Application of SAN DIEGO GAS & ELECTRIC COMPANY for authority to update its gas and electric revenue requirement and base rates effective January 1, 2024 (U 902-M)	))))

Application No. 22-05-___

Exhibit No.: (SDG&E-14-WP)

WORKPAPERS TO

PREPARED DIRECT TESTIMONY

OF DANIEL S. BAERMAN

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

May 2022

2024 General Rate Case - APP

INDEX OF WORKPAPERS

Exhibit SDG&E-14-WP - ELECTRIC GENERATION

Overall Summary For Exhibit No. SDG&E-14-WP

Area: **ELECTRIC GENERATION**

Witness: **Daniel S. Baerman**

	In 2021 $ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
Description	**2021**	**2022**	**2023**	**2024**
Non-Shared Services	36,576	40,539	40,539	40,809
Shared Services	0	0	0	0
Total	**36,576**	**40,539**	**40,539**	**40,809**

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman

Summary of Non-Shared Services Workpapers:

	In 2021 $ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
Description	**2021**	**2022**	**2023**	**2024**
A. Generation Plant	36,308	40,236	40,236	40,506
B. Administration	268	303	303	303
Total	**36,576**	**40,539**	**40,539**	**40,809**

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Workpaper: VARIOUS

Summary for Category: A. Generation Plant

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	8,699	10,154	10,154	10,154
Non-Labor	27,608	30,082	30,082	30,352
NSE	0	0	0	0
Total	**36,307**	**40,236**	**40,236**	**40,506**
FTE	71.1	82.3	82.3	82.3

Workpapers belonging to this Category:

1EG003.000 Generation Plant Palomar

Labor	4,941	5,553	5,553	5,553
Non-Labor	14,075	14,923	14,923	15,193
NSE	0	0	0	0
Total	**19,016**	**20,476**	**20,476**	**20,746**
FTE	38.4	43.3	43.3	43.3

1EG006.000 Generation Plant Desert Star

Labor	3,032	2,908	2,908	2,908
Non-Labor	10,737	12,204	12,204	12,204
NSE	0	0	0	0
Total	**13,769**	**15,112**	**15,112**	**15,112**
FTE	27.4	27.0	27.0	27.0

1EG002.000 Generation Plant Miramar

Labor	377	346	346	346
Non-Labor	1,602	1,617	1,617	1,617
NSE	0	0	0	0
Total	**1,979**	**1,963**	**1,963**	**1,963**
FTE	2.8	2.7	2.7	2.7

1EG007.000 Generation Plant Cuyamaca Peak

Labor	258	221	221	221
Non-Labor	856	685	685	685
NSE	0	0	0	0
Total	**1,114**	**906**	**906**	**906**
FTE	1.9	1.7	1.7	1.7

1EG004.000 Generation Distributed Energy Facilities

Labor	91	1,126	1,126	1,126
Non-Labor	338	653	653	653
NSE	0	0	0	0
Total	**429**	**1,779**	**1,779**	**1,779**
FTE	0.6	7.6	7.6	7.6

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG003.000 - Generation Plant Palomar

Area:	ELECTRIC GENERATION
Witness:	Daniel S. Baerman
Category:	A. Generation Plant
Category-Sub	1. Generation Plant Palomar
Workpaper:	1EG003.000 - Generation Plant Palomar

Activity Description:

Generation Plant Palomar encompasses the operation and maintenance of the Combined Cycle Generating Plant at Palomar Energy Center. Labor costs include salaries for supervision, support staff and maintenance and operations personnel. Non-labor costs include, but is not limited to, industrial gases, chemicals, water, outside services, spare parts, miscellaneous consumables and maintenance activities. Maintenance activities are performed while the plant is operating and during planned maintenance outages.

Forecast Explanations:

Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. steam valve damage, combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages. The labor forecast was adjusted to add 6 FTEs to support increased scheduled and forced outages and call-out response, and to complement current workload that exceeds adequate staffing. The 6 FTEs include 1 business manager, 1 planner, and 4 technicians at an average of $147,500/FTE per year.

Non-Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. steam valve damage, combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages. The non-labor forecast was adjusted to include costs to develop and implement industrial control systems (ICS) cybersecurity compliance. The non-labor forecast was also adjusted in 2024 to include Long Term Service Agreement (LTSA) costs for Palomar Hydrogen Project. For more details about the Palomar Hydrogen project, refer to Fernando Valero's Clean Energy Innovations testimony (Exhibit SDG&E-15).

NSE - 5-YR Average

N/A

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub 1. Generation Plant Palomar
Workpaper: 1EG003.000 - Generation Plant Palomar

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	4,502	4,607	4,915	4,373	4,941	5,553	5,553	5,553
Non-Labor	15,239	14,482	16,422	11,896	14,075	14,922	14,922	15,192
NSE	0	0	0	0	0	0	0	0
Total	**19,741**	**19,089**	**21,337**	**16,268**	**19,016**	**20,475**	**20,475**	**20,745**
FTE	37.0	37.3	38.9	34.7	38.4	43.3	43.3	43.3

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 1. Generation Plant Palomar
Workpaper: 1EG003.000 - Generation Plant Palomar

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	4,668	4,668	4,668	885	885	885	5,553	5,553	5,553
Non-Labor	5-YR Average	14,423	14,423	14,423	500	500	770	14,923	14,923	15,193
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**19,090**	**19,090**	**19,090**	**1,385**	**1,385**	**1,655**	**20,475**	**20,475**	**20,745**
FTE	5-YR Average	37.3	37.3	37.3	6.0	6.0	6.0	43.3	43.3	43.3

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	885	0	0	885	6.0	1-Sided Adj
Explanation:	Adjusted forecast to add 6 FTEs to support increased scheduled and forced outages and call-out response, and to complement current workload that exceeds adequate staffing. FTEs include 1 business manager at $125,000; 1 Planner at $100,000, and 4 Operations Technicians at $165,000 each (Base salary of $120,000 plus expected overtime $45,000).					
2022	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2022 Total	**885**	**500**	**0**	**1,385**	**6.0**	
2023	885	0	0	885	6.0	1-Sided Adj
Explanation:	Adjusted forecast to add 6 FTEs to support increased scheduled and forced outages and call-out response, and to complement current workload that exceeds adequate staffing. FTEs include 1 business manager at $125,000; 1 Planner at $100,000, and 4 Operations Technicians at $165,000 each (Base salary of $120,000 plus expected overtime $45,000).					
2023	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2023 Total	**885**	**500**	**0**	**1,385**	**6.0**	
2024	885	0	0	885	6.0	1-Sided Adj
Explanation:	Adjusted forecast to add 6 FTEs to support increased scheduled and forced outages and call-out response, and to complement current workload that exceeds adequate staffing. FTEs include 1 business manager at $125,000; 1 Planner at $100,000, and 4 Operations Technicians at $165,000 each (Base salary of $120,000 plus expected overtime $45,000).					

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 1. Generation Plant Palomar
Workpaper: 1EG003.000 - Generation Plant Palomar

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
2024	0	270	0	270	0.0	1-Sided Adj
Explanation:	Increased forecast to include Long Term Service Agreement (LTSA) costs associated with the Palomar Hydrogen Project.					
2024	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2024 Total	**885**	**770**	**0**	**1,655**	**6.0**	

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 1. Generation Plant Palomar
Workpaper: 1EG003.000 - Generation Plant Palomar

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	3,512	3,653	4,063	3,652	4,296
Non-Labor	13,319	13,087	15,207	11,029	14,131
NSE	0	0	0	0	0
Total	**16,831**	**16,740**	**19,270**	**14,681**	**18,427**
FTE	31.7	31.8	33.5	29.6	32.8
Adjustments (Nominal $) **					
Labor	0	31	0	59	0
Non-Labor	0	0	0	-33	-56
NSE	0	0	0	0	0
Total	**0**	**31**	**0**	**26**	**-56**
FTE	0.0	0.2	0.0	0.3	0.0
Recorded-Adjusted (Nominal $)					
Labor	3,512	3,684	4,063	3,711	4,296
Non-Labor	13,319	13,087	15,207	10,996	14,075
NSE	0	0	0	0	0
Total	**16,831**	**16,771**	**19,270**	**14,707**	**18,370**
FTE	31.7	32.0	33.5	29.9	32.8
Vacation & Sick (Nominal $)					
Labor	521	558	582	526	645
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**521**	**558**	**582**	**526**	**645**
FTE	5.3	5.3	5.4	4.8	5.6
Escalation to 2021$					
Labor	469	365	270	136	0
Non-Labor	1,920	1,395	1,215	899	0
NSE	0	0	0	0	0
Total	**2,389**	**1,759**	**1,486**	**1,035**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	4,502	4,607	4,915	4,373	4,941
Non-Labor	15,239	14,482	16,422	11,896	14,075
NSE	0	0	0	0	0
Total	**19,741**	**19,089**	**21,337**	**16,268**	**19,016**
FTE	37.0	37.3	38.9	34.7	38.4

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 1. Generation Plant Palomar
Workpaper: 1EG003.000 - Generation Plant Palomar

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	31	0	59	0
Non-Labor	0	0	0	-33	-56
NSE	0	0	0	0	0
Total	**0**	**31**	**0**	**26**	**-56**
FTE	0.0	0.2	0.0	0.3	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017 Total	**0**	**0**	**0**	**0.0**	
2018	31	0	0	0.2	CCTR Transf From 2100-0235.000
Explanation:	Transfer labor costs for work performed by Substation on behalf of Generaton on Generation equipment in CC 2100-0235 in workpaper 1ED006.000 to cost center 2100-0737 to align costs with where roles reside and are forecasted.				
2018 Total	**31**	**0**	**0**	**0.2**	
2019 Total	**0**	**0**	**0**	**0.0**	
2020	0	-33	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	59	0	0	0.3	CCTR Transf From 2100-0235.000
Explanation:	Transfer labor costs for work performed by Substation on behalf of Generaton on Generation equipment in CC 2100-0235 in workpaper 1ED006.000 to cost center 2100-0737 to align costs with where roles reside and are forecasted.				
2020 Total	**59**	**-33**	**0**	**0.3**	
2021	0	-56	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021 Total	**0**	**-56**	**0**	**0.0**	

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG006.000 - Generation Plant Desert Star

Area:	ELECTRIC GENERATION
Witness:	Daniel S. Baerman
Category:	A. Generation Plant
Category-Sub	2. Generation Plant Desert Star
Workpaper:	1EG006.000 - Generation Plant Desert Star

Activity Description:

Generation Plant Desert Star encompasses the operation and maintenance of the combined Cycle Generating Plant at Desert Star Energy Center. The labor component includes salaries for supervision, support staff and maintenance and operations personnel. The non-labor component includes, but is not limited to, industrial gases, chemicals, water, outside services, spare parts, miscellaneous consumables and maintenance activities. Maintenance activities are performed while the plant is operating, and during planned maintenance outages.

Forecast Explanations:

Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. steam valve damage, combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages.

Non-Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. steam valve damage, combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages. The non-labor component also includes the payments for the Desert Star Long-Term Service Agreement (LTSA) purchased through Siemens. Costs related to the LTSA with Siemens for the major plant equipment are dependent on the amount of run time for the plant. LTSA costs are generally based on a dollar-per-operating-hour basis so more run time equates to higher LTSA costs.

NSE - 5-YR Average

N/A

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub 2. Generation Plant Desert Star
Workpaper: 1EG006.000 - Generation Plant Desert Star

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	2,905	2,805	2,842	2,955	3,032	2,908	2,908	2,908
Non-Labor	12,209	12,085	11,964	11,526	10,737	12,205	12,205	12,205
NSE	0	0	0	0	0	0	0	0
Total	**15,114**	**14,889**	**14,807**	**14,481**	**13,769**	**15,113**	**15,113**	**15,113**
FTE	27.5	26.5	26.4	27.1	27.4	27.0	27.0	27.0

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 2. Generation Plant Desert Star
Workpaper: 1EG006.000 - Generation Plant Desert Star

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	2,908	2,908	2,908	0	0	0	2,908	2,908	2,908
Non-Labor	5-YR Average	11,704	11,704	11,704	500	500	500	12,204	12,204	12,204
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**14,612**	**14,612**	**14,612**	**500**	**500**	**500**	**15,112**	**15,112**	**15,112**
FTE	5-YR Average	27.0	27.0	27.0	0.0	0.0	0.0	27.0	27.0	27.0

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2022 Total	**0**	**500**	**0**	**500**	**0.0**	
2023	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2023 Total	**0**	**500**	**0**	**500**	**0.0**	
2024	0	500	0	500	0.0	1-Sided Adj
Explanation:	Increased costs to develop and implement cybersecurity compliance for industrial control systems (ICS) that strengthen cybersecurity of its computer-controlled systems and increase reliability and safety against malicious attacks, equipment failure and other threats. Cost include enhanced software applications and distributed control systems to prevent such malicious attacks or equipment failure of the systems that are critical to the infrastructure.					
2024 Total	**0**	**500**	**0**	**500**	**0.0**	

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 2. Generation Plant Desert Star
Workpaper: 1EG006.000 - Generation Plant Desert Star

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	2,266	2,243	2,350	2,507	2,636
Non-Labor	10,670	10,921	11,079	10,656	10,764
NSE	0	0	0	0	0
Total	**12,937**	**13,163**	**13,429**	**13,164**	**13,400**
FTE	23.6	22.7	22.7	23.3	23.4
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	-1	-27
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**-1**	**-27**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	2,266	2,243	2,350	2,507	2,636
Non-Labor	10,670	10,921	11,079	10,655	10,737
NSE	0	0	0	0	0
Total	**12,937**	**13,163**	**13,429**	**13,162**	**13,373**
FTE	23.6	22.7	22.7	23.3	23.4
Vacation & Sick (Nominal $)					
Labor	336	340	336	356	396
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**336**	**340**	**336**	**356**	**396**
FTE	3.9	3.8	3.7	3.8	4.0
Escalation to 2021$					
Labor	302	222	156	92	0
Non-Labor	1,538	1,164	885	871	0
NSE	0	0	0	0	0
Total	**1,841**	**1,386**	**1,042**	**963**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	2,905	2,805	2,842	2,955	3,032
Non-Labor	12,209	12,085	11,964	11,526	10,737
NSE	0	0	0	0	0
Total	**15,114**	**14,889**	**14,807**	**14,481**	**13,769**
FTE	27.5	26.5	26.4	27.1	27.4

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 2. Generation Plant Desert Star
Workpaper: 1EG006.000 - Generation Plant Desert Star

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	-1	-27
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**-1**	**-27**
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017 Total	**0**	**0**	**0**	**0.0**	
2018 Total	**0**	**0**	**0**	**0.0**	
2019 Total	**0**	**0**	**0**	**0.0**	
2020	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020 Total	**0**	**-1**	**0**	**0.0**	
2021	0	-27	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021 Total	**0**	**-27**	**0**	**0.0**	

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG002.000 - Generation Plant Miramar

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub 3. Generation Plant Miramar
Workpaper: 1EG002.000 - Generation Plant Miramar

Activity Description:

Generation Plant Miramar encompasses the operation and maintenance of 2 peaking plants at the Miramar Energy Facility (MEF). Labor costs includes salaries for supervision, support staff and maintenance and operations personnel. Non-labor costs include, but is not limited to, industrial gases, chemicals, water, outside services, spare parts, miscellaneous consumables and maintenance activities. Maintenance activities are performed while the plant is operating and during planned maintenance outages.

Forecast Explanations:

Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending.

Non-Labor - 5-YR Average

The 5-YR average method was selected because it represents a reasonable foundation for projecting the future needs of the organization as it includes a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages.

NSE - 5-YR Average

N/A

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	254	324	271	504	377	347	347	347
Non-Labor	1,701	1,794	1,159	1,830	1,602	1,618	1,618	1,618
NSE	0	0	0	0	0	0	0	0
Total	**1,955**	**2,118**	**1,430**	**2,335**	**1,980**	**1,965**	**1,965**	**1,965**
FTE	2.1	2.6	2.2	3.8	2.8	2.7	2.7	2.7

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 3. Generation Plant Miramar
Workpaper: 1EG002.000 - Generation Plant Miramar

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	346	346	346	0	0	0	346	346	346
Non-Labor	5-YR Average	1,617	1,617	1,617	0	0	0	1,617	1,617	1,617
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**1,964**	**1,964**	**1,964**	**0**	**0**	**0**	**1,964**	**1,964**	**1,964**
FTE	5-YR Average	2.7	2.7	2.7	0.0	0.0	0.0	2.7	2.7	2.7

Year	Labor	NLbr	NSE	Total	FTE	Adj Type

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 3. Generation Plant Miramar
Workpaper: 1EG002.000 - Generation Plant Miramar

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	198	259	224	428	328
Non-Labor	1,487	1,621	1,074	1,692	1,602
NSE	0	0	0	0	0
Total	**1,685**	**1,880**	**1,297**	**2,120**	**1,930**
FTE	1.8	2.2	1.9	3.3	2.4
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	198	259	224	428	328
Non-Labor	1,487	1,621	1,074	1,692	1,602
NSE	0	0	0	0	0
Total	**1,685**	**1,880**	**1,297**	**2,120**	**1,930**
FTE	1.8	2.2	1.9	3.3	2.4
Vacation & Sick (Nominal $)					
Labor	29	39	32	61	49
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**29**	**39**	**32**	**61**	**49**
FTE	0.3	0.4	0.3	0.5	0.4
Escalation to 2021$					
Labor	26	26	15	16	0
Non-Labor	214	173	86	138	0
NSE	0	0	0	0	0
Total	**241**	**198**	**101**	**154**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	254	324	271	504	377
Non-Labor	1,701	1,794	1,159	1,830	1,602
NSE	0	0	0	0	0
Total	**1,955**	**2,118**	**1,430**	**2,335**	**1,980**
FTE	2.1	2.6	2.2	3.8	2.8

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 3. Generation Plant Miramar
Workpaper: 1EG002.000 - Generation Plant Miramar

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0

Year	Labor	NLbr	NSE	FTE	Adj_Type

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG007.000 - Generation Plant Cuyamaca Peak

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub 4. Generation Plant Cuyamaca
Workpaper: 1EG007.000 - Generation Plant Cuyamaca Peak

Activity Description:

Generation Plant Cuyamaca Peak encompasses the operation and maintenance of the peaking plant at the Cuyamaca Peak Energy Plant (CPEP). The labor component includes salaries for supervision, support staff and maintenance and operations personnel. The non-labor component includes, but is not limited to, industrial gases, chemicals, water, outside services, spare parts, miscellaneous consumables and maintenance activities. Maintenance activities are performed while the plant is operating and during planned maintenance outages.

Forecast Explanations:

Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. It also allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending.

Non-Labor - 5-YR Average

The 5-YR average method was selected because it represents a reasonable foundation for projecting the future needs of the organization as it includes a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical (e.g. combustion turbine component failures, auxiliary equipment failures) maintenance events and provides a more representative history of recorded spending. Maintenance outages are scheduled at least annually, with the extent of the maintenance dependent on the accumulated service hours on the equipment and the number of start cycles the equipment experiences. Generally, more starts and more service hours result in more required maintenance. Much of the required maintenance is performed during planned outages.

NSE - 5-YR Average

N/A

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	198	142	187	320	258	222	222	222
Non-Labor	598	563	600	807	856	684	684	684
NSE	0	0	0	0	0	0	0	0
Total	**797**	**705**	**787**	**1,127**	**1,114**	**906**	**906**	**906**
FTE	1.4	1.2	1.5	2.3	1.9	1.7	1.7	1.7

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 4. Generation Plant Cuyamaca
Workpaper: 1EG007.000 - Generation Plant Cuyamaca Peak

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	221	221	221	0	0	0	221	221	221
Non-Labor	5-YR Average	685	685	685	0	0	0	685	685	685
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**906**	**906**	**906**	**0**	**0**	**0**	**906**	**906**	**906**
FTE	5-YR Average	1.7	1.7	1.7	0.0	0.0	0.0	1.7	1.7	1.7

Year	Labor	NLbr	NSE	Total	FTE	Adj Type

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 4. Generation Plant Cuyamaca
Workpaper: 1EG007.000 - Generation Plant Cuyamaca Peak

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	155	113	155	272	225
Non-Labor	523	509	555	746	856
NSE	0	0	0	0	0
Total	**678**	**622**	**710**	**1,017**	**1,080**
FTE	1.2	1.0	1.3	2.0	1.6
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	155	113	155	272	225
Non-Labor	523	509	555	746	856
NSE	0	0	0	0	0
Total	**678**	**622**	**710**	**1,017**	**1,080**
FTE	1.2	1.0	1.3	2.0	1.6
Vacation & Sick (Nominal $)					
Labor	23	17	22	39	34
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**23**	**17**	**22**	**39**	**34**
FTE	0.2	0.2	0.2	0.3	0.3
Escalation to 2021$					
Labor	21	11	10	10	0
Non-Labor	75	54	44	61	0
NSE	0	0	0	0	0
Total	**96**	**65**	**55**	**71**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	198	142	187	320	258
Non-Labor	598	563	600	807	856
NSE	0	0	0	0	0
Total	**797**	**705**	**787**	**1,127**	**1,114**
FTE	1.4	1.2	1.5	2.3	1.9

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 4. Generation Plant Cuyamaca
Workpaper: 1EG007.000 - Generation Plant Cuyamaca Peak

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0

Year	Labor	NLbr	NSE	FTE	Adj_Type

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG004.000 - Generation Distributed Energy Facilities

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub 5. Distributed Energy Facilities current and schedule
Workpaper: 1EG004.000 - Generation Distributed Energy Facilities

Activity Description:

Generation Distributed Energy Facilities (DEF) consists of labor and non-labor costs. The labor component includes salaries for supervision, support staff and maintenance and operations personnel. The non-labor component includes, but is not limited to, outside services, spare parts, miscellaneous consumables and maintenance activities.

Forecast Explanations:

Labor - Base YR Rec

The Base Year Recorded forecast method was used because the limited available historical costs are not representative of current and future costs. This method allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical maintenance events that are expected to occur at these facilities. The base year forecast was adjusted to account for additional FTEs to support new generation storage projects. For further details, refer to supplemental workpaper for 1EG004.000.

Non-Labor - Base YR Rec

The Base Year Recorded forecast method was used because the limited available historical costs are not representative of current and future costs. This method allows for inclusion of a variety of planned (e.g. scheduled maintenance outages and repairs) and unplanned but typical maintenance events that are expected to occur at these facilities. The base year forecast was adjusted to account for additional DEF assets, 1 of which is 4 times larger than all other assets. For further details, refer to supplemental workpaper for 1EG004.000.

NSE - Base YR Rec

N/A

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	50	112	95	86	91	1,126	1,126	1,126
Non-Labor	47	117	47	87	338	653	653	653
NSE	0	0	0	0	0	0	0	0
Total	**98**	**228**	**142**	**173**	**429**	**1,779**	**1,779**	**1,779**
FTE	0.4	0.9	0.8	0.7	0.6	7.6	7.6	7.6

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 5. Distributed Energy Facilities current and schedule
Workpaper: 1EG004.000 - Generation Distributed Energy Facilities

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	Base YR Rec	91	91	91	1,035	1,035	1,035	1,126	1,126	1,126
Non-Labor	Base YR Rec	338	338	338	315	315	315	653	653	653
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		**429**	**429**	**429**	**1,350**	**1,350**	**1,350**	**1,779**	**1,779**	**1,779**
FTE	Base YR Rec	0.6	0.6	0.6	7.0	7.0	7.0	7.6	7.6	7.6

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	1,035	0	0	1,035	7.0	1-Sided Adj
Explanation:	Adjusted labor forecast to add 7 FTEs to support 17 new generation storage projects and increased scheduled and forced outages and call-out response. FTEs include 4 Operations Technicians at $165,000 each (Base salary of $120,000 plus expected overtime $45,000) and 3 Maintenance Technicians at $125,000 each (base salary of $95,000 plus expected overtime $30,000).					
2022	0	315	0	315	0.0	1-Sided Adj
Explanation:	Adjusted forecast to add costs for maintenance support for additional DEF assets. The total forecast for 20 assets is $650,000. Refer to supplemental workpaper for 1EG004.000 for detail calculation. The total forecast of $650,000 less base year recorded amount of approximately $335,000 equals $315,000, the amount of this adjustment.					
2022 Total	**1,035**	**315**	**0**	**1,350**	**7.0**	
2023	1,035	0	0	1,035	7.0	1-Sided Adj
Explanation:	Adjusted labor forecast to add 7 FTEs to support 17 new generation storage projects and increased scheduled and forced outages and call-out response. FTEs include 4 Operations Technicians at $165,000 each (base salary of $120,000 plus expected overtime $45,000) and 3 Maintenance Technicians at $125,000 each (Base salary of $95,000 plus expected overtime $30,000).					
2023	0	315	0	315	0.0	1-Sided Adj
Explanation:	Adjusted forecast to add costs for maintenance support for additional DEF assets. The total forecast for 20 assets is $650,000. Refer to supplemental workpaper for 1EG004.000 for detail calculation. The total forecast of $650,000 less base year recorded amount of approximately $335,000 equals $315,000, the amount of this adjustment.					
2023 Total	**1,035**	**315**	**0**	**1,350**	**7.0**	
2024	1,035	0	0	1,035	7.0	1-Sided Adj
Explanation:	Adjusted labor forecast to add 7 FTEs to support 17 new generation storage projects and increased scheduled and forced outages and call-out response. FTEs include 4 Operations Technicians at $165,000 each (base salary of $120,000 plus expected overtime $45,000) and 3 Maintenance Technicians at $125,000 each (Base salary of $95,000 plus expected overtime $30,000).					
2024	0	315	0	315	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 5. Distributed Energy Facilities current and schedule
Workpaper: 1EG004.000 - Generation Distributed Energy Facilities

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
Explanation:	Adjusted forecast to add costs for maintenance support for additional DEF assets. The total forecast for 20 assets is $650,000. Refer to supplemental workpaper for 1EG004.000 for detail calculation. The total forecast of $650,000 less base year recorded amount of approximately $335,000 equals $315,000, the amount of this adjustment.					
2024 Total	**1,035**	**315**	**0**	**1,350**	**7.0**	

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 5. Distributed Energy Facilities current and schedule
Workpaper: 1EG004.000 - Generation Distributed Energy Facilities

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	39	89	79	73	79
Non-Labor	41	105	44	81	338
NSE	0	0	0	0	0
Total	**81**	**195**	**122**	**154**	**417**
FTE	0.3	0.8	0.7	0.6	0.5
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	39	89	79	73	79
Non-Labor	41	105	44	80	338
NSE	0	0	0	0	0
Total	**81**	**195**	**122**	**154**	**417**
FTE	0.3	0.8	0.7	0.6	0.5
Vacation & Sick (Nominal $)					
Labor	6	14	11	10	12
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**6**	**14**	**11**	**10**	**12**
FTE	0.1	0.1	0.1	0.1	0.1
Escalation to 2021$					
Labor	5	9	5	3	0
Non-Labor	6	11	3	7	0
NSE	0	0	0	0	0
Total	**11**	**20**	**9**	**9**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	50	112	95	86	91
Non-Labor	47	117	47	87	338
NSE	0	0	0	0	0
Total	**98**	**228**	**142**	**173**	**429**
FTE	0.4	0.9	0.8	0.7	0.6

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: A. Generation Plant
Category-Sub: 5. Distributed Energy Facilities current and schedule
Workpaper: 1EG004.000 - Generation Distributed Energy Facilities

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	-0.036	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**-0.036**	**0**
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017 Total	**0**	**0**	**0**	**0.0**	
2018 Total	**0**	**0**	**0**	**0.0**	
2019 Total	**0**	**0**	**0**	**0.0**	
2020	0	0	0	0.0	1-Sided Adj

Explanation: Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).

2020 Total	**0**	**0**	**0**	**0.0**	
2021 Total	**0**	**0**	**0**	**0.0**	

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 1EG004.000

Category	Asset Count	Site Count	Project Name	MW	MWh	Description	Forecast
DEF	1	1	Escondido BESS	30	120	Lithium-ion Battery	OA
DEF	2	2	El Cajon BESS	7.5	30	Lithium-ion Battery	OA
DEF	3	3	Borrego BESS - Advanced Energy Storage (AES)	8	16		OF
DEF	4	4	Borrego Hydrogen	125 kW	NA		OF
DEF	5	5	Butterfield Ranch Microgrid	600 kW	2,500 kWh		OF
DEF	6		Butterfield Ranch Microgrid	650 kWac	NA	Photovoltaic	OF
DEF	7	6	Cameron Corners BESS	540 kW	2,400 kWh	Iron-Flow Battery	OF
DEF	8		Cameron Corners Solar	875 kWac	NA	Photovoltaic	OF
DEF	9	7	Fallbrook BESS	40	160	Lithium-ion Battery	OF
DEF	10	8	Kearny-1 BESS	10	80	Lithium-ion Nattery	OF
DEF	11	9	Kearny-2 BESS	10	80	Lithium-ion Battery	OF
DEF	12	10	Melrose BESS	20	80	Lithium-ion Battery	OF
DEF	13	11	Miguel VRF BESS	2	8	Vanadium ReDox Flow Battery	OF
DEF	14	12	Pala / Gomez Creek BESS	10	60	Lithium-ion Battery	NF
DEF	15	13	Ramona Air Attack Base Microgrid			Tesla Megapack	OF
DEF	16	14	Ramona Solar Energy Project	4.32	NA	Photovoltaic	OA
DEF	17	15	Shelter Valley BESS	700 kW	3,250 kWh		OF
DEF	18		Shelter Valley Solar	800 kWac	NA	Photovoltaic	OF
DEF	19	16	Top Gun BESS	30	120	Lithium-ion Battery	OF
DEF	20	17	Westside Canal BESS	132	528	Lithium-ion Battery	NF
						Total Assets:	**20**

DEF Non-Labor original and new forecast:

Original Assumptions (see OA in Forecast column):

3 assets for 2017, 2018, 2019 and 2020
Average annual for 2017 through 2020 expense $23k per asset
Used $30k per asset per year in forecast
$30k assumption based on asset unknowns*

Original Forecast (see OF in Forecast column):

15 new assets x $30k per asset per year = $450k per year
2017 through 2020 was $70k per year for 3 assets
$450k + $70k = $520k
Rounded the $520k down to $500k

New Forecast (see NF in Forecast column):

2 more assets were added after the original forecast
Pala / Gomez Creek BESS and Westside Canal BESS
The Westside Canal BESS is more than 4-times larger than any other asset
Due to the size of the Westside Canal BESS it will be budgeted as 4 assets
This is a total of 5 additional assets or $30k per year x 5 = $150k
The adds $150k per year to the forecast for Non-Labor for 2022, 2023 and 2024

	2017	2018	2019	2020	Avg
NLbr	41	105	44	80	68
				Average / 3 assets	23
			Round up forecast for unknowns		30
	15		new assets x $30K forecast		450
	3		3 assets (from 2017 - 2020)		70
					520
					500
	2	additional new assets (1 asset counted as 4 due to size) x $30K forecast			150
	20 assets		**Total Forecast:**		**650**

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: B. Administration
Workpaper: 1EG001.000

Summary for Category: B. Administration

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	254	294	294	294
Non-Labor	13	9	9	9
NSE	0	0	0	0
Total	**267**	**303**	**303**	**303**
FTE	1.2	1.4	1.4	1.4

Workpapers belonging to this Category:

1EG001.000 Generation - Plant - Admin

Labor	254	294	294	294
Non-Labor	13	9	9	9
NSE	0	0	0	0
Total	**267**	**303**	**303**	**303**
FTE	1.2	1.4	1.4	1.4

Note: Totals may include rounding differences.

Beginning of Workpaper
1EG001.000 - Generation - Plant - Admin

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: B. Administration
Category-Sub 1. Generation Plant Administration
Workpaper: 1EG001.000 - Generation - Plant - Admin

Activity Description:

Generation Plant Administration includes labor for (1) Director of Generation, and associated administrative expenses. This activity provides managerial oversight, plant cost analysis and budgeting for all generating facilities.

Forecast Explanations:

Labor - 5-YR Average

The 5-YR average method was selected because it most accurately reflects current staffing levels and it represents a reasonable foundation for projecting the future needs of the organization. The activity provides managerial oversight, plant cost analysis and budgeting for all current generating facilities, and expected future generating facilities.

Non-Labor - 5-YR Average

The 5-YR average method was selected because it represents a reasonable foundation for projecting the future needs of the organization.

NSE - 5-YR Average

N/A

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	397	312	253	252	254	293	293	293
Non-Labor	11	10	8	3	13	9	9	9
NSE	0	0	0	0	0	0	0	0
Total	**408**	**322**	**262**	**255**	**268**	**302**	**302**	**302**
FTE	1.9	1.4	1.2	1.2	1.2	1.4	1.4	1.4

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: B. Administration
Category-Sub: 1. Generation Plant Administration
Workpaper: 1EG001.000 - Generation - Plant - Admin

Summary of Adjustments to Forecast:

In 2021 $(000) Incurred Costs										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	294	294	294	0	0	0	294	294	294
Non-Labor	5-YR Average	9	9	9	0	0	0	9	9	9
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**303**	**303**	**303**	**0**	**0**	**0**	**303**	**303**	**303**
FTE	5-YR Average	1.4	1.4	1.4	0.0	0.0	0.0	1.4	1.4	1.4

Year	Labor	NLbr	NSE	Total	FTE	Adj Type

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: B. Administration
Category-Sub: 1. Generation Plant Administration
Workpaper: 1EG001.000 - Generation - Plant - Admin

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	310	249	209	214	221
Non-Labor	9	9	8	3	13
NSE	0	0	0	0	0
Total	**319**	**258**	**217**	**217**	**235**
FTE	1.6	1.2	1.0	1.0	1.0
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	310	249	209	214	221
Non-Labor	9	9	8	3	13
NSE	0	0	0	0	0
Total	**319**	**258**	**217**	**217**	**235**
FTE	1.6	1.2	1.0	1.0	1.0
Vacation & Sick (Nominal $)					
Labor	46	38	30	30	33
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**46**	**38**	**30**	**30**	**33**
FTE	0.3	0.2	0.2	0.2	0.2
Escalation to 2021$					
Labor	41	25	14	8	0
Non-Labor	1	1	1	0	0
NSE	0	0	0	0	0
Total	**43**	**26**	**15**	**8**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	397	312	253	252	254
Non-Labor	11	10	8	3	13
NSE	0	0	0	0	0
Total	**408**	**322**	**262**	**255**	**268**
FTE	1.9	1.4	1.2	1.2	1.2

* After company-wide exclusions of Non-GRC costs
** Refer to "Detail of Adjustments to Recorded" page for line item adjustments
Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman
Category: B. Administration
Category-Sub: 1. Generation Plant Administration
Workpaper: 1EG001.000 - Generation - Plant - Admin

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0

Year	Labor	NLbr	NSE	FTE	Adj_Type

Note: Totals may include rounding differences.

Area: ELECTRIC GENERATION
Witness: Daniel S. Baerman

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-0734	000	Otay Mesa Energy Center
2100-0735	000	MIRAMAR ENERGY FACILITY
2100-0736	000	ELECTRIC GENERATION DIRECTOR
2100-0737	000	PALOMAR ENERGY CENTER
2100-3597	000	ELECRIC PROJECT DEVELOMENT
2100-3805	000	DESERT STAR ENERGY CENTER
2100-3806	000	CUYAMACA PEAK ENERGY PLANT
2100-3995	000	ESCONDIDO BATTERY ENERGY STORAGE SYSTEM
2100-3996	000	EASTERN BATTERY ENERGY STORAGE SYSTEM
2100-4039	000	RAMONA SOLAR ENERGY PROJECT
2100-4059	000	SAN DIEGO BATTERY ENERYGY STORAGE SYSTEMS
2100-4078	000	MIGUEL VRF BATTERY ENERGY STORAGE SYSTEMS
2100-4154	000	BATTERY ENR STOR SYS & MICROGRID FAC-GEN
2100-4162	000	BORREGO BESS FAC GEN
2100-4163	000	BORREGO HY BESS FAC GEN
2100-4164	000	BUTTERF BESS/SO FAC GEN
2100-4165	000	CAMER C BESS/MG FAC GEN
2100-4166	000	FALLBROOK BESS FAC GEN
2100-4167	000	KEARNY BESS FAC GEN
2100-4168	000	MELROSE BESS FAC GEN
2100-4169	000	RAMONA BESS/MG FAC GEN
2100-4170	000	SHELVA BESS/MG FAC GEN
2100-4171	000	TOP GUN BESS FAC GEN