,200	4,800	12,600	14,400	Zero-Based
6	<b>Storage Field Slope Stability &amp; Erosion Projects Subtotal</b>				-	-	-	-	470	4,200	4,800	4,200	4,800	4,200	4,800	12,600	14,400	
7	Gas Infrastructure Resilience & Vulnerability Report	Study of impact to SoCalGas system over a 50 to 100 year period	Addresses/identifies potential risks posed to the gas infrastructure in SoCalGas by	P						-	-	-	-	-	-	-	-	
8	<b>Gas Infrastructure Resilience &amp; Vulnerability Report Subtotal</b>				-	-	-	-	-	-	-	-	-	-	-	-	-	
9	Strain Gauge Installation Projects	Strain Gauge Installation Projects	Monitors land movement via current infrastructure	P						400	700	400	700	400	700	1,200	2,100	Zero-Based
10	<b>Strain Gauge Installation Projects Subtotal</b>				-	-	-	-	-	400	700	400	700	400	700	1,200	2,100	
11	<b>TOTAL</b>				\$ -	\$ -	\$ -	\$ -	\$ 470	\$ 4,600	\$ 5,500	\$ 4,600	\$ 5,500	\$ 4,600	\$ 5,500	\$ 13,800	\$ 16,500	

Notes:

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