

**2016 Risk Assessment Mitigation Phase
Investigation 16-10-015
Workpapers to
Aviation Incident
(Chapter SDG&E-8-WP)**

January 2017



2016 Risk Assessment Mitigation Phase
SDGE-08-WP
Risk: Aviation Incident (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	Aviation Safety Management System (SMS)	Aviation Services Department SMS	Comprehensive safety management approach consisting of policies and procedures applicable for aviation	B	\$ -	\$ -	\$ -	\$ 23	\$ 34	\$ 28	\$ 39	\$ 28	\$ 39	\$ 28	\$ 39	Trend
2		Governing Document Development	Development of separate policies for internal and external aviation operations	P						29	37	29	37	29	37	Zero-Based
3	Aviation Safety Management System Subtotal				-	-	-	23	34	57	76	57	76	57	76	
4	Job Site Observation Program	Aviation Job Site Observation Program	Program that provides SDG&E aviation oversight of internal and contractor aviation construction operations	B	-	-	-	6	12	11	15	11	15	11	15	Trend
5	Job Site Observation Program Subtotal				-	-	-	6	12	11	15	11	15	11	15	
6	Service Provider Audit Program	Service Provider Audit Program	Third party oversight program that provides an independent perspective regarding how to meet a standard of safety recognized through the aviation industry	B	-	-	-	3	7	6	7	6	7	6	7	Trend
7		Audit of Aviation Services Department's SMS	Annual audits of Aviation Services Department's SMS utilizing a reputable aviation audit service	P						13	16	13	16	13	16	Zero-Based
8	Service Provider Audit Program Subtotal				-	-	-	3	7	18	24	18	24	18	24	
9	"Best Practices" Training	Best Practices Training	Training implementing best safety practices from throughout the aviation industry from a variety of sources	B	-	-	-	4	4	-	-	-	-	-	-	
10	"Best Practices" Training Subtotal				-	-	-	4	4	-	-	-	-	-	-	
11	Purchase a Twin-Engine Helicopter	Purchase a Twin-Engine Helicopter	Helicopter enables a dual-redundant system where single-point failure exists; thereby cutting the frequency of an accident (if one were to occur) by half	P						203	264	203	264	203	264	Zero-Based
12	Purchase a Twin-Engine Helicopter Subtotal				-	-	-	-	-	203	264	203	264	203	264	
13	Aviation Safety Training	Aviation Safety Training	Policy and procedure foundation consisting of an initial training manual for internal use of pilot development, continued training costs for currency and performance development, and case-by-case skills performance development	P						18	23	18	23	18	23	Zero-Based
14	Aviation Safety Training Subtotal				-	-	-	-	-	18	23	18	23	18	23	
15	Currency and Proficiency Training with New Helicopter	Currency and Proficiency Training with New Helicopter	Training that socializes the best procedural practices and promotes institutional knowledge and safety	P						3	4	3	4	3	4	Trend
16	Currency and Proficiency Training with New Helicopter Subtotal				-	-	-	-	-	3	4	3	4	3	4	
17	TOTAL				\$ -	\$ -	\$ -	\$ 36	\$ 56	\$ 310	\$ 406	\$ 310	\$ 406	\$ 310	\$ 406	

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-08-WP
Risk: Aviation Incident (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	Aviation Safety Management System (SMS)	Aviation Services Department SMS	Comprehensive safety management approach consisting of policies and procedures applicable for aviation	B	\$ -	\$ -	\$ -	\$ 51	\$ 16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2		Governing Document Development	Development of separate policies for internal and external aviation operations	P						-	-	-	-	-	-	-	-	
3	Aviation Safety Management System Subtotal				-	-	-	51	16	-	-	-	-	-	-	-	-	
4	Job Site Observation Program	Aviation Job Site Observation Program	Program that provides SDGE aviation oversight of internal and contractor aviation construction operations	B	-	-	-	23	-	-	-	-	-	-	-	-	-	
5	Job Site Observation Program Subtotal				-	-	-	23	-	-	-	-	-	-	-	-	-	
6	Service Provider Audit Program	Service Provider Audit Program	Third party oversight program that provides an independent perspective regarding how to meet a standard of safety recognized through the aviation industry	B	-	-	-	9	-	-	-	-	-	-	-	-	-	
7		Audit of Aviation Services Department's SMS	Annual audits of Aviation Services Department's SMS utilizing a reputable aviation audit service	P						-	-	-	-	-	-	-	-	
8	Service Provider Audit Program Subtotal				-	-	-	9	-	-	-	-	-	-	-	-	-	
9	"Best Practices" Training	Best Practices Training	Training implementing best safety practices from throughout the aviation industry from a variety of sources	B	-	-	-	4	6	-	-	-	-	-	-	-	-	
10	"Best Practices" Training Subtotal				-	-	-	4	6	-	-	-	-	-	-	-	-	
11	Purchase a Twin-Engine Helicopter	Purchase a Twin-Engine Helicopter	Helicopter enables a dual-redundant system where single-point failure exists; thereby cutting the frequency of an accident (if one were to occur) by half	P						7,650	11,050	-	-	-	-	7,650	11,050	Zero-Based
12	Purchase a Twin-Engine Helicopter Subtotal				-	-	-	-	-	7,650	11,050	-	-	-	-	\$ 7,650	\$ 11,050	
13	Aviation Safety Training	Aviation Safety Training	Policy and procedure foundation consisting of an initial training manual for internal use of pilot development, continued training costs for currency and performance development, and case-by-case skills performance development	P						-	-	-	-	-	-	-	-	
14	Aviation Safety Training Subtotal				-	-	-	-	-	-	-	-	-	-	-	-	-	
15	Currency and Proficiency Training with New Helicopter	Currency and Proficiency Training with New Helicopter	Training that socializes the best procedural practices and promotes institutional knowledge and safety	P						-	-	-	-	-	-	-	-	
16	Currency and Proficiency Training with New Helicopter Subtotal				-	-	-	-	-	-	-	-	-	-	-	-	-	
17	TOTAL				\$ -	\$ -	\$ -	\$ 87	\$ 23	\$ 7,650	\$ 11,050	\$ -	\$ -	\$ -	\$ -	\$ 7,650	\$ 11,050	

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