Application No.: A.17-04-

Exhibit No.:

Witness:

Ana Garza-Beutz

PREPARED DIRECT TESTIMONY OF ANA GARZA-BEUTZ

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

redacted, public version

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

April 14, 2017



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PREPARED DIRECT TESTIMONY OF

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I. PURPOSE AND OVERVIEW

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My testimony presents San Diego Gas & Electric Company's ("SDG&E") 2016¹ costs for greenhouse gas ("GHG") compliance instruments used to satisfy its compliance obligations under the California Air Resources Board's ("ARB") cap-and-trade program pursuant to Assembly Bill ("AB") 32. My testimony also includes the 2016 revenues.² The following sections describe the cap-and-trade program and detail SDG&E's unadjusted 2016 actual revenues and estimated costs. These costs and revenues are further adjusted to recorded numbers for the purposes of reconciliation as further explained in the testimony of SDG&E witnesses Ms. Chihwaro and Ms. Fang.³

II. BACKGROUND

A. AB 32 Background

The Global Warming Solutions Act of 2006, also referred to as AB 32, establishes a goal of reducing California's GHG emissions to the 1990 level by 2020. The statute grants ARB broad authority to regulate GHG emissions to reach this target. ARB's Scoping Plan includes a

¹ The 2015 volumes and costs became final in September 2016 and were reported as part of SDG&E's Updated 2017 ERRA Forecast Filing (A.16-04-018); thus the 2015 volumes and costs are not reported in this testimony. The 2016 estimated volumes and costs reported in this testimony are subject to change due to emission verification for all of 2016. Additionally, this testimony does not include 2017 volumes, costs and revenues since only January and February estimated actuals are available at this time. In my November 2017 update of this testimony, I will include estimated actuals of costs and revenues for January through September of 2017.

² The 2016 volumes and costs are subject to change due to emission verification which will become final in September 2017. 2016 revenues, however, are now final.

³ SDG&E witness Ms. Montanez provides a forecast of the 2018 GHG costs.

In October 2011, ARB released its Final Regulation Order, which was approved by its Board and by the Office of Administrative Law ("OAL") in December 2011.⁵ The ARB regulations create a GHG emissions allowance cap-and-trade system, with compliance obligations in the electricity sector applicable to "first deliverers of electricity" that emit more than 25,000 Metric Tons ("MT") of GHG. The regulation requires that first deliverers of electricity, including investor-owned utilities ("IOUs") such as SDG&E, obtain all the compliance instruments required to meet their compliance obligations by November 1 of the year following the end of a compliance period. Compliance instruments consist of allowances and offsets. An allowance is a limited tradable authorization to emit up to one MT of carbon dioxide equivalent ("CO2e") and an offset is a project that reduces GHG in sectors outside of those covered in the cap-and-trade program.⁷ Section 95892(b) of ARB's Final Regulation Order establishes that IOUs are required to sell all their free allowances and acquire an amount equal to their direct compliance obligations. There are also annual requirements to surrender at least 30% of expected annual obligations each year by November 1 of the following year.

⁴ ARB Resolution 11-32 at 3.

⁵ The ARB Final Regulation Order from December 2012 is codified at 17 CCR § 95800 *et seq.* and is also available at: http://www.arb.ca.gov/regact/2010/capandtrade10/capandtrade10.htm.

⁶ "First deliverers of electricity" is defined in Section 95811(b) of ARB's Final Regulation Order as electricity generators inside California and importers of electricity from outside of California.

⁷ Refer to Section 95801 of ARB's Final Regulation Order for definitions.

B. GHG Actual Revenue

The revenues discussed in my testimony result from the sale of allowances allocated to SDG&E by ARB for the benefit of its ratepayers. ARB requires that the allowances that are allocated annually to the IOUs be made available for sale at the ARB auctions. Allowances given to the IOUs must all be consigned by the last auction of that year. Except for the November 2012 auction, where ARB specified the amount that each IOU needed to auction, all other amounts consigned at auctions are up to the discretion of each IOU, provided the entire annual volume is consigned by the end of each year. Revenues are calculated by multiplying the volume sold by the auction settlement price. The revenues presented in this testimony consist of allowances sold at the 2016 February, May, August, and November auctions.

C. GHG Actual Emissions Volumes

The 2016 direct emissions will be the actual/calculated GHG emissions for: (1) SDG&E's California utility-owned generation ("UOG"), (2) California generators with whom SDG&E has contracts where SDG&E is responsible for GHG costs, (3) estimated emissions associated with SDG&E imports of both specified electricity and unspecified electricity, and (4) Renewable Portfolio Standard ("RPS") adjustment. The RPS adjustment is calculated by multiplying the out-of-state renewable megawatt-hours ("MWh") eligible for RPS adjustment by the ARB assigned unspecified emission factor. The 2016 direct volumes may change because they are subject to: (1) emission estimates and emission reporting verification, (2) changing emission factors, and (3) contractual requirements for reviewing tolling agreement emissions for potential reductions. If there are such changes, they will be reflected in future testimony.

The 2016 "actual" indirect emissions are estimated emissions based on net purchases from the California electricity market controlled by the California Independent System Operator Corporation ("CAISO") measured in MWh and multiplied by the ARB assigned unspecified emission factor. Indirect emissions are not overseen by ARB. Indirect emissions are comprised of an estimated volume of GHG for which SDG&E was exposed because of purchasing power from third parties. The estimated numbers for 2016 are those calculated in the 2016 ERRA Forecast and will be updated in my Updated 2018 ERRA Forecast testimony in November.

D. GHG Actual Cost Categories

The costs outlined in my testimony are broken down into two categories of GHG actual costs: direct costs and indirect costs. SDG&E defines direct costs of a given compliance year as the net cost of procuring compliance instruments that can be used to satisfy SDG&E's compliance year obligation. SDG&E defines indirect costs of a given compliance year as the GHG compliance costs embedded in the price of electricity delivered in that year, which are passed on from sellers.

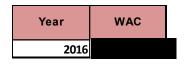
Section III below addresses the carbon price for 2016. Section IV.A addresses direct GHG emissions associated with SDG&E's UOG plants, procurement of electricity from tolling agreements, electricity imports attributed to SDG&E, and credits from SDG&E's eligible RPS Adjustment. Section IV.B addresses the approximate 2016 indirect GHG emissions for which SDG&E paid as GHG costs embedded in electricity prices charged by third parties to SDG&E under contract for various supplies. Section IV.C summarizes the GHG costs based on the carbon prices in Section III and emissions in Sections IV.A and IV.B.

⁸ Indirect GHG costs are estimated based on the assumptions described herein.

III. CARBON PRICE METHODOLOGY

A. Price for Direct GHG Emissions

SDG&E uses the Weighted Average Cost ("WAC") of Compliance Instruments by compliance period recorded monthly, as described in Attachment C of Decision (D.) 15-01-024, to calculate its direct emissions pricing. The WAC⁹ prices are listed in the table below:



B. Price for Indirect Emissions

The embedded GHG costs for indirect emissions are estimated by using the average CAISO GHG Allowance Price Indices, as listed in the table below.¹⁰ Indirect costs are estimated since it is assumed that the GHG cost was passed on by all sources of power from market purchases.

2016 CAISO GH	IG Prices
Jan - Dec 2016	\$12.84

IV. ACTUAL GHG COMPLIANCE COSTS

A. Direct Greenhouse Gas Emissions

Under ARB's cap-and-trade program, the "first deliverer of electricity" within California must surrender one allowance or offset credit for each MT of GHG emissions. Accordingly, SDG&E had direct compliance obligations for GHGs emitted from burning natural gas at its UOG plants, namely, the Palomar Energy Center ("Palomar") and Miramar Energy Facility I and II

⁹ Monthly WAC prices are provided in Appendix A of this testimony. The WAC calculations for 2016 are based upon SDG&E's most recent estimate for the respective monthly emissions and on previous years' WAC.

¹⁰ Annual CAISO prices are a straight average of public daily GHG prices published on CAISO's OASIS website.

(collectively, "Miramar").¹¹ SDG&E's Cuyamaca Peak Energy Plant ("Cuyamaca") was a covered entity in 2013 and 2014, however since its emissions were verified to be below the 25,000 MT threshold for 2012-2014, as of 2015 Cuyamaca no longer has a compliance obligation. SDG&E's UOG GHG emission volumes are derived from information extracted from each covered plant's Continuous Emissions Monitoring Systems ("CEMS") and that plant's annual fuel usage. The data is reported to ARB (under the mandatory GHG reporting rule) and undergoes a rigorous quality assurance/quality control ("QA/QC") process with supporting documentation from the CEMS systems. The data is then subject to third party verification by an ARB-certified verifier. The 2016 data will become final in September 2017. The 2016 estimated UOG actuals are as follows:

2016 Estimated California UOG Plants	Est. Actual (in MT)
Palomar Energy Center	
Miramar Energy Facilities	
Total	

In addition, SDG&E has agreements with some California generators, which stipulate that if SDG&E is dispatching the plant, then SDG&E will provide compliance instruments to the generator for its GHG compliance obligations. The generators covered by these agreements include, the Otay Mesa Energy Center ("OMEC"), the Orange Grove Energy Center ("Orange Grove"), Goal Line (which became a dispatchable plant in 2015), and the Escondido Energy Center ("EEC"), whose 2015 emissions exceeded the 25,000 MT threshold. The estimated

¹¹ ARB's Mandatory Reporting Regulations requires use of emission factors from federal regulations - 40 Code of Federal Regulation ("CFR") Section 98. For pipeline natural gas, there are three components – CO₂, CH₄, and NO₂. Table C-1 of 40 CFR Section 98 provides an emissions rate for CO₂ of 0.05302 MT/MMBtu. Table C-2 of 40 CFR Section 9 gives a default emission factor for CH4 of 0.000001 MT/MMBtu. Using a Global Warming Potential of 21, the resulting CO₂e emission rate is 0.00002 MT/MMBtu. The default NO2 emission rate is given as 0.000001 MT/MMBtu, and its Global Warming Potential is 310, resulting in a CO₂e emission rate of 0.00003 MT/MMBtu. Combining the 3 elements results in an overall emission rate of 0.05307 MT/MMBtu.

actuals for these plants were calculated by multiplying the MMBtu burned with the emission factor of 0.05307 MT/MMBtu associated with natural gas as the input fuel. These estimates are subject to change, not only because the emissions estimates are based on fuel calculations instead of emission meter read calculations, but also because the tolling agreement contracts state that SDG&E will only cover the emissions generated resulting from SDG&E dispatches of efficiently run plants. The 2016 estimated SDG&E obligations to tolling agreement partners are shown below. SDG&E will be analyzing the 2016 data and could potentially adjust the 2016 emissions for actuals, non-SDG&E dispatches or for inefficiencies. If there are such changes, they will be reflected in future testimony.

2016 Estimated California Tolling Generators	Est. Actual (in MT)
Otay Mesa Energy Center	
Orange Grove Energy Center	
Goal Line	
Escondido Energy Center	
Total	

An entity that delivers out-of-state electricity to a delivery point inside California is also responsible for the GHG emissions associated with generation of that electricity. For known imports, called "specified sources," the estimated GHG emissions related to the portion of outputs of plants that delivered to California are covered in the cap-and-trade program and as such the importer of that electricity has a compliance obligation. SDG&E has a contract with Yuma Cogeneration Associates ("YCA") in Arizona and owns the Desert Star Energy Center ("Desert Star") combined cycle plant in Nevada. These out-of-state generators are specified sources. The compliance obligation for the power imported from each of these sources is calculated by the product of the imported power times the transmission loss correction factor as listed in section 95111 of ARB's mandatory reporting regulation, and the specified emissions

factor assigned to those facilities by ARB.¹² As with SDG&E's other estimated obligations, specified imports are also subject to change, and those changes will be reflected in future testimony. The 2016 estimated actuals for SDG&E's specified imports are as follows:

2016 Estimated Specified Imports	Est. Actual Specified (in MWh)	Emission Factor	Transmission Loss Factor	Est. Actual (in MT)
Desert Star		0.381	1.00	
YCA		0.410	1.02	
Total				

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In addition to specified sources, importing of "unspecified sources" also generates a compliance obligation. SDG&E procured both contracted imports and market imports from unspecified sources in 2016. The cap-and-trade compliance obligation for these unspecified imports is calculated by multiplying the number of MWh imported, adjusted upward by two percent to account for transmission losses between the point of generation and the California border, by the ARB default rate, as stated in its regulation (currently 0.428 MT per MWh).¹³ Finally, ARB recognizes that the building of new renewable generation outside California reduces GHG. As such, the cap-and-trade regulations allow for an RPS adjustment. The RPS adjustment reduces an entity's GHG compliance burden and is calculated by assigning the default emission rate, 0.428 MT/MWh, to the GHG-free renewable energy, as measured at the point of generation. The adjustment does not account for the transmission losses from the point of generation to California.¹⁴ The Cap-and-Trade Regulation also allows for RPS Adjustment to be taken in following years. SDG&E successfully claimed the undelivered portion of its potential 2014 RPS Adjustment renewable MWhs in 2015. SDG&E is planning to claim the 2015 undelivered contractually purchased renewable energy applicable to the RPS Adjustment Provision in its 2016

¹² Specified Emission Factors are updated annually by ARB. They can be found at: http://www.ccdsupport.com/confluence/display/calhelp/Reporting+Form+Instructions ¹³ ARB's Cap-and-Trade Regulation, Section 95852(b)(1)(B).

GHG report to ARB. The estimated 2016 RPS Adjustment claims are shown below. Both the estimated 2016 unspecified imports and the RPS Adjustments claimed for 2016 are subject to change and those changes will be reflected in future testimony. The 2016 estimated actuals for SDG&E's unspecified imports and RPS adjustment claims are as follows:

For 2016 Compliance Reporting: 2016 Unspecified Imports & 2015 RPS Adjustment	Est. Actual Unspecified (in MWh)	Emission Factor	Transmission Loss Factor	Est. Actual
Unspecified Imports		0.428	1.02	
RPS Adjustment		0.428	1.00	
Total				

Based on the above, SDG&E's 2016 estimated actual direct compliance obligation are:

2016 Estimated Direct Compliance Obligations	Est. Actual (in MT)
California UOG Plants	
California Tolling Generators	
Specified Imports	
Unspecified Imports	
RPS Adjustment	
Total	

B. Indirect Greenhouse Gas Emissions

SDG&E, along with all other purchasers of wholesale electricity, is subject to indirect GHG compliance costs that generators incur and pass on to their buyers. This additional cost of GHG compliance is embedded in the market price of electricity procured in the wholesale market from third parties, thereby increasing SDG&E's cost to purchase wholesale electricity, as well as from suppliers under contracts that include market-based prices. The cost of GHG affects both market purchases and contracts based on the price of energy (such as combined heat and power ("CHP") facilities); because the price of energy changes in tandem with the change in the GHG allowance prices, sellers of electricity demand higher revenues to offset the costs related to their cap-and-trade obligations. The 2016 indirect GHG volumes are estimated, for both net market

¹⁴ See Section 95852(b)(1) of ARB's Final Regulation Order for the calculation of the RPS Adjustment. AGB-9

- 1 purchases and CHP contracts, as the MWh of electricity production multiplied by the ARB default
- 2 | rate for unspecified electricity of 0.428 MT/MWh. The 2016 estimated MWh and emissions of
- 3 SDG&E's indirect purchases are as follows:

2016 Indirect Volumes in MWh and MT		
Total INDIRECTS (in MWh)		
Unspecified Emissions Factor	0.428	
Total INDIRECTS (in MT)		

C. GHG Costs

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Using the prices from Section III above, I estimate the 2016 direct GHG costs as follows:

2016 Estimated GHG Direct Costs	Volume (in MT)	WAC Price (in \$/MT)	Cost
Nov - Dec 2016			
Total			

Combining indirect volumes and the CAISO GHG allowance price indices, ¹⁵ I estimate the

2016 estimated GHG indirect costs as follows:

2016 Indirect Volumes & Cost		
2016 Forecasted INDIRECTS (in MT)		
CAISO GHG Price (Jan-Dec '16) (in \$/MT)	\$12.84	
Total 2016 Indirect Cost		

I estimate that the 2016 actual/forecast blended cost is \$39.50 million (rounded).

V. ACTUAL AND ESTIMATED GHG REVENUES

SDG&E received 6,406,805 MT of vintage 2016 allowances to sell at 2016 auctions.

SDG&E's allocated vintage 2016 allowances were required to be consigned at the 2016 auctions;

however, SDG&E had full discretion on how to distribute the volume across the four auctions.

The tables below show the volumes sold at each 2016 auction and the associated revenues.

¹⁵ Per D. 14-10-033, indirect costs are calculated using a proxy price equal to the average of the published CAISO prices.

2016 Estimated GHG Revenues				
Auction	Settlement Price (\$/MT)	Sold Volume	Revenue	
Feb-16	\$12.73			
May-16	\$12.73			
Aug-16	\$12.73			
Nov-16	\$12.73			
Total	\$12.73	6,406,805	\$81,558,628	

This concludes my testimony.

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VI. QUALIFICATIONS

My name is Ana Garza-Beutz. My business address is 8315 Century Park Court, San Diego, CA 92123. I am employed by SDG&E as a Principal Energy Administrator in the Electric & Fuel Procurement Department. My responsibilities include managing SDG&E's GHG portfolio, which includes development of GHG procurement and hedging strategies.

I joined SDG&E in November 2003, and have held various positions with increasing levels of responsibility within the Electric & Fuels Procurement Department. Prior to joining SDG&E, I worked as a Risk Analyst with Sempra Energy.

I received a Bachelor of Science degree in Mathematics from the California Polytechnic State University San Luis Obispo and a Master of Arts in Mathematics from the University of California Santa Barbara.

I have previously testified before the Commission.

APPENDIX A

SDG&E's Monthly WAC Calculation (Calculation date of January 4, 2017)





BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

DECLARATION OF RYAN A. MILLER REGARDING CONFIDENTIALITY OF CERTAIN DATA PURSUANT TO D.16-08-024

I, Ryan A. Miller, do declare as follows:

- 1. I am the Manager Energy Supply & Dispatch, designated by Emily C. Shults, Officer and VP Energy Procurement in the Electric & Fuel Procurement Department for San Diego Gas & Electric Company ("SDG&E") to submit this declaration. I have reviewed Ana Garza-Beutz's Prepared Direct Testimony ("Testimony") in support of SDG&E's April 14, 2017 Application for Approval of its 2018 Electric Procurement Revenue Requirement Forecasts and GHG-Related Forecasts ("Application"). I am personally familiar with the facts and representations in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or belief.
- 2. I hereby provide this Declaration in accordance with Decision ("D.") D-16-08-024 to demonstrate that the confidential information ("Protected Information") provided in Ana Garza-Beutz's Testimony is within the scope of data protected as confidential under applicable law, and pursuant to Public Utilities ("PUC") Code § 583 and General Order ("GO") 66-C, as described in Attachment A below.
- 3. In accordance with the legal authority described herein, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 14th day of April, 2017, at San Diego, California.

Ryan A. Miller

Manager – Energy Supply & Dispatch

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ATTACHMENT A

SDG&E Request for Confidentiality

on the following information contained in Ana Garza-Beutz's Testimony in support of SDG&E's April 14, 2017 Application for Approval of its 2018 Electric Procurement Revenue Requirement Forecasts and GHG-Related Forecasts ("Application")

Location/Title of Protected Information	Legal Justification for Withholding	Basis for Confidentiality Treatment
1. 2015 and 2016 SDG&E WAC prices and WAC calculations	The GHG Confidential Information Matrix in Attachment A of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 WAC price appears in the testimony and the 2015/2016 WAC calculations and prices appear in Attachment A of the Testimony)	The Matrix makes the following confidential: "Weighted Average Cost (WAC) of compliance instruments, and the calculation of WAC"	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers. SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.
2. 2016 Historical UOG Emissions	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Historical UOG Emissions appear in the testimony and in Attachment G of this Application.)	Template D-2 designates forecasted and recorded UOG emissions as confidential	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers. SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.

3. 2016 Historical Tolling Agreement Emissions	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Historical Tolling Agreement Emissions appear in the testimony and in Attachment G of this Application.)	Template D-2 designates forecasted and recorded Tolling Agreements emissions as confidential	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers. SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.
4. 2016 Historical Specified Imported MWh and calculated Emissions	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Historical Specified Imported MWh and calculated Emissions appear in the testimony and in Attachment G of this Application.)	Template D-2 designates forecasted and recorded Energy Imports (Specified) emissions as confidential. Knowledge of the MWh makes discovery of the emissions possible, thus the MWh are also confidential.	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers. SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.
5. 2016 Historical Unspecified Imported MWh and calculated Emissions	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
Historical Unspecified Imported MWh and calculated	Template D-2 designates forecasted and recorded Energy Imports	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and

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Emissions appear	(Unspecified) emissions as	results in higher Cap-and-Trade compliance costs for SDG&E and its end-
in the testimony and in Attachment	confidential. Knowledge	use ratepayers.
G of this	of the MWh makes	SDG&E derives economic value from this trade secret information being
Application.)	discovery of the emissions	confidential, as it gives SDG&E an opportunity to obtain a business
	possible, thus the MWh are also confidential.	advantage over competitors in the Cap-and-Trade market who do not
	are also confidential.	know or use it.
6. Historical	Annual GHG Emissions	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits
RPS	and Associated Costs in	disclosure of any auction-related information, except when the release is
Adjustment	Template D-2 of D.14-10-	made by a privately-owned utility to its regulatory agency pursuant to its
eligible MWh	033 and revised in D.15-	rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources
and	01-024, P.U. Code §	Board.
calculated	454.5(g), and GO 66-C	
Emissions	10 110 (g), 11111 0 0 0	Auction-related information also falls under the "Confidential" category
for the 2016		included in the Confidentiality Protocols of both D.15-01-033 and D.15-
Compliance	Template D-2 designates	10-032 (Attachment A and Appendix B respectively).
Year	forecasted and recorded	D' 1 (d' ' C '
(The Historical	Energy Imports	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and
RPS Adjustment	(Unspecified) emissions,	results in higher Cap-and-Trade compliance costs for SDG&E and its end-
eligible MWh and	which includes any	use ratepayers.
calculated	applicable RPS	
Emissions for the	Adjustments as	SDG&E derives economic value from this trade secret information being
2016 Compliance	confidential. Knowledge	confidential, as it gives SDG&E an opportunity to obtain a business
Year appear in the	of the MWh makes	advantage over competitors in the Cap-and-Trade market who do not
testimony and in	discovery of the emissions	know or use it.
Attachment G of this Application.)	possible, thus the MWh	
inis Application.)	are also confidential.	
7. 2016 Total	Annual GHG Emissions	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits
Direct	and Associated Costs in	disclosure of any auction-related information, except when the release is
Compliance	Template D-2 of D.14-10-	made by a privately-owned utility to its regulatory agency pursuant to its
Obligation	033 and revised in D.15-	rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources
	01-024, P.U. Code §	Board.
	454.5(g), and GO 66-C	
		Auction-related information also falls under the "Confidential" category
		included in the Confidentiality Protocols of both D.15-01-033 and D.15-
		10-032 (Attachment A and Appendix B respectively).
		Disclosure of this information would place SDG&E at an unfair business
(The 2016 Total		disadvantage relative to other Cap-and-Trade market participants and
Direct Compliance		results in higher Cap-and-Trade compliance costs for SDG&E and its end-
Obligation appears	Template D-2 designates	use ratepayers.
in the testimony	forecasted and recorded	ODCOF 1
and in Attachment	Direct GHG Emissions	SDG&E derives economic value from this trade secret information being
G of this	Subtotal as confidential.	confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not
Application.)		know or use it.
8. 2016 Indirect	Amount CHC Emission	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits
Purchases in	Annual GHG Emissions and Associated Costs in	disclosure of any auction-related information, except when the release is
MWh and	Template D-2 of D.14-10-	made by a privately-owned utility to its regulatory agency pursuant to its
calculated	033 and revised in D.15-	rules, orders or decisions (Section 95914(c)(2)). Violation of Section
Emissions	033 and icvised iii D.13-	95914 may subject SDG&E to penalties by the California Air Resources Board.
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(The 2016 Indirect Purchases in MWh	01-024, P.U. Code § 454.5(g), and GO 66-C Template D-2 designates forecasted and recorded	Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively). Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers.
and calculated Emissions appear	Indirect GHG Emissions as confidential.	SDG&E derives economic value from this trade secret information being
in the testimony and in Attachment G of this Application.)	Knowledge of the MWh makes discovery of the emissions possible, thus the MWh are also confidential.	confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.
9. 2016 Direct GHG Costs	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10-033 and revised in D.15-01-024, P.U. Code §	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board.
	454.5(g), and GO 66-C	Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Direct GHG Costs appear	Template D-2 designates	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers.
in the testimony and in Attachment G of this Application.)	forecasted and recorded Direct GHG Costs as confidential.	SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.
10. 2016 Indirect GHG Costs	Annual GHG Emissions and Associated Costs in Template D-2 of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category
		included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Indirect GHG Costs appear in the testimony and in Attachment G of this	Template D-2 designates forecasted and recorded Indirect GHG Costs as confidential.	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers.
Application.)		SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business

		advantage over competitors in the Cap-and-Trade market who do not know or use it.
11. 2016 GHG Quarterly Auction Revenue	1a. of Attachment A of D.14-10-033 and revised in D.15-01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board.
(The 2016 GHG Quarterly Auction Revenue appear in	1a. makes the following confidential: "AB 32 GHG auction participation." Although Annual Auction Revenues are public, Quarterly Auction Revenues must be confidential since public auction settlement prices and Quarterly Auction Revenues would reveal	Auction-related information also falls under the "Confidential" category included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively). Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers. SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not
the testimony.)	SDG&E's quarterly auction participation as a consigner	know or use it.
12. 2016 Emissions Intensity Forecast	The GHG Confidential Information Matrix in Attachment A of D.14-10- 033 and revised in D.15- 01-024, P.U. Code § 454.5(g), and GO 66-C	17 CCR Section 95914(c)(1) of the Cap-and-Trade regulations prohibits disclosure of any auction-related information, except when the release is made by a privately-owned utility to its regulatory agency pursuant to its rules, orders or decisions (Section 95914(c)(2)). Violation of Section 95914 may subject SDG&E to penalties by the California Air Resources Board. Auction-related information also falls under the "Confidential" category
		included in the Confidentiality Protocols of both D.15-01-033 and D.15-10-032 (Attachment A and Appendix B respectively).
(The 2016 Emissions Intensity Forecast appears in Attachment G of this Application.)	The Matrix makes the following confidential: "Forecast of GHG Emissions Intensity"	Disclosure of this information would place SDG&E at an unfair business disadvantage relative to other Cap-and-Trade market participants and results in higher Cap-and-Trade compliance costs for SDG&E and its enduse ratepayers.
		SDG&E derives economic value from this trade secret information being confidential, as it gives SDG&E an opportunity to obtain a business advantage over competitors in the Cap-and-Trade market who do not know or use it.