Application of SOUTHERN CALIFORNIA GAS COMPANY for authority to update its gas revenue requirement and base rates effective January 1, 2024 (U 904-G)	))))

Application No. 22-05-015

Exhibit No.: (SCG-12-WP-R)

REVISED WORKPAPERS TO PREPARED DIRECT TESTIMONY OF ARMANDO INFANZON ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

AUGUST 2022

2024 General Rate Case - REVISED

INDEX OF WORKPAPERS

Exhibit SCG-12-WP-R - CLEAN ENERGY INNOVATIONS

Overall Summary For Exhibit No. SCG-12-WP-R

Area: **Clean Energy Innovations**

Witness: **Armando Infanzon**

	In 2021 $ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
Description	**2021**	**2022**	**2023**	**2024**
Non-Shared Services	28,461	29,555	30,598	47,223
Shared Services	0	0	0	0
Total	**28,461**	**29,555**	**30,598**	**47,223**

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon

Summary of Non-Shared Services Workpapers:

	In 2021 $ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
Description	**2021**	**2022**	**2023**	**2024**
A. Sustainability	1,930	1,672	1,882	1,982
B. Clean Fuels Infrastructure Development	8,195	10,528	11,016	20,400
C. Clean Energy Innovations Project Management Office	297	704	826	1,592
D. Research Development and Demonstration	18,039	16,651	16,874	23,249
Total	**28,461**	**29,555**	**30,598**	**47,223**

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Workpaper: 2RD003.000

Summary for Category: A. Sustainability

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	994	1,272	1,382	1,382
Non-Labor	936	400	500	600
NSE	0	0	0	0
Total	**1,930**	**1,672**	**1,882**	**1,982**
FTE	5.9	7.9	8.9	8.9

Workpapers belonging to this Category:

2RD003.000 Sustainability

Labor	994	1,272	1,382	1,382
Non-Labor	936	400	500	600
NSE	0	0	0	0
Total	**1,930**	**1,672**	**1,882**	**1,982**
FTE	5.9	7.9	8.9	8.9

Note: Totals may include rounding differences.

Beginning of Workpaper
2RD003.000 - Sustainability

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

Activity Description:

The Sustainability function is responsible for long term strategy development and sustainability planning. It works across the organization to facilitate strategic road mapping, development of governance structures, and utilizes technology to efficiently and effectively track and report on sustainability initiatives and programs. The company's sustainability strategy, referred to as ASPIRE 2045, is an important driver of our operations, setting sustainable business priorities, goals to achieve its vision, and key performance indicators to track progress.

Forecast Explanations:

Labor - Base YR Rec

The forecast method developed for this cost category for labor expenses is the base year method. Incremental adjustments to the base year were included to represent the expense requirements anticipated in TY 2024. This method is most appropriate because no historic costs exist for sustainability as the group was formed in January 2021. The only full year of cost data available is for calendar year 2021.

Non-Labor - Base YR Rec

The forecast method developed for this cost category for non-labor expenses is the base year method. Incremental adjustments to the base year were included to represent the expense requirements anticipated in TY 2024. This method is most appropriate because no historic costs exist for sustainability as the group was formed in January 2021. The only full year of cost data available is for calendar year 2021.

NSE - Base YR Rec

NA

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	0	0	0	25	994	1,272	1,382	1,382
Non-Labor	0	0	0	1	936	400	500	600
NSE	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**26**	**1,930**	**1,672**	**1,882**	**1,982**
FTE	0.0	0.0	0.0	0.1	5.9	7.9	8.9	8.9

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub: 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

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	994	994	994	278	388	388	1,272	1,382	1,382
Non-Labor	Base YR Rec	936	936	936	-536	-436	-336	400	500	600
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		**1,930**	**1,930**	**1,930**	**-258**	**-48**	**52**	**1,672**	**1,882**	**1,982**
FTE	Base YR Rec	5.9	5.9	5.9	2.0	3.0	3.0	7.9	8.9	8.9

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	175	0	0	175	1.0	1-Sided Adj
Explanation:	1 Sustainability Managers labor costs to support execution and coordination of the ASPIRE 2045 sustainability strategy through development of procedures, controls, internal communications, governance, and coordination across business units. Estimated expenses are 1 X $175K = $175K.					
2022	0	-536	0	-536	0.0	1-Sided Adj
Explanation:	This downward adjustment is to remove a one time cost from 2021 that will not be seen in the future years, given a 2021 base year estimate was utilized.					
2022	103	0	0	103	1.0	1-Sided Adj
Explanation:	This is the full year effect of the 2 Program Manager who were hired mid year in 2021. Estimated expenses are 2 X $103K X 0.5 = $103K.					
2022 Total	**278**	**-536**	**0**	**-258**	**2.0**	
2023	285	0	0	285	2.0	1-Sided Adj
Explanation:	1 Sustainability Managers and 1 Project Manager labor costs to support execution and coordination of the ASPIRE 2045 sustainability strategy through development of procedures, controls, internal communications, governance, and coordination across business units. Estimated expenses are 1 X $175K = $175K and 1 X $110K = $110K; respectively.					
2023	0	-436	0	-436	0.0	1-Sided Adj
Explanation:	This downward adjustment is to remove a one time cost from 2021 that will not be seen in the future years, given a 2021 base year estimate was utilized.					
2023	103	0	0	103	1.0	1-Sided Adj
Explanation:	This is the full year effect of the 2 Program Manager who were hired mid year in 2021. Estimated expenses are 2 X $103K X 0.5 = $103K.					
2023 Total	**388**	**-436**	**0**	**-48**	**3.0**	
2024	285	0	0	285	2.0	1-Sided Adj
Explanation:	1 Sustainability Managers and 1 Project Manager labor costs to support execution and coordination of the ASPIRE 2045 sustainability strategy through development of procedures, controls, internal communications, governance, and coordination across business units. Estimated expenses are 1 X $175K = $175K and 1 X $110K = $110K.					

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub: 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
2024	0	-336	0	-336	0.0	1-Sided Adj
Explanation:	This downward adjustment is to remove a one time cost from 2021 that will not be seen in the future years, given a 2021 base year estimate was utilized.					
2024	103	0	0	103	1.0	1-Sided Adj
Explanation:	This is the full year effect of the 2 Program Manager who were hired mid year in 2021. Estimated expenses are 2 X $103 X 0.5 = $103K.					
2024 Total	**388**	**-336**	**0**	**52**	**3.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub: 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	0	0	0	21	845
Non-Labor	0	0	0	1	937
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**22**	**1,783**
FTE	0.0	0.0	0.0	0.1	5.0
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	-2
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**-2**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	0	0	0	21	845
Non-Labor	0	0	0	1	936
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**22**	**1,781**
FTE	0.0	0.0	0.0	0.1	5.0
Vacation & Sick (Nominal $)					
Labor	0	0	0	4	149
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**4**	**149**
FTE	0.0	0.0	0.0	0.0	0.9
Escalation to 2021$					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**1**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	0	0	0	25	994
Non-Labor	0	0	0	1	936
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**26**	**1,930**
FTE	0.0	0.0	0.0	0.1	5.9

* 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: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub: 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-0.130	-0.130	-0.130	-0.130	-0.130
Non-Labor	0	0	0	-0.025	-2
NSE	0	0	0	0	0
Total	**-0.130**	**-0.130**	**-0.130**	**-0.155**	**-2**
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj_Type
2017	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2017 Total	**0**	**0**	**0**	**0.0**	
2018	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2018 Total	**0**	**0**	**0**	**0.0**	
2019	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
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	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2020 Total	**0**	**0**	**0**	**0.0**	
2021	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).				
2021	0	-1	0	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: A. Sustainability
Category-Sub: 1. Sustainability
Workpaper: 2RD003.000 - Sustainability

Year	Labor	NLbr	NSE	FTE	Adj Type
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2021 Total	**0**	**-2**	**0**	**0.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Workpaper: VARIOUS

Summary for Category: B. Clean Fuels Infrastructure Development

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	3,975	4,308	4,622	4,832
Non-Labor	4,220	6,220	6,394	15,568
NSE	0	0	0	0
Total	**8,195**	**10,528**	**11,016**	**20,400**
FTE	29.4	31.4	34.2	36.4

Workpapers belonging to this Category:

2RD000.000 Clean Fuels Infrastructure Development

Labor	3,975	4,308	4,622	4,832
Non-Labor	4,220	6,220	6,394	6,413
NSE	0	0	0	0
Total	**8,195**	**10,528**	**11,016**	**11,245**
FTE	29.4	31.4	34.2	36.4

2RD000.001 Clean Fuels Infrastructure Development - RAMP

Labor	0	0	0	0
Non-Labor	0	0	0	9,155
NSE	0	0	0	0
Total	**0**	**0**	**0**	**9,155**
FTE	0.0	0.0	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2RD000.000 - Clean Fuels Infrastructure Development

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Activity Description:

Clean Fuels Infrastructure Development supports the company's sustainability goals of developing a clean fuels infrastructure. Focus areas for various activities under the clean fuels' infrastructure development include Business Development, Clean Fuels Transportation Program, Clean Fuels Power Generation, RNG Infrastructure Development, Distributed Energy Resources, Market Research, Financial and Business Analytics.

Forecast Explanations:

Labor - Base YR Rec

The forecast method developed for this cost category for labor expenses is the base year method. This method is most appropriate because trends, multi-year averages or other methods would not reflect the fact that Clean Energy Innovations is a newly formed organization that consolidates several pre-existing functions but also adds new functions not included in the predecessor organizations.

Non-Labor - Base YR Rec

The forecast method developed for this cost category for non-labor expenses is the base year method. This method is most appropriate because trends, multi-year averages or other methods would not reflect the fact that Clean Energy Innovations is a newly formed organization that consolidates several pre-existing functions but also adds new functions not included in the predecessor organizations.

NSE - Base YR Rec

NA

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	2,309	2,515	2,659	3,705	3,975	4,308	4,622	4,832
Non-Labor	1,342	1,224	1,287	7,153	4,220	6,220	6,394	6,413
NSE	0	0	0	0	0	0	0	0
Total	**3,651**	**3,739**	**3,946**	**10,858**	**8,195**	**10,528**	**11,016**	**11,245**
FTE	17.2	18.0	18.7	26.5	29.4	31.4	34.2	36.4

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

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	3,975	3,975	3,975	333	647	857	4,308	4,622	4,832
Non-Labor	Base YR Rec	4,220	4,220	4,220	2,000	2,174	2,193	6,220	6,394	6,413
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		**8,195**	**8,195**	**8,195**	**2,333**	**2,821**	**3,050**	**10,528**	**11,016**	**11,245**
FTE	Base YR Rec	29.4	29.4	29.4	2.0	4.8	7.0	31.4	34.2	36.4

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	333	0	0	333	2.0	1-Sided Adj
Explanation:	This is the full year effect of backfills for Commercial Development CCUS Manager, Commercial Development Hydrogen Manager, and Federal Accounts Manager. Estimated expenses are 2 X $165K X 0.90 = $297K in 2022 and 1 X $160K X 0.23 = $36K in TY2024 and thereafter.					
2022	0	2,000	0	2,000	0.0	1-Sided Adj
Explanation:	This request is to continue with the assessment of the feasibility of addition component to the value chain for the clean fuel infrastructure and implementation of our strategy. This cost will support consulting services for market and technology assessment in the areas of hydrogen, distributed energy resources and RNG. The request is also a result of increased activities to capture funding opportunities in both state and federal levels; specifically, on the infrastructure build area. This estimate is based on historical data.					
2022 Total	**333**	**2,000**	**0**	**2,333**	**2.0**	
2023	90	11	0	101	0.8	1-Sided Adj
Explanation:	1 Project Manager labor and non-labor to support clean fuels power generation projects internally and externally. Offer feasibility analysis of clean fuels power generation with intent to transition to clean fuels. All in support of SoCalGas ASPIRE goals and in direct alignment with SB100, AB32, SB1440 and SB1339. Non-labor cost is to support administrative travel to customer visits, regulatory meetings, and/or educational forums. Estimated expenses are 1 X $120K X 0.75 = $90K. Non-Labor expenses are estimated to be $15K X 0.75 = $11K.					
2023	0	30	0	30	0.0	1-Sided Adj
Explanation:	Non-labor request is for the enhancement and ongoing maintenance of Clean Fuels Power Generation feasibility tool, outreach and education to clean power generation customers transitioning to clean fuels.					
2023	224	133	0	357	2.0	1-Sided Adj
Explanation:	2 Project Managers labor and non-labor costs related to the development and management of new H2 Clean Transportation-related customer information, education and training products and services. Estimated expenses are 2 X $112K = $224K. Non-Labor is based on historical product and services expenses are estimated to be $66.5K X 2 = $133K.					
2023	333	0	0	333	2.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
Explanation:	This is the full year effect of backfills for Commercial Development CCUS Manager, Commercial Development Hydrogen Manager, and Federal Accounts Manager. Estimated expenses are 2 X $165K X 0.90 = $297K in 2022 and 1 X $160K X 0.23 = $36K in TY2024 and thereafter.					
2023	0	2,000	0	2,000	0.0	1-Sided Adj
Explanation:	This request is to continue with the assessment of the feasibility of addition component to the value chain for the clean fuel infrastructure and implementation of our strategy. This cost will support consulting services for market and technology assessment in the areas of hydrogen, distributed energy resources and RNG. The request is also a result of increased activities to capture funding opportunities in both state and federal levels; specifically, on the infrastructure build area. This estimate is based on historical data.					
2023 Total	**647**	**2,174**	**0**	**2,821**	**4.8**	
2024	240	30	0	270	2.0	1-Sided Adj
Explanation:	2 Project Managers labor and non-labor to support clean fuels power generation projects internally and externally. Offer feasibility analysis of clean fuels power generation with intent to transition to clean fuels. All in support of SoCalGas ASPIRE goals and in direct alignment with SB100, AB32, SB1440 and SB1339. Non-labor cost are to support administrative travel to customer visits, regulatory meetings, and/or educational forums. Estimated expenses are 2 X $120 = $240K. Non-Labor expenses are estimated to be $15K X 2 = $30K.					
2024	60	0	0	60	1.0	1-Sided Adj
Explanation:	1 Administrative support labor will be added beginning of 2024 to provide research, data gathering, financial record, document review, and other administrative support related to clean fuel power generation projects from the DER Strategy and Outreach team. Estimated expenses are 1 X $60K = $60K.					
2024	0	30	0	30	0.0	1-Sided Adj
Explanation:	Non-labor request is for the enhancement and ongoing maintenance of Clean Fuels Power Generation feasibility tool, outreach and education to clean power generation customers transitioning to clean fuels.					
2024	224	133	0	357	2.0	1-Sided Adj
Explanation:	2 Project Managers labor and non-labor costs related to the development and management of new H2 Clean Transportation-related customer information, education and training products and services. Estimated expenses are 2 X $112K = $224K. Non-Labor is based on historical product and services expenses are estimated to be $66.5K X 2 = $133K.					
2024	333	0	0	333	2.0	1-Sided Adj
Explanation:	This is the full year effect of backfills for Commercial Development CCUS Manager, Commercial Development Hydrogen Manager, and Federal Accounts Manager. Estimated expenses are 2 X $165K X 0.90 = $297K in 2022 and 1 X $160K X 0.23 = $36K in TY2024 and thereafter.					
2024	0	2,000	0	2,000	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
Explanation:	This request is to continue with the assessment of the feasibility of addition component to the value chain for the clean fuel infrastructure and implementation of our strategy. This cost will support consulting services for market and technology assessment in the areas of hydrogen, distributed energy resources and RNG. The request is also a result of increased activities to capture funding opportunities in both state and federal levels; specifically, on the infrastructure build area. This estimate is based on historical data.					
2024 Total	**857**	**2,193**	**0**	**3,050**	**7.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	2,203	2,270	2,303	3,059	3,652
Non-Labor	1,395	1,313	1,293	3,267	6,170
NSE	0	0	0	0	0
Total	**3,598**	**3,583**	**3,596**	**6,326**	**9,822**
FTE	18.1	18.1	17.4	22.2	26.2
Adjustments (Nominal $) **					
Labor	-433	-293	-187	0	-273
Non-Labor	-203	-191	-93	3,379	-1,950
NSE	0	0	0	0	0
Total	**-636**	**-483**	**-280**	**3,378**	**-2,223**
FTE	-3.5	-2.8	-1.8	0.0	-1.4
Recorded-Adjusted (Nominal $)					
Labor	1,770	1,977	2,116	3,059	3,379
Non-Labor	1,192	1,123	1,200	6,645	4,220
NSE	0	0	0	0	0
Total	**2,963**	**3,100**	**3,317**	**9,704**	**7,599**
FTE	14.6	15.3	15.6	22.2	24.8
Vacation & Sick (Nominal $)					
Labor	300	340	401	539	596
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**300**	**340**	**401**	**539**	**596**
FTE	2.6	2.7	3.1	4.3	4.6
Escalation to 2021$					
Labor	239	198	141	107	0
Non-Labor	149	102	86	508	0
NSE	0	0	0	0	0
Total	**388**	**300**	**228**	**615**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	2,309	2,515	2,659	3,705	3,975
Non-Labor	1,342	1,224	1,287	7,153	4,220
NSE	0	0	0	0	0
Total	**3,651**	**3,739**	**3,946**	**10,858**	**8,195**
FTE	17.2	18.0	18.7	26.5	29.4

* 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: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-433	-293	-187	-0.258	-273
Non-Labor	-203	-191	-93	3,379	-1,950
NSE	0	0	0	0	0
Total	**-636**	**-483**	**-280**	**3,378**	**-2,223**
FTE	-3.5	-2.8	-1.8	0.0	-1.4

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type	
2017	0	-40	0	0.0	1-Sided Adj	
Explanation:	One-sided adjustment to remove costs, not being requested in the TY 2024 GRC, and being tracked in a separate regulatory account for recovery in a separate regulatory proceeding.					
2017	-198	-22	0	-1.2	CCTR Transf To 2200-2408.000	
Explanation:	Transfer labor and non-labor expense associated with Greenhouse Gas Manager and Project Manager positions from 2200-2559 in work group 2RD000 Business Development to cost center 2200-2408 in work group 2IN004.000 CES Customer Experience in order to align historical costs with workgroup in which the activity will be forecasted.					
2017	0	-10	0	0.0	1-Sided Adj	
Explanation:	Exclude non-labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.					
2017	-235	-117	0	-2.3	CCTR Transf To 2200-0248.000	
Explanation:	Transfer labor and non-labor expense associated with AEs from 2200-2560 in work group 2RD000.000 Business Development to cost center 2200-0248 in work group 2IN004.000 Clean Transportation in order to align historical costs with workgroup in which the activity will be forecasted.					
2017	0	0	0	0.0	1-Sided Adj	
Explanation:	Pursuant to CPUC decision 12-12-037 Compression Service Tariff activities are excluded from base rates.					
2017	0	-4	0	0.0	1-Sided Adj	
Explanation:	Exclude non-labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.					
2017	0	0	0	0.0	1-Sided Adj	
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.					
2017	0	0	0	0.0	1-Sided Adj	
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.					

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	0	-10	0	0.0	1-Sided Adj
Explanation:	Exclude non-labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2017 Total	**-433**	**-203**	**0**	**-3.5**	
2018	0	-6	0	0.0	1-Sided Adj
Explanation:	Exclude non-labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2018	0	-5	0	0.0	CCTR Transf To 2100-3893.000
Explanation:	Transfer non-labor expense associated with an industry subscription from 2200-2229 in work group 2RD000.000 Business Development to cost center 2100-3893 in work group 1DD002.000 Advance Technology Integration in order to align historical costs with workgroup in which the activity will be forecasted.				
2018	0	-5	0	0.0	CCTR Transf To 2100-3910.000
Explanation:	Transfer non-labor expense associated with an industry subscription from 2200-2229 in work group 2RD000.000 Business Development to cost center 2100-3910 in work group 1AG010.000 Strategic Planning in order to align historical costs with workgroup in which the activity will be forecasted.				
2018	-292	-136	0	-2.8	CCTR Transf To 2200-0248.000
Explanation:	Transfer labor and non-labor expense associated with AEs from 2200-2560 in work group 2RD000.000 Business Development to cost center 2200-0248 in work group 2IN004.000 Clean Transportation in order to align historical costs with workgroup in which the activity will be forecasted.				
2018	0	-1	0	0.0	CCTR Transf To 2200-8000.002
Explanation:	Transfer non-labor expense associated with executive benefit LTIP from 2200-2614 in work group 2RD000.000 Business Development to cost center 2200-8000.002 in work group 2CP000.001 Human Resources, Disability, & Workers Comp in order to align historical costs with workgroup in which the activity will be forecasted.				
2018	0	-38	0	0.0	1-Sided Adj
Explanation:	Pursuant to CPUC decision 12-12-037 Compression Service Tariff activities are excluded from base rates.				
2018	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2018	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2018 Total	**-293**	**-191**	**0**	**-2.8**	
2019	0	-30	0	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
Explanation:	One-sided adjustment to remove costs, not being requested in the TY 2024 GRC, and being tracked in a separate regulatory account for recovery in a separate regulatory proceeding.				
2019	-187	-57	0	-1.8	CCTR Transf To 2200-0248.000
Explanation:	Transfer labor and non-labor expense associated with AEs from 2200-2560 in work group 2RD000.000 Business Development to cost center 2200-0248 in work group 2IN004.000 Clean Transportation in order to align historical costs with workgroup in which the activity will be forecasted.				
2019	0	-10	0	0.0	1-Sided Adj
Explanation:	One-sided adjustment to remove costs related to Refundable Energy Efficiency, not being requested in the TY 2024 GRC, and being tracked in a separate regulatory account for recovery in a separate regulatory proceeding.				
2019	0	15	0	0.0	CCTR Transf To 2200-8000.002
Explanation:	Transfer non-labor expense associated with executive benefit LTIP from 2200-2614 in work group 2RD000.000 Business Development to cost center 2200-8000.002 in work group 2CP000.001 Human Resources, Disability, & Workers Comp in order to align historical costs with workgroup in which the activity will be forecasted.				
2019	0	-34	0	0.0	CCTR Transf To 2200-0229.000
Explanation:	Transfer non-labor expense associated with an industry subscription from 2200-2516 in work group 2RD000.000 Business Development to cost center 2200-0229 in work group 2IN004.000 Customer Energy Solutions in order to align historical costs with workgroup in which the activity will be forecasted.				
2019	0	-6	0	0.0	1-Sided Adj
Explanation:	Pursuant to CPUC decision 12-12-037 Compression Service Tariff activities are excluded from base rates.				
2019	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2019	0	29	0	0.0	CCTR Transf To 2200-8000.002
Explanation:	Transfer non-labor expense associated with executive benefit LTIP from 2200-2516 in work group 2RD000.000 Business Development to cost center 2200-8000.002 in work group 2CP000.001 Human Resources, Disability, & Workers Comp in order to align historical costs with workgroup in which the activity will be forecasted.				
2019	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2019 Total	**-187**	**-93**	**0**	**-1.8**	
2020	0	-2	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	0	-1	0	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
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	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	0	-3	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	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	0	-2	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	0	-3	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	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	0	-2	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	0	-2	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	0	3,400	0	0.0	CCTR Transf From 2200-2318.000
Explanation:	2HR001 to 2RD000. Transfer consulting fees to Business Strategy and Development-Clean Energy Innovations CC 2200-2614 ($3.4M)				
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	0	-1	0	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
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	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	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2020	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2020 Total	**0**	**3,379**	**0**	**0.0**	
2021	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).				
2021	0	100	0	0.0	CCTR Transf From 2200-2318.000
Explanation:	2HR001 to 2RD000. Transfer consulting fees to Business Strategy and Development-Clean Energy Innovations CC 2200-2614 ($100K).				
2021	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).				
2021	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).				
2021	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).				
2021	0	-2	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	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).				

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
2021	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).				
2021	0	-3	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	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).				
2021	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).				
2021	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).				
2021	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).				
2021	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).				
2021	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).				
2021	0	-2	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	0	-28	0	0.0	1-Sided Adj
Explanation:	Exclusion - Refundable Energy Efficiency program (Emerging Technologies), which has its own proceedings.				
2021	0	-2	0	0.0	1-Sided Adj
Explanation:	Biogas Conditioning Service Tariff activities are excluded from base rates.				
2021	-147	0	0	-0.8	1-Sided Adj
Explanation:	Transfer labor (FTE) costs associated with the manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021	-97	0	0	-0.8	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.000 - Clean Fuels Infrastructure Development

Year	Labor	NLbr	NSE	FTE	Adj Type
Explanation:	Transfer labor (FTE) costs associated with the project manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021	-5	-4	0	0.1	1-Sided Adj
Explanation:	Transfer labor (FTE) and non-labor costs associated with the project manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021	0	-2,000	0	0.0	1-Sided Adj
Explanation:	Excluding below the line expense.				
2021	0	0	0	0.0	1-Sided Adj
Explanation:	Exclude labor expenses associated with lobbying activities (FERC 426.4). This adjustment is in addition to other costs that have already been excluded based other specific accounting attributes.				
2021	-24	0	0	0.1	1-Sided Adj
Explanation:	Exclude labor / non-labor expenses associated with lobbying activities (FERC 426.4) and other advocacy related activities. This adjustment is in addition to other costs that have already been excluded based on other specific accounting attributes.				
2021 Total	**-273**	**-1,950**	**0**	**-1.4**	

Note: Totals may include rounding differences.

Beginning of Workpaper
2RD000.001 - Clean Fuels Infrastructure Development - RAMP

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

Activity Description:

Clean Fuels Infrastructure Development supports the company's sustainability goals of developing a clean fuels infrastructure. Focus areas for various activities under the clean fuels' infrastructure development include Carbon Management Front End Engineering and Design Study, and Clean Fuels Operational Readiness Program.
The RAMP activities include CO2 pipeline FEED study evaluation to explore the development of CO2 pipeline transport infrastructure necessary to enable the deployment of carbon capture, utilization, and storage technologies in Southern California. Includes development of a final scope, design, and technical specifications for the CO2 pipeline as a precursor to the evaluation of the project's capital investment estimates. The RAMP activities also include assessment of the current infrastructure for operational readiness, identifying gaps in technological, material, operational, safety, workforce, and training standards. Includes identification of risk drivers and mitigation strategies to address clean fuels system resiliency.

Forecast Explanations:

Labor - Base YR Rec

No request for labor.

Non-Labor - Base YR Rec

The forecast method developed for this cost category for non-labor expenses is the base year method. This method is most appropriate because trends, multi-year averages or other methods would not reflect the fact that Clean Energy Innovations is a newly formed organization that consolidates several pre-existing functions but also adds new functions not included in the predecessor organizations.

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	0	0	0	0	0	0	0	0
Non-Labor	0	0	0	0	0	0	0	9,155
NSE	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9,155**
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

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	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	0	0	0	0	0	9,155	0	0	9,155
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		**0**	**0**	**0**	**0**	**0**	**9,155**	**0**	**0**	**9,155**
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022 Total	**0**	**0**	**0**	**0**	**0.0**	
2023 Total	**0**	**0**	**0**	**0**	**0.0**	
2024	0	6,655	0	6,655	0.0	1-Sided Adj

Explanation: The request of $6.6M is for Carbon Management System and the cost drivers are related to the FEED study are primarily dependent on two aspects:
1) the level of engineering and design involved in this initial stage, and 2) the overall scope of the project considered.

2024	0	2,500	0	2,500	0.0	1-Sided Adj

Explanation: The request of $2.5 million is to support the activities related to Clean Fuels Operational Readiness Program. Which include assessment of the current infrastructure for operational readiness, identifying gaps in technological, material, operational, safety, workforce, and training standards, etc.

2024 Total	**0**	**9,155**	**0**	**9,155**	**0.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (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
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	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
Vacation & Sick (Nominal $)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2021$					
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
Recorded-Adjusted (Constant 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

* 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: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

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: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-CFF-2 Energy Resilience

RAMP Line Item ID: NEW

RAMP Line Item Name: Operational Readiness and Carbon Management Feed Study

Tranche(/s): Tranche1: N/A; Tranche2: N/A

GRC Forecast Cost Estimates ($000)

	2021 Historical Embedded Cost (2021 $)	2022 Forecast (2021 $)	2023 Forecast (2021 $)	2024 Forecast (2021 $)	2024 RAMP Range (2020 Incurred $) Low	High
Tranche 1 Cost Estimate	0	0	0	2,500	0	0
Tranche 2 Cost Estimate	0	0	0	6,655	0	0

Cost Estimate Changes from RAMP:
A forecast for this activity was not provided in RAMP.

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities Low	High
Tranche 1 # of Program	0.00	0.00	0.00	1.00	0.00	0.00
Tranche 2 # of Study	0.00	0.00	0.00	1.00	0.00	0.00

Work Unit Changes from RAMP:
A forecast for this activity was not provided in RAMP.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	0.000	0.000

RSE Changes from RAMP:
N/A

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: B. Clean Fuels Infrastructure Development
Category-Sub: 1. Clean Fuels Infrastructure Development
Workpaper: 2RD000.001 - Clean Fuels Infrastructure Development - RAMP

RAMP Item # 2

RAMP Activity

RAMP Chapter: SCG-CFF-2 Energy Resilience

RAMP Line Item ID: NEW

RAMP Line Item Name: Operational Readiness and Carbon Management Feed Study

Tranche(/s): Tranche1: N/A; Tranche2: N/A

GRC Forecast Cost Estimates ($000)

	2021 Historical Embedded Cost (2021 $)	2022 Forecast (2021 $)	2023 Forecast (2021 $)	2024 Forecast (2021 $)	2024 RAMP Range (2020 Incurred $) Low	High
Tranche 1 Cost Estimate	0	0	0	2,500	0	0
Tranche 2 Cost Estimate	0	0	0	6,655	0	0

Cost Estimate Changes from RAMP:
A forecast for this activity was not provided in RAMP.

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities Low	High
Tranche 1 # of Program	0.00	0.00	0.00	1.00	0.00	0.00
Tranche 2 # of Study	0.00	0.00	0.00	1.00	0.00	0.00

Work Unit Changes from RAMP:
A forecast for this activity was not provided in RAMP.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	0.000	0.000

RSE Changes from RAMP:
N/A

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000

Summary for Category: C. Clean Energy Innovations Project Management Office

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	293	548	662	1,523
Non-Labor	4	156	164	69
NSE	0	0	0	0
Total	**297**	**704**	**826**	**1,592**
FTE	2.1	4.0	5.0	12.0

Workpapers belonging to this Category:

2RD002.000 Clean Energy Innovations Project Management Office (PMO)

Labor	293	548	662	1,523
Non-Labor	4	156	164	69
NSE	0	0	0	0
Total	**297**	**704**	**826**	**1,592**
FTE	2.1	4.0	5.0	12.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Off
Category-Sub 1. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

Activity Description:

The Clean Energy Innovations (CEI) Project Management Office (PMO) is responsible for the definition and establishment of project management best practices, processes, and reporting to promote successful project execution and risk reduction in support of CEI's project portfolio.

Forecast Explanations:

Labor - Base YR Rec

The forecast method developed for this cost category for labor expenses is the base year method. Incremental adjustments represent the anticipated expense requirements in TY 2024. This method is most appropriate because the CEI PMO group was formed in January 2021 and no historic cost information exists prior to this date.

Non-Labor - Base YR Rec

The forecast method developed for this cost category for non-labor expenses is the base year method. Incremental adjustments represent the anticipated expense requirements in TY 2024. This method is most appropriate because the CEI PMO group was formed in January 2021 and no historic cost information exists prior to this date.

NSE - Base YR Rec

NA

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	0	0	0	0	293	548	662	1,523
Non-Labor	0	0	0	0	4	156	164	69
NSE	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**297**	**704**	**826**	**1,592**
FTE	0.0	0.0	0.0	0.0	2.1	4.0	5.0	12.0

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Off
Category-Sub: 1. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

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	293	293	293	255	369	1,230	548	662	1,523
Non-Labor	Base YR Rec	4	4	4	152	160	65	156	164	69
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		**297**	**297**	**297**	**407**	**529**	**1,295**	**704**	**826**	**1,592**
FTE	Base YR Rec	2.1	2.1	2.1	1.9	2.9	9.9	4.0	5.0	12.0

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	141	0	0	141	0.9	1-Sided Adj
Explanation:	This is the full year effect of the PMO Project Manager (PM) who was hired in 2021. The PM will be responsible for strategy and implementation of project management standards definition, portfolio roadmap/schedule, risk management and change management processes, Decision Matrix. Estimated expenses are 1 X $145K X 0.97 = $141K.					
2022	0	152	0	152	0.0	1-Sided Adj
Explanation:	The non-labor costs are related to PMO Dashboard and reporting tool. Includes development and customization (requirements, dashboard design and development, integration with other SharePoint and financial reporting applications) during year one and year two; licensing and maintenance in subsequent years. Project management training and certification courses including PMI standards, change management, related licenses, industry (clean energy) training, webinars, and employee expenses.					
2022	114	0	0	114	1.0	1-Sided Adj
Explanation:	2 Project advisor labor responsible for execution of portfolio risk analysis and reporting, portfolio roadmap/schedule management. Estimated expenses are 2 X $ 114K X 0.5 = $114K.					
2022 Total	**255**	**152**	**0**	**407**	**1.9**	
2023	228	0	0	228	2.0	1-Sided Adj
Explanation:	2 Project advisor labor responsible for execution of portfolio risk analysis and reporting, portfolio roadmap/schedule management. Estimated expenses are 2 X $ 114K = $228K.					
2023	141	0	0	141	0.9	1-Sided Adj
Explanation:	This is the full year effect of the PMO Project Manager (PM) who was hired in 2021. The PM will be responsible for strategy and implementation of project management standards definition, portfolio roadmap/schedule, risk management and change management processes, Decision Matrix. Estimated expenses are 1 X $145 X .97 = $141K					
2023	0	160	0	160	0.0	1-Sided Adj

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Off
Category-Sub: 1. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

Year	Labor	NLbr	NSE	Total	FTE	Adj_Type
Explanation:	The non-labor costs are related to PMO Dashboard and reporting tool. Includes development and customization (requirements, dashboard design and development, integration with other SharePoint and financial reporting applications) during year one and year two; licensing and maintenance in subsequent years. Project management training and certification courses including PMI standards, change management, related licenses, industry (clean energy) training, webinars, and employee expenses.					
2023 Total	**369**	**160**	**0**	**529**	**2.9**	
2024	1,089	0	0	1,089	9.0	1-Sided Adj
Explanation:	4 Project advisors labor responsible for execution of portfolio risk analysis and reporting, portfolio roadmap/schedule management. Project advisor labor estimated expenses are 4 X $ 114 = $456K. 3 Project Managers labor Responsibilities include organizational change and readiness workstream leadership, development and implementation on strategy related to Organizational Change Management, organizational impact, readiness assessment, and stakeholder management related to activities resulting from CEI project activities. Project manager estimated expenses are 3 X $145K = $435K. 2 Project Specialist labor responsibilities include execution of initiative-specific project management governance controls in accordance with CEI PMO standards and/or PMO administrative activities. Administrative labor estimated expenses are 2 X $99K = $198K.					
2024	141	0	0	141	0.9	1-Sided Adj
Explanation:	This is the full year effect of the PMO Project Manager (PM) who was hired in 2021. The PM will be responsible for strategy and implementation of project management standards definition, portfolio roadmap/schedule, risk management and change management processes, Decision Matrix. Estimated expenses are 1 X $145K X 0.97 = $141K					
2024	0	65	0	65	0.0	1-Sided Adj
Explanation:	The non-labor costs are related to PMO Dashboard and reporting tool. Includes development and customization (requirements, dashboard design and development, integration with other SharePoint and financial reporting applications) during year one and year two; licensing and maintenance in subsequent years. Project management training and certification courses including PMI standards, change management, related licenses, industry (clean energy) training, webinars, and employee expenses.					
2024 Total	**1,230**	**65**	**0**	**1,295**	**9.9**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Off
Category-Sub: 1. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (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
Adjustments (Nominal $) **					
Labor	0	0	0	0	249
Non-Labor	0	0	0	0	4
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**253**
FTE	0.0	0.0	0.0	0.0	1.7
Recorded-Adjusted (Nominal $)					
Labor	0	0	0	0	249
Non-Labor	0	0	0	0	4
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**253**
FTE	0.0	0.0	0.0	0.0	1.7
Vacation & Sick (Nominal $)					
Labor	0	0	0	0	44
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**44**
FTE	0.0	0.0	0.0	0.0	0.4
Escalation to 2021$					
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
Recorded-Adjusted (Constant 2021$)					
Labor	0	0	0	0	293
Non-Labor	0	0	0	0	4
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**297**
FTE	0.0	0.0	0.0	0.0	2.1

* 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: Clean Energy Innovations
Witness: Armando Infanzon
Category: C. Clean Energy Innovations Project Management Off
Category-Sub: 1. Clean Energy Innovations Project Management Office
Workpaper: 2RD002.000 - Clean Energy Innovations Project Management Office (PMO)

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	0	249
Non-Labor	0	0	0	0	4
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**253**
FTE	0.0	0.0	0.0	0.0	1.7

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 Total	**0**	**0**	**0**	**0.0**	
2021	147	0	0	0.8	1-Sided Adj
Explanation:	Transfer labor (FTE) costs associated with the manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021	97	0	0	0.8	1-Sided Adj
Explanation:	Transfer labor (FTE) costs associated with the project manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021	5	4	0	0.1	1-Sided Adj
Explanation:	Transfer labor (FTE) and non-labor costs associated with the project manager role from 2RD000.000 Clean Fuels Infrastructure Development workpaper to 2RD002.000 Clean Energy Innovations Project Management Office (PMO)work paper to align functions where they reside and will be forecast.				
2021 Total	**249**	**4**	**0**	**1.7**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: D. Research Development and Demonstration
Workpaper: 2RD001.001

Summary for Category: D. Research Development and Demonstration

	In 2021$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	2,111	2,435	2,608	2,608
Non-Labor	15,929	14,216	14,266	20,641
NSE	0	0	0	0
Total	**18,040**	**16,651**	**16,874**	**23,249**
FTE	17.3	18.0	20.0	20.0

Workpapers belonging to this Category:

2RD001.001 R-Research Development and Demonstration

Labor	2,111	2,435	2,608	2,608
Non-Labor	15,929	14,216	14,266	20,641
NSE	0	0	0	0
Total	**18,040**	**16,651**	**16,874**	**23,249**
FTE	17.3	18.0	20.0	20.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2RD001.001 - R-Research Development and Demonstration

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: D. Research Development and Demonstration
Category-Sub 1. Research Development and Demonstration
Workpaper: 2RD001.001 - R-Research Development and Demonstration

Activity Description:

The Research Development & Demonstration (RD&D) organization is focused on identifying, assessing, developing, demonstrating, and deploying new technologies of significant potential value to customers and utility operations. RD&D staff identify promising projects and evaluate them for potential funding , taking a comprehensive yet flexible approach that enables them to 1) identify potential projects most in alignment with RD&D Program goals, state and federal environmental policy, and industry demand; 2) accurately assess the likelihood of potential projects to succeed; 3) work with proven partners and technologies over time; and 4) respond nimbly to changing market, technology, and policy drivers. RD&D expenses are tracked in a one-way balancing account.

Forecast Explanations:

Labor - Zero-Based

The RD&D program staffing requirements and related costs were forecasted using a zero -based methodology. A technology needs assessment was performed to determine activity levels needed in the various RD&D areas employing historical project activity and labor costs to determine staffing and costs necessary for the project and technology assessment activity planned for the forecast period.

Non-Labor - Zero-Based

Non-labor, which is predominantly RD&D project expense, was forecasted on a zero-based method using a technology needs assessment to develop planned project activity as described in direct testimony and using historical averages to estimate projects costs. This approach allows for evolving RD&D needs based on technology progress, changes in public policies and goals, and changes in customer needs. RD&D activities fall under five main areas: Low Carbon Resources, Gas Operation, Clean Transportation, Clean Power Generation, and Customer End-Use Applications. The present forecast reflects increased activity in the operations area as well as a number of areas related to criteria pollutions reduction and carbon reduction.

NSE - Zero-Based

NA

Summary of Results:

	In 2021$ (000) Incurred Costs							
	Adjusted-Recorded					Adjusted-Forecast		
Years	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	2,479	2,163	1,861	1,741	2,111	2,435	2,608	2,608
Non-Labor	12,681	11,262	12,201	15,451	15,929	14,216	14,266	20,641
NSE	0	0	0	0	0	0	0	0
Total	**15,160**	**13,425**	**14,062**	**17,192**	**18,039**	**16,651**	**16,874**	**23,249**
FTE	21.4	18.4	15.8	14.4	17.3	18.0	20.0	20.0

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: D. Research Development and Demonstration
Category-Sub: 1. Research Development and Demonstration
Workpaper: 2RD001.001 - R-Research Development and Demonstration

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	Zero-Based	0	0	0	2,435	2,608	2,608	2,435	2,608	2,608
Non-Labor	Zero-Based	0	0	0	14,216	14,266	20,641	14,216	14,266	20,641
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		**0**	**0**	**0**	**16,651**	**16,874**	**23,249**	**16,651**	**16,874**	**23,249**
FTE	Zero-Based	0.0	0.0	0.0	18.0	20.0	20.0	18.0	20.0	20.0

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	2,435	14,216	0	16,651	18.0	1-Sided Adj
Explanation:	Forecasted using GRC Authorized based on D.19-09-051.					
2022 Total	**2,435**	**14,216**	**0**	**16,651**	**18.0**	
2023	2,608	14,266	0	16,874	20.0	1-Sided Adj
Explanation:	Forecasted using GRC Authorized based on D.19-09-051.					
2023 Total	**2,608**	**14,266**	**0**	**16,874**	**20.0**	
2024	2,608	20,641	0	23,249	20.0	1-Sided Adj
Explanation:	Based on Technology Needs Assessment Summary conducted by the portfolio managers.					
2024 Total	**2,608**	**20,641**	**0**	**23,249**	**20.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon
Category: D. Research Development and Demonstration
Category-Sub: 1. Research Development and Demonstration
Workpaper: 2RD001.001 - R-Research Development and Demonstration

Determination of Adjusted-Recorded (Incurred Costs):

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	1,901	1,701	1,481	1,437	1,794
Non-Labor	11,168	10,325	11,381	14,354	15,929
NSE	0	0	0	0	0
Total	**13,069**	**12,026**	**12,862**	**15,792**	**17,723**
FTE	18.2	15.6	13.2	12.0	14.6
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	100	0	0	0	0
NSE	0	0	0	0	0
Total	**100**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	1,901	1,701	1,481	1,437	1,794
Non-Labor	11,268	10,325	11,381	14,354	15,929
NSE	0	0	0	0	0
Total	**13,169**	**12,026**	**12,862**	**15,792**	**17,723**
FTE	18.2	15.6	13.2	12.0	14.6
Vacation & Sick (Nominal $)					
Labor	322	293	281	253	317
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**322**	**293**	**281**	**253**	**317**
FTE	3.2	2.8	2.6	2.4	2.7
Escalation to 2021$					
Labor	256	170	99	50	0
Non-Labor	1,413	937	820	1,097	0
NSE	0	0	0	0	0
Total	**1,669**	**1,107**	**919**	**1,147**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	2,479	2,163	1,861	1,741	2,111
Non-Labor	12,681	11,262	12,201	15,451	15,929
NSE	0	0	0	0	0
Total	**15,160**	**13,425**	**14,062**	**17,192**	**18,039**
FTE	21.4	18.4	15.8	14.4	17.3

* 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: Clean Energy Innovations
Witness: Armando Infanzon
Category: D. Research Development and Demonstration
Category-Sub: 1. Research Development and Demonstration
Workpaper: 2RD001.001 - R-Research Development and Demonstration

Summary of Adjustments to Recorded:

In Nominal $ (000) Incurred Costs						
	Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor		0	0	0	0	0
Non-Labor		100	0	0	0	0
NSE		0	0	0	0	0
	Total	**100**	**0**	**0**	**0**	**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	0	100	0	0.0	1-Sided Adj
Explanation:	Adjustment for Kore Biosolids Pyrolyzer Field Test project.				
2017 Total	**0**	**100**	**0**	**0.0**	
2018 Total	**0**	**0**	**0**	**0.0**	
2019 Total	**0**	**0**	**0**	**0.0**	
2020 Total	**0**	**0**	**0**	**0.0**	
2021 Total	**0**	**0**	**0**	**0.0**	

Note: Totals may include rounding differences.

Area: Clean Energy Innovations
Witness: Armando Infanzon

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0234	000	NGV PROGRAM
2200-0236	000	FEDERAL TURNKEY PROGRAM
2200-0261	000	VP STRAT& SUSTAINABILITY CHF ENVIRO OFC
2200-0833	000	DIRECTOR OF SUSTAINABILITY
2200-0843	000	NSS - FEDERAL PROJ CUST SERVICE MGR.
2200-1022	000	VP CLEAN ENERGY INNOVATIONS
2200-2059	000	CUSTOMER SOLUTIONS RD&D
2200-2117	000	CLEAN INNOVATIONS
2200-2229	000	BUSINESS ANALYSIS AND GROWTH INITIATIVE
2200-2286	000	BIOFUELS MARKET DEVELOPMENT
2200-2516	000	DIRECTOR TECHNOLOGY SOLUTIONS
2200-2524	000	LOW CARBON RESOURCES RDD
2200-2525	000	BUSINESS & TECHNOLOGY INNOVATION
2200-2559	000	RESEARCH & DEVELOPMENT
2200-2560	000	CLEAN TRANSPORTATION - BUS DEV
2200-2561	000	NEW TECHNOLOGY SOLUTIONS
2200-2614	000	BUSINESS STRATEGY AND DEVELOPMENT
2200-2628	000	DER POLICY STRATEGY MANAGER
2200-2632	000	PRODUCT DEVELOPMENT & STRATEGY