



**Risk Assessment and Mitigation Phase
Cross-Functional Factor**

(SCG/SDG&E-CFF-4-WP)

**Foundational Technology Systems
Workpapers**

May 17, 2021

2021 RAMP
SDG&E-CFF-4-WP
Cross-Functional Factors Recorded and Forecast Costs Incurred Workpaper
Tab: Incurred\$
(2020 Direct \$000)

CFF Volume ID	CFF Name	Line No.	Project / Program Description	RECORDED DOLLARS										FORECAST DOLLARS												Shared Allocations (Yes/No)
				O&M					Capital					O&M						Capital						
				2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2022		2023		2024		2022		2023		2024		
										\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High			
SCG/SDG&E-CFF-4	Foundational Technology Systems	1	Data Center Modernization	\$ 2,313	\$ 2,340	\$ 2,330	\$ 2,764	\$ 2,871	\$ 279	\$ 6,907	\$ 12,052	\$ 18,928	\$ 5,309	\$ 2,584	\$ 3,302	\$ 2,584	\$ 3,302	\$ 2,584	\$ 3,302	\$ 5,311	\$ 6,786	\$ 4,050	\$ 5,175	\$ 4,050	\$ 5,175	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	7	IT Service Continuity	\$ 4,696	\$ 4,427	\$ 4,930	\$ 3,747	\$ 4,332	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,117	\$ 5,260	\$ 4,117	\$ 5,260	\$ 4,117	\$ 5,260	\$ 3,240	\$ 4,140	\$ 3,240	\$ 4,140	\$ 3,240	\$ 4,140	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	8	Cloud Resiliency Services	\$ 611	\$ 614	\$ 384	\$ 175	\$ 377	\$ -	\$ -	\$ 14,497	\$ 380	\$ 4,601	\$ 1,493	\$ 1,908	\$ 3,806	\$ 4,863	\$ 3,971	\$ 5,074	\$ 782	\$ 1,000	\$ 1,043	\$ 1,333	\$ 1,304	\$ 1,666	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	2	Network & Voice System Resiliency	\$ 7,401	\$ 8,000	\$ 9,476	\$ 7,799	\$ 7,928	\$ 33,273	\$ 23,361	\$ 23,097	\$ 18,177	\$ 39,634	\$ 7,135	\$ 9,117	\$ 7,135	\$ 9,117	\$ 7,135	\$ 9,117	\$ 31,457	\$ 40,195	\$ 34,300	\$ 31,050	\$ 25,110	\$ 32,085	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	3	Monitoring Systems and Services	\$ 325	\$ 323	\$ 492	\$ 592	\$ 1,456	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,310	\$ 1,674	\$ 1,310	\$ 1,674	\$ 1,310	\$ 1,674	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	4	Electric Operations Systems Resiliency	\$ 4,266	\$ 4,432	\$ 4,593	\$ 4,777	\$ 4,939	\$ 4,417	\$ 15,186	\$ 7,455	\$ 12,974	\$ 26,740	\$ 4,445	\$ 5,679	\$ 4,445	\$ 5,679	\$ 4,445	\$ 5,679	\$ 34,627	\$ 44,245	\$ 20,167	\$ 25,768	\$ 20,167	\$ 25,768	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	5	Gas Operations Systems Resiliency	\$ 3,317	\$ 3,339	\$ 3,569	\$ 3,639	\$ 3,817	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,435	\$ 4,390	\$ 3,435	\$ 4,390	\$ 3,435	\$ 4,390	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	\$ 1,065	\$ 1,118	\$ 1,245	\$ 1,330	\$ 1,778	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,600	\$ 2,044	\$ 1,600	\$ 2,044	\$ 1,600	\$ 2,044	\$ 3,605	\$ 4,606	\$ 2,025	\$ 2,588	\$ 2,025	\$ 2,588	Yes
SCG/SDG&E-CFF-4	Foundational Technology Systems	6	End User Access and Support Services	\$ 1,954	\$ 2,083	\$ 1,932	\$ 2,126	\$ 2,035	\$ 7,325	\$ 5,947	\$ 3,864	\$ 1,717	\$ 4,178	\$ 1,953	\$ 2,495	\$ 1,953	\$ 2,495	\$ 1,953	\$ 2,495	\$ 18,999	\$ 24,277	\$ -	\$ -	\$ -	\$ -	Yes
NOTES:																										
[1] The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2020 dollars and have not been escalated to 2021 amounts.																										
[2] Costs are provided, where available, for all activities regardless of whether a RSE analysis was performed.																										

2021 RAMP
SDG&E-CFF-4-WP
Cross-Functional Factors Shared Allocations Workpaper
Tab: Shared Allocations O&M
(2020 Direct \$000)

CFF Volume ID	CFF Name	Line No.	Project / Program Description		O&M Shared Allocations				
					Retained	SoCalGas	Sempra Energy	Other	
SCG/SDG&E-CFF-4	Foundational Technology Systems	1	Data Center Modernization	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	1	Data Center Modernization	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	7	IT Service Continuity	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	7	IT Service Continuity	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	8	Cloud Resiliency Services	CSS	42.25%	53.73%	4.02%	0.00%	All CCs are shared and used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	2	Network & Voice System Resiliency	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	2	Network & Voice System Resiliency	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	3	Monitoring Systems and Services	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	3	Monitoring Systems and Services	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	4	Electric Operations Systems Resiliency	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	4	Electric Operations Systems Resiliency	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	5	Gas Operations Systems Resiliency	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	5	Gas Operations Systems Resiliency	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	USS	44.02%	55.98%	0.00%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	6	End User Access and Support Services	CSS	42.25%	53.73%	4.02%	0.00%	Any CCs that are shared used this methodology
SCG/SDG&E-CFF-4	Foundational Technology Systems	6	End User Access and Support Services	NSS	100.00%	0.00%	0.00%	0.00%	Any CCs that are non-shared used this methodology

NOTES: Each mitigation had some cost centers that were shared and some that were non-shared, we used the respective allocation percentages based on that identifier. CSS (Corporate Shared Service) shares costs with SDGE, SCG, and Sempra Corporate. USS (Utility Shared Service) shares costs with SDGE and SCG. NSS (Non-Shared Service) means that the costs remain in full at SDG&E.

2021 RAMP
SDG&E-CFF-4-WP
Cross-Functional Factors Shared Allocations Workpaper
Tab: Shared Allocations Capital
(2020 Direct \$000)

CFF Volume ID	CFF Name	Line No.	Project / Program Description	Capital Shared Allocations 2016				Capital Shared Allocations 2017				Capital Shared Allocations 2018				Capital Shared Allocations 2019				Capital Shared Allocations 2020				Capital Shared Allocations 2021				Capital Shared Allocations 2022				Capital Shared Allocations 2023				Capital Shared Allocations 2024			
				Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other	Retained	SoCalGas	Sempra Energy	Other				
SDG/SDG&E-CFF-4	Foundational Technology Systems	1	Data Center Modernization	100.00%	0.00%	0.00%	0.00%	58.34%	36.51%	5.15%	0.00%	93.67%	5.69%	0.65%	0.00%	83.73%	14.50%	1.75%	0.00%	90.80%	8.05%	1.15%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	7	IT Service Continuity	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	8	Cloud Resiliency Services	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	2	Network & Voice System Resiliency	95.50%	3.32%	0.00%	0.00%	96.89%	3.03%	0.00%	0.00%	99.23%	0.75%	0.02%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	3	Monitoring Systems and Services	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	4	Electric Operations Systems Resiliency	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	5	Gas Operations Systems Resiliency	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
SDG/SDG&E-CFF-4	Foundational Technology Systems	6	End User Access and Support Services	100.00%	0.00%	0.00%	0.00%	98.96%	0.97%	0.08%	0.00%	99.27%	0.75%	2.98%	0.00%	76.84%	21.46%	1.69%	0.00%	61.57%	35.62%	2.81%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%

2021 RAMP
SDG&E-CFF-4-WP
Cross-Functional Factors Recorded and Forecast Costs After Allocations Workpaper
Tab: After Allocations\$
(2020 Direct \$000)

CFF Volume ID	CFF Name	Line No.	Project / Program Description	RECORDED DOLLARS										FORECAST DOLLARS											
				O&M					Capital					O&M				Capital				Capital			
				2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2022		2023		2024		2022		2023		2024	
										\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High	\$ Low	\$ High				
SCG/SDG&E-CFF-4	Foundational Technology Systems	1	Data Center Modernization	\$ 1,320	\$ 1,359	\$ 1,279	\$ 1,726	\$ 1,801	\$ 6,308	\$ 17,448	\$ 13,268	\$ 33,945	\$ 20,568	\$ 1,621	\$ 2,071	\$ 1,621	\$ 2,071	\$ 1,621	\$ 2,071	\$ 5,311	\$ 6,786	\$ 4,050	\$ 5,175	\$ 4,050	\$ 5,175
SCG/SDG&E-CFF-4	Foundational Technology Systems	7	IT Service Continuity	\$ 2,332	\$ 2,239	\$ 2,424	\$ 1,809	\$ 2,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,099	\$ 2,682	\$ 2,099	\$ 2,682	\$ 2,099	\$ 2,682	\$ 3,240	\$ 4,140	\$ 3,240	\$ 4,140	\$ 3,240	\$ 4,140
SCG/SDG&E-CFF-4	Foundational Technology Systems	8	Cloud Resiliency Services	\$ 559	\$ 523	\$ 321	\$ 105	\$ 159	\$ 550	\$ -	\$ 14,407	\$ 386	\$ 4,601	\$ 956	\$ 1,221	\$ 3,067	\$ 3,919	\$ 3,137	\$ 4,008	\$ 782	\$ 1,000	\$ 1,043	\$ 1,333	\$ 1,304	\$ 1,666
SCG/SDG&E-CFF-4	Foundational Technology Systems	2	Network & Voice System Resiliency	\$ 3,452	\$ 3,729	\$ 4,495	\$ 3,963	\$ 4,359	\$ 32,832	\$ 23,235	\$ 18,260	\$ 41,129	\$ 3,923	\$ 5,013	\$ 3,923	\$ 5,013	\$ 3,923	\$ 5,013	\$ 32,643	\$ 41,711	\$ 24,788	\$ 31,673	\$ 25,110	\$ 32,085	
SCG/SDG&E-CFF-4	Foundational Technology Systems	3	Monitoring Systems and Services	\$ 155	\$ 149	\$ 225	\$ 433	\$ 1,038	\$ -	\$ 921	\$ 937	\$ 1,519	\$ 1,353	\$ 1,729	\$ 1,543	\$ 1,972	\$ 1,543	\$ 1,972	\$ 1,849	\$ 2,363	\$ 1,531	\$ 1,701	\$ 1,620	\$ 2,070	
SCG/SDG&E-CFF-4	Foundational Technology Systems	4	Electric Operations Systems Resiliency	\$ 2,524	\$ 2,594	\$ 2,659	\$ 2,828	\$ 3,031	\$ 4,417	\$ 15,186	\$ 7,455	\$ 12,974	\$ 26,740	\$ 2,728	\$ 3,486	\$ 2,728	\$ 3,486	\$ 2,728	\$ 3,486	\$ 43,105	\$ 55,078	\$ 23,407	\$ 29,908	\$ 23,407	\$ 29,908
SCG/SDG&E-CFF-4	Foundational Technology Systems	5	Gas Operations Systems Resiliency	\$ 1,798	\$ 1,812	\$ 1,991	\$ 2,053	\$ 2,031	\$ 4,730	\$ 464	\$ 2,475	\$ 1,928	\$ 3,004	\$ 1,828	\$ 2,336	\$ 1,828	\$ 2,336	\$ 1,828	\$ 2,336	\$ 8,192	\$ 10,468	\$ 3,981	\$ 5,087	\$ 3,949	\$ 5,046
SCG/SDG&E-CFF-4	Foundational Technology Systems	9	Emergency Operations Center (EOC) Technology Resiliency	\$ 454	\$ 472	\$ 575	\$ 632	\$ 901	\$ -	\$ -	\$ 847	\$ 847	\$ -	\$ 811	\$ 1,036	\$ 811	\$ 1,036	\$ 811	\$ 1,036	\$ 3,605	\$ 4,606	\$ 2,025	\$ 2,588	\$ 2,025	\$ 2,588
SCG/SDG&E-CFF-4	Foundational Technology Systems	6	End User Access and Support Services	\$ 940	\$ 927	\$ 1,393	\$ 1,072	\$ 1,137	\$ 9,515	\$ 10,809	\$ 2,305	\$ 2,194	\$ 2,590	\$ 1,200	\$ 1,534	\$ 1,200	\$ 1,534	\$ 1,200	\$ 1,534	\$ 18,999	\$ 24,277	\$ -	\$ -	\$ -	\$ -

NOTES: The after allocation O&M costs are a combination of costs that were retained at SDGE and costs that were sent to SDGE from SoCalGas & Sempra Corporate.

[2] The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2020 dollars and have not been escalated to 2021 amounts.

[3] Costs are provided, where available, for all activities regardless of whether a RSE analysis was performed.