



# **2025 Risk Assessment Mitigation Phase**

## **APPENDIX 5**

### **Cost Benefit Ratio Rankings**

**May 15, 2025**

## APPENDIX 5

***Bold font indicates this control/mitigation includes mandated programs/activities.***

SDG&E Mitigation Cost Benefit Ratios (2028-2031)			
Societal Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER	ID	CONTROL/MITIGATION NAME	CBR
Cybersecurity	C803	Sensitive Data Protection	236.7
Cybersecurity	C804	Operational Technology (OT) Cybersecurity	220.1
Cybersecurity	C805	IT Infrastructure Modernization	194.0
Wildfire and PSPS	C573	Early Fault Detection	191.4
Wildfire and PSPS	<b>C536</b>	<b>Distribution Overhead Patrol Inspections</b>	<b>190.3</b>
EII	C261	Power Quality Monitor Deployment and Replacement	182.4
High Pressure Gas System	<b>C104</b>	<b>Cathodic Protection - Capital</b>	<b>141.5</b>
EII	C263	Non-HFTD Wireless Fault Indicator	136.2
EII	C236	Distribution Overhead Switch Replacement Program	113.8
Cybersecurity	C801	Perimeter Defenses	104.0
EII	C269	Distribution Circuit Reliability	86.2
Wildfire and PSPS	C534	Risk-Informed Drone Inspections (RIDI)	70.0
Wildfire and PSPS	<b>C537</b>	<b>Off-Cycle Patrol</b>	<b>65.0</b>
Wildfire and PSPS	<b>C526</b>	<b>Distribution Overhead Detailed Inspections</b>	<b>63.9</b>
EII	C262	Distribution Substation SCADA Expansion	50.9
Cybersecurity	C802	Internal Defenses	33.7
Wildfires and PSPS	C518	Strategic Undergrounding (SUG)	33.2
Medium Pressure Gas System	<b>C107</b>	<b>Cathodic Protection Program-Capital</b>	<b>32.5</b>
Wildfire and PSPS	<b>C554</b>	<b>Vegetation Detailed Inspections</b>	<b>28.1</b>
High Pressure Gas System	<b>C132</b>	<b>Pipeline Maintenance</b>	<b>24.3</b>
Wildfire and PSPS	N/A	SUG +CCC	23.6
High Pressure Gas System	<b>C108</b>	<b>Cathodic Protection - Maintenance</b>	<b>21.5</b>
Wildfire and PSPS	C508	Falling Conductor Protection (FCP)	19.3
Wildfire and PSPS	<b>C530</b>	<b>Distribution Wood Pole Intrusive Inspections</b>	<b>17.4</b>
EII	C202	Underground Cable Replacement Program (Proactive)	16.8
Wildfire and PSPS	<b>C544</b>	<b>Pole Clearing</b>	<b>15.1</b>
High Pressure Gas System	<b>C136</b>	<b>Compressor Stations - Capital</b>	<b>12.2</b>

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>Societal Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
Medium Pressure Gas System	<b>C101</b>	<b>Cathodic Protection Program - Maintenance</b>	<b>11.4</b>
Wildfire and PSPS	C568	Sensitive Protection Relay Profile (SPRP)	8.8
EII	C206	Tee Modernization Program	8.6
EII	<b>C212</b>	<b>GO165 Corrective Maintenance Program - Underground</b>	<b>7.8</b>
Wildfire and PSPS	C550	Combined Covered Conductor (CCC)	6.3
Excavation Damage	<b>C002</b>	<b>Damage Prevention Activities - Gas</b>	<b>6.2</b>
EII	C210	DOE Switch Replacement Underground	5.8
EII	C234	4kV Reliability Program	5.3
Wildfire and PSPS	<b>C551</b>	<b>Prune and Removal (Clearance)</b>	<b>4.3</b>
Excavation Damage	<b>C004</b>	<b>Damage Prevention Mapping</b>	<b>4.3</b>
Medium Pressure Gas System	<b>C131</b>	<b>Leak Repair</b>	<b>3.2</b>
EII	<b>C251</b>	<b>GO165 Corrective Maintenance Program - Non-HFTD Overhead</b>	<b>3.0</b>
Contractor Safety	<b>C301</b>	<b>Class 1 Contractor Safety Program</b>	<b>2.9</b>
Employee Safety	M305	Safety Mgmt System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	2.6
EII	C268	<b>Substation Inspection and Maintenance</b>	<b>2.3</b>
High Pressure Gas System	C133	<b>Leak Repair</b>	<b>2.2</b>
Contractor Safety	C304	Contractor Safety Field Oversight	2.1
Employee Safety	M303	Enhanced Risk-Informed Employee Safety Training & Field Safety Oversight Programs	2.0
EII	<b>C267</b>	<b>Damage Prevention Activities Underground</b>	<b>1.9</b>
Employee Safety	<b>C317</b>	<b>Employee Safety Training &amp; Field Safety Oversight Programs</b>	<b>1.6</b>
High Pressure Gas System	<b>C125</b>	<b>Pipeline Relocation/Replacement</b>	<b>1.4</b>
Medium Pressure Gas System	<b>C134</b>	<b>Pipeline Monitoring</b>	<b>1.4</b>
High Pressure Gas System	<b>C171</b>	<b>Integrity Assessments &amp; Remediation</b>	<b>1.3</b>
EII	C266	Distribution Substation Proactive Asset Program	1.2

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>Societal Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
High Pressure Gas System	<b>C155</b>	<b>Measurement &amp; Instrumentation Maintenance</b>	<b>1.1</b>
High Pressure Gas System	C010	Pipeline Monitoring Technologies	1.1
Employee Safety	M311	Establish Incident Investigation & Cross-functional Event Learning Team	1.1
Employee Safety	C319	Safety Management System (SMS) Implementation & Management	1.1
EII	<b>C240</b>	<b>Aviation Protection Program</b>	<b>1.0</b>
Employee Safety	<b>C328</b>	<b>Safety Compliance &amp; Industrial Hygiene Program</b>	<b>0.9</b>
High Pressure Gas System	<b>C013</b>	<b>Gas Transmission Safety Rule - MAOP Reconfirmation</b>	<b>0.8</b>
Excavation Damage	<b>C001</b>	<b>Damage Prevention Strategies</b>	<b>0.7</b>
Wildfire and PSPS	C540	Fuel Management	0.6
EII	C248	Strategic Pole Replacement Program (Non-HFTD)	0.5
Contractor Safety	M307	Risk Informed Class 1 Contractor Safety Program Management	0.4
Employee Safety	C323	Safety Culture Survey Recognition & Awards	0.4
EII	C201	Proactive Overhead Conductor Program	0.4
EII	C215	Electric Public Safety Communications	0.4
Medium Pressure Gas System	<b>C007</b>	<b>Underperforming Mains and Services</b>	<b>0.4</b>
EII	C270	SCADA Capacitors	0.4
High Pressure Gas System	<b>C151</b>	<b>Measurement &amp; Regulation Station Capital</b>	<b>0.4</b>
High Pressure Gas System	<b>C126</b>	<b>Shallow/Exposed Pipe Remediations</b>	<b>0.4</b>
EII	C250	Substation Reliability for Distribution Components	0.3
High Pressure Gas System	<b>C142</b>	<b>Compressor Station - Maintenance</b>	<b>0.3</b>
Excavation Damage	<b>C003</b>	<b>Damage Prevention - Public Awareness</b>	<b>0.3</b>
Employee Safety	<b>C326</b>	<b>Workplace Violence Prevention Programs</b>	<b>0.2</b>
Medium Pressure Gas System	<b>C182</b>	<b>Distribution Risk Evaluation &amp; Monitoring System (DREAMS)</b>	<b>0.2</b>
EII	C208	Replacement of Live Front Equipment – Proactive	0.1
Medium Pressure Gas System	<b>C124</b>	<b>Regulator Station Installation Replacement &amp; Enhancement</b>	<b>0.1</b>

SDG&E Mitigation Cost Benefit Ratios (2028-2031)			
Societal Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER	ID	CONTROL/MITIGATION NAME	CBR
Medium Pressure Gas System	<b>C139</b>	<b>Gas Distribution Safety Relocations</b>	<b>0.1</b>
High Pressure Gas System	<b>C118</b>	<b>Rupture Mitigation Valve Installation - Valve Rule</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C115</b>	<b>Regulator Station Valve and Large Meter Set Inspection</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C144</b>	<b>Human Factors Mitigation – QA/QC Program – Mandate Compliance Activities</b>	<b>0.1</b>
Medium Pressure Gas System	C005	Gas Distribution Emergency Department	0.1
EII	C551	Trim & Removal - Vegetation Management	0.1
Medium Pressure Gas System	C150	Code Compliance Mitigation	0.0
Medium Pressure Gas System	<b>C175</b>	<b>Residential Meter Protection</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C169</b>	<b>Human Factors Mitigations - Operator Qualification Training</b>	<b>0.0</b>
Wildfire and PSPS	C522	Transmission Overhead Hardening (Distribution Underbuild)	0.0
Wildfire and PSPS	C506	Microgrids	0.0
Wildfire and PSPS	C520	Distribution Overhead System Hardening	0.0

***Bold font indicates this control/mitigation includes mandated programs/activities.***

SDG&E Mitigation Cost Benefit Ratios (2028-2031)			
Hybrid Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER NAME	ID	CONTROL/MITIGATION NAME	CBR
Cybersecurity	C803	Sensitive Data Protection	227.1
Cybersecurity	C804	Operational Technology (OT) Cybersecurity	213.2
Wildfire and PSPS	C536	<b>Distribution Overhead Patrol Inspections</b>	<b>190.3</b>
Cybersecurity	C805	IT Infrastructure Modernization	182.0
High Pressure Gas System	C104	<b>Cathodic Protection - Capital</b>	151.7
EII	C261	Power Quality Monitor Deployment and Replacement	129.2
Wildfire and PSPS	C573	Early Fault Detection	120.0

SDG&E Mitigation Cost Benefit Ratios (2028-2031)			
Hybrid Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER NAME	ID	CONTROL/MITIGATION NAME	CBR
EII	C263	Non-HFTD Wireless Fault Indicator	98.6
Cybersecurity	C801	Perimeter Defenses	97.5
Wildfire and PSPS	C534	Risk-Informed Drone Inspections (RIDI)	70.0
Wildfire and PSPS	<b>C537</b>	<b>Off-Cycle Patrol</b>	<b>65.0</b>
Wildfire and PSPS	<b>C526</b>	<b>Distribution Overhead Detailed Inspections</b>	<b>63.3</b>
EII	C236	Distribution Overhead Switch Replacement Program	46.6
EII	C269	Distribution Circuit Reliability	41.1
EII	C262	Distribution Substation SCADA Expansion	36.7
Cybersecurity	C802	Internal Defenses	32.5
Wildfire and PSPS	<b>C554</b>	<b>Vegetation Detailed Inspections</b>	<b>28.1</b>
High Pressure Gas System	<b>C132</b>	<b>Pipeline Maintenance</b>	<b>25.9</b>
High Pressure Gas System	<b>C108</b>	<b>Cathodic Protection - Maintenance</b>	<b>23.0</b>
Medium Pressure Gas System	<b>C107</b>	<b>Cathodic Protection Program - Capital</b>	<b>18.1</b>
Wildfire and PSPS	<b>C530</b>	<b>Distribution Wood Pole Intrusive Inspections</b>	<b>17.6</b>
Wildfire and PSPS	<b>C544</b>	<b>Pole Clearing</b>	<b>15.1</b>
Wildfire and PSPS	C518	Strategic Undergrounding (SUG)	13.2
Wildfire and PSPS	C508	Falling Conductor Protection (FCP)	12.2
Medium Pressure Gas System	C101	<b>Cathodic Protection Program - Maintenance</b>	11.4
Wildfire and PSPS	N/A	SUG+CCC	11.0
EII	C202	Underground Cable Replacement Program (Proactive)	7.9
Excavation Damage	<b>C002</b>	<b>Damage Prevention Activities - Gas</b>	<b>6.6</b>
High Pressure Gas System	<b>C136</b>	<b>Compressor Stations - Capital</b>	<b>5.5</b>

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>Hybrid Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
Wildfire and PSPS	C551	<b>Prune and Removal (Clearance)</b>	<b>4.3</b>
Wildfire and PSPS	C550	Combined Covered Conductor (CCC)	4.2
Wildfire and PSPS	C568	Sensitive Protection Relay Profile (SPRP)	3.7
EII	<b>C212</b>	<b>GO165 Corrective Maintenance Program – Underground</b>	<b>3.6</b>
EII	C206	Tee Modernization Program	3.4
Contractor Safety	C301	<b>Class 1 Contractor Safety Program</b>	<b>3.1</b>
Employee Safety	M305	Safety Mgmt System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	2.8
EII	C210	DOE Switch Replacement Underground	2.8
High Pressure Gas System	C113	<b>Leak Repair</b>	<b>2.4</b>
Contractor Safety	C304	Contractor Safety Field Oversight	2.3
EII	C234	4kV Reliability Program	2.3
Employee Safety	M303	Enhanced Risk-Informed Employee Safety Training & Field Safety Oversight Programs	2.1
EII	<b>C267</b>	<b>Damage Prevention Activities Underground</b>	<b>2.0</b>
EII	<b>C268</b>	<b>Substation Inspection and Maintenance</b>	<b>1.9</b>
Employee Safety	<b>C317</b>	<b>Employee Safety Training &amp; Field Safety Oversight Programs</b>	<b>1.8</b>
Excavation Damage	<b>C004</b>	<b>Damage Prevention Mapping</b>	<b>1.5</b>
Medium Pressure Gas System	<b>C134</b>	<b>Pipeline Monitoring</b>	<b>1.4</b>
High Pressure Gas System	<b>C171</b>	<b>Integrity Assessments &amp; Remediation</b>	<b>1.2</b>

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>Hybrid Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
High Pressure Gas System	<b>C155</b>	<b>Measurement &amp; Instrumentation Maintenance</b>	<b>1.2</b>
Employee Safety	<b>M311</b>	<b>Establish Incident Investigation &amp; Cross-functional Event Learning Team</b>	<b>1.1</b>
Employee Safety	C319	Safety Management System (SMS) Implementation & Management	1.1
EII	<b>C251</b>	<b>GO165 Corrective Maintenance Program - Non-HFTD Overhead</b>	<b>1.1</b>
Employee Safety	<b>C328</b>	<b>Safety Compliance &amp; Industrial Hygiene Program</b>	<b>1.0</b>
High Pressure Gas System	C010	Pipeline Monitoring Technologies	0.8
Excavation Damage	<b>C001</b>	<b>Damage Prevention Strategies</b>	<b>0.7</b>
Wildfire and PSPS	C540	Fuel Management	0.6
High Pressure Gas System	C125	<b>Pipeline Relocation/Replacement</b>	<b>0.5</b>
EII	C226	Distribution Substation Proactive Asset Program	0.5
Contractor Safety	M307	Risk Informed Class 1 Contractor Safety Program Management	0.5
Employee Safety	C323	Safety Culture Survey Recognition & Awards	0.5
EII	C215	Electric Public Safety Communications	0.4
EII	<b>C240</b>	<b>Aviation Protection Program</b>	<b>0.4</b>
Medium Pressure Gas System	<b>C131</b>	<b>Leak Repair</b>	<b>0.4</b>
High Pressure Gas System	<b>C142</b>	<b>Compressor Station - Maintenance</b>	<b>0.3</b>
EII	C270	SCADA Capacitors	0.3
Excavation Damage	<b>C003</b>	<b>Damage Prevention - Public Awareness</b>	<b>0.3</b>



<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>Hybrid Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
High Pressure Gas System	<b>C013</b>	<b>Gas Transmission Safety Rule - MAOP Reconfirmation</b>	<b>0.3</b>
Employee Safety	<b>C326</b>	<b>Workplace Violence Prevention Programs</b>	<b>0.2</b>
EII	C248	Strategic Pole Replacement Program (Non-HFTD)	0.2
High Pressure Gas System	<b>C151</b>	<b>Measurement &amp; Regulation Station Capital</b>	<b>0.2</b>
EII	C201	Proactive Overhead Conductor Program	0.2
EII	C250	Substation Reliability for Distribution Components	0.1
High Pressure Gas System	<b>C126</b>	<b>Shallow/Exposed Pipe Remediations</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C115</b>	<b>Regulator Station Valve and Large Meter Set Inspection</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C144</b>	<b>Human Factors Mitigation – QA/QC Program – Mandate Compliance Activities</b>	<b>0.1</b>
EII	<b>C551</b>	<b>Trim &amp; Removal - Vegetation Management</b>	<b>0.1</b>
Medium Pressure Gas System	C005	Gas Distribution Emergency Department	0.1
EII	C208	Replacement of Live Front Equipment – Proactive	0.1
Medium Pressure Gas System	<b>C124</b>	<b>Regulator Station Installation Replacement &amp; Enhancement</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C007</b>	<b>Underperforming Mains and Services</b>	<b>0.0</b>
High Pressure Gas System	<b>C118</b>	<b>Rupture Mitigation Valve Installation - Valve Rule</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C182</b>	<b>Distribution Risk Evaluation &amp; Monitoring System (DREAMS)</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C139</b>	<b>Gas Distribution Safety Relocations</b>	<b>0.0</b>

SDG&E Mitigation Cost Benefit Ratios (2028-2031) Hybrid Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER NAME	ID	CONTROL/MITIGATION NAME	CBR
Medium Pressure Gas System	<b>C175</b>	<b>Residential Meter Protection</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C150</b>	<b>Code Compliance Mitigation</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C169</b>	<b>Human Factors Mitigations – Operator Qualification Training</b>	<b>0.0</b>
Wildfire and PSPS	C522	Transmission Overhead Hardening (Distribution Underbuild)	0.0
Wildfire and PSPS	C506	Microgrids	0.0
Wildfire and PSPS	C520	Distribution Overhead System Hardening	0.0

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SDG&E Mitigation Cost Benefit Ratios (2028-2031) WACC Discount Rate: CBRs Ranked Highest to Lowest			
RISK CHAPTER NAME	ID	CONTROL/MITIGATION NAME	CBR
Cybersecurity	C803	Sensitive Data Protection	204.6
Cybersecurity	C804	Operational Technology (OT) Cybersecurity	192.0
Wildfire and PSPS	<b>C536</b>	<b>Distribution Overhead Patrol Inspections</b>	<b>190.3</b>
Cybersecurity	C805	IT Infrastructure Modernization	164.0
High Pressure Gas System	C104	<b>Cathodic Protection - Capital</b>	<b>141.8</b>
Wildfire and PSPS	C573	Early Fault Detection (EFD)	120.0
EII	C261	Power Quality Monitor Deployment and Replacement	108.8
Cybersecurity	C801	Perimeter Defenses	87.8
EII	C263	Non-HFTD Wireless Fault Indicator	81.5
Wildfire and PSPS	C534	Risk-Informed Drone Inspections (RIDI)	70.0
Wildfire and PSPS	<b>C537</b>	<b>Off-Cycle Patrol</b>	<b>65.0</b>
Wildfire and PSPS	<b>C526</b>	<b>Distribution Overhead Detailed Inspections</b>	<b>63.3</b>
EII	C236	Distribution Overhead Switch Replacement Program	34.4
EII	C269	Distribution Circuit Reliability	31.1
EII	C262	Distribution Substation SCADA Expansion	30.5

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>WACC Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
Cybersecurity	C802	Internal Defenses	29.3
Wildfire and PSPS	<b>C554</b>	<b>Vegetation Detailed Inspections</b>	<b>28.1</b>
High Pressure Gas System	<b>C132</b>	<b>Pipeline Maintenance</b>	<b>24.3</b>
High Pressure Gas System	<b>C108</b>	<b>Cathodic Protection - Maintenance</b>	<b>21.5</b>
Medium Pressure Gas System	<b>C107</b>	<b>Cathodic Protection Program - Capital</b>	<b>17.8</b>
Wildfire and PSPS	<b>C530</b>	<b>Distribution Wood Pole Intrusive Inspections</b>	<b>17.6</b>
Wildfire and PSPS	<b>C544</b>	<b>Pole Clearing</b>	<b>15.1</b>
Wildfire and PSPS	C518	Strategic Undergrounding (SUG)	12.9
Wildfire and PSPS	C508	Falling Conductor Protection (FCP)	12.2
Medium Pressure Gas System	<b>C101</b>	<b>Cathodic Protection Program - Maintenance</b>	<b>11.3</b>
Wildfire and PSPS	N/A	SUG+CCC	10.7
Excavation Damage	<b>C002</b>	<b>Damage Prevention Activities - Gas</b>	<b>6.2</b>
EII	C202	Underground Cable Replacement Program (Proactive)	6.1
Wildfire and PSPS	<b>C551</b>	<b>Prune and Removal (Clearance)</b>	<b>4.3</b>
High Pressure Gas System	<b>C136</b>	<b>Compressor Stations - Capital</b>	<b>4.3</b>
Wildfire and PSPS	C550	Combined Covered Conductor (CCC)	4.1
Wildfire and PSPS	C568	Sensitive Protection Relay Profile (SPRP)	3.7
Contractor Safety	<b>C301</b>	<b>Class 1 Contractor Safety Program</b>	<b>2.9</b>
EII	<b>C212</b>	<b>GO165 Corrective Maintenance Program - Underground</b>	<b>2.8</b>
Employee Safety	M305	Safety Mgmt System Maturity & Improvement: Enhanced Safety Communication & Safety Data Analytics	2.7
EII	C206	Tee Modernization Program	2.5
High Pressure Gas System	<b>C113</b>	<b>Leak Repair</b>	<b>2.2</b>
EII	<b>C268</b>	<b>Substation Inspection and Maintenance</b>	<b>2.2</b>
Contractor Safety	C304	Contractor Safety Field Oversight	2.1
EII	C210	DOE Switch Replacement Underground	2.1
Employee Safety	M303	Enhanced Risk-Informed Employee Safety Training & Field Safety Oversight Programs	2.0
EII	<b>C267</b>	<b>Damage Prevention Activities Underground</b>	<b>1.8</b>

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>WACC Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
EII	C234	4kV Reliability Program	1.7
Employee Safety	<b>C317</b>	<b>Employee Safety Training &amp; Field Safety Oversight Programs</b>	<b>1.7</b>
Medium Pressure Gas System	<b>C134</b>	<b>Pipeline Monitoring</b>	<b>1.4</b>
Excavation Damage	<b>C004</b>	<b>Damage Prevention Mapping</b>	<b>1.1</b>
High Pressure Gas System	<b>C171</b>	<b>Integrity Assessments &amp; Remediation</b>	<b>1.1</b>
High Pressure Gas System	<b>C155</b>	<b>Measurement &amp; Instrumentation Maintenance</b>	<b>1.1</b>
Employee Safety	<b>M311</b>	<b>Establish Incident Investigation &amp; Cross-functional Event Learning Team</b>	<b>1.1</b>
Employee Safety	C319	Safety Management System (SMS) Implementation & Management	1.1
EII	<b>C251</b>	<b>GO165 Corrective Maintenance Program - Non-HFTD Overhead</b>	<b>0.9</b>
Employee Safety	<b>C358</b>	<b>Safety Compliance &amp; Industrial Hygiene Program</b>	<b>0.9</b>
Excavation Damage	<b>C001</b>	<b>Damage Prevention Strategies</b>	<b>0.7</b>
High Pressure Gas System	C010	Pipeline Monitoring Technologies	0.7
Wildfire and PSPS	C540	Fuel Management	0.6
Contractor Safety	M307	Risk Informed Class 1 Contractor Safety Program Management	0.4
Employee Safety	C323	Safety Culture Survey Recognition & Awards	0.4
High Pressure Gas System	<b>C125</b>	<b>Pipeline Relocation/Replacement</b>	<b>0.4</b>
EII	C226	Distribution Substation Proactive Asset Program	0.4
EII	C215	Electric Public Safety Communications	0.4
Medium Pressure Gas System	<b>C131</b>	<b>Leak Repair</b>	<b>0.3</b>
High Pressure Gas System	<b>C142</b>	<b>Compressor Station - Maintenance</b>	<b>0.3</b>
EII	<b>C240</b>	<b>Aviation Protection Program</b>	<b>0.3</b>
Excavation Damage	<b>C003</b>	<b>Damage Prevention - Public Awareness</b>	<b>0.3</b>
EII	C270	SCADA Capacitors	0.3
Employee Safety	<b>C326</b>	<b>Workplace Violence Prevention Programs</b>	<b>0.2</b>
High Pressure Gas System	<b>C013</b>	<b>Gas Transmission Safety Rule - MAOP Reconfirmation</b>	<b>0.2</b>

<b>SDG&amp;E Mitigation Cost Benefit Ratios (2028-2031)</b> <b>WACC Discount Rate: CBRs Ranked Highest to Lowest</b>			
<b>RISK CHAPTER NAME</b>	<b>ID</b>	<b>CONTROL/MITIGATION NAME</b>	<b>CBR</b>
EII	C248	Strategic Pole Replacement Program (Non-HFTD)	0.2
High Pressure Gas System	<b>C151</b>	<b>Measurement &amp; Regulation Station Capital</b>	<b>0.1</b>
EII	C201	Proactive Overhead Conductor Program	0.1
EII	C250	Substation Reliability for Distribution Components	0.1
Medium Pressure Gas System	<b>C115</b>	<b>Regulator Station Valve and Large Meter Set Inspection</b>	<b>0.1</b>
Medium Pressure Gas System	<b>C144</b>	<b>Human Factors Mitigation – QA/QC Program – Mandate Compliance Activities</b>	<b>0.1</b>
Medium Pressure Gas System	C005	Gas Distribution Emergency Department	0.1
EII	<b>C551</b>	<b>Trim &amp; Removal - Vegetation Management</b>	<b>0.1</b>
High Pressure Gas System	<b>C126</b>	<b>Shallow/Exposed Pipe Remediations</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C124</b>	<b>Regulator Station Installation Replacement &amp; Enhancement</b>	<b>0.0</b>
EII	C208	Replacement of Live Front Equipment – Proactive	0.0
High Pressure Gas System	<b>C118</b>	<b>Rupture Mitigation Valve Installation - Valve Rule</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C007</b>	<b>Underperforming Mains and Services</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C182</b>	<b>Distribution Risk Evaluation &amp; Monitoring System (DREAMS)</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C139</b>	<b>Gas Distribution Safety Relocations</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C175</b>	<b>Residential Meter Protection</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C150</b>	<b>Code Compliance Mitigation</b>	<b>0.0</b>
Medium Pressure Gas System	<b>C169</b>	<b>Human Factors Mitigations – Operator Qualification Training</b>	<b>0.0</b>
Wildfire and PSPS	C522	Transmission Overhead Hardening (Distribution Underbuild)	0.0
Wildfire and PSPS	C506	Microgrids	0.0
Wildfire and PSPS	C520	Distribution Overhead System Hardening	0.0