

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for authority to update its gas and)
electric revenue requirement and base rates)
effective January 1, 2019 (U 902-M))

Application No. 17-10-____

Exhibit No.: (SDG&E-39-WP)

WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF SCOTT R. WILDER
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

OCTOBER 2017



San Diego Gas and Electric Company
2019 GRC-- APP
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Escalation Factors: Utility Cost Indexes, set to 2016=1.0000, for 2019 GRC Application filing

Data based on Global Insight 1st Quarter 2017 utility cost forecast, released May 2017.
Shared Services and nonlabor O&M weightings are from "GRC_USS_NSS by FERC 2016 for Esc Weights 3-24-17.xls"
Includes actual SDG&E union contract escalations of 3.5% per year in 2009, 2010, and 2011; 2.25% in 2012, 2.5% in 2013, 2.5% in 2014, 2.5% in 2015, 3.0% in 2016, 3.0% in 2017,
3.25% in 2018, 3.25% in 2019).

	Series Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
SDG&E Escalators												
Shared Services	SHSVC_SD	0.9340	0.9507	0.9670	0.9838	1.0000	1.0202	1.0449	1.0706	1.0971	1.1240	1.1508
Operations & Maintenance												
Labor O&M Index	LABOR	0.9152	0.9351	0.9551	0.9768	1.0000	1.0259	1.0566	1.0884	1.1208	1.1539	1.1872
Electric Nonlabor O&M Index	JETOTALMSX_SD	0.9780	0.9897	0.9997	0.9991	1.0000	1.0144	1.0310	1.0506	1.0731	1.0949	1.1165
Gas Nonlabor O&M Index	JGTOTALMSX_SD	0.9614	0.9774	0.9942	0.9936	1.0000	1.0199	1.0374	1.0581	1.0820	1.1050	1.1291
Post-Test-Year GEOMPI		0.9391	0.9561	0.9726	0.9853	1.0000	1.0217	1.0468	1.0738	1.1024	1.1309	1.1598
Capital-Related												
Steam Production Plant	JUEPPF@PCF	0.9038	0.9163	0.9294	0.9718	1.0000	1.0260	1.0548	1.0781	1.1013	1.1244	1.1497
Other Production Plant	JUEPPO@PCF	0.8786	0.9059	0.9365	0.9647	1.0000	1.0362	1.0624	1.0888	1.1172	1.1451	1.1722
Electric Distribution Plant	JUEPD@PCF	0.9017	0.9342	0.9630	0.9863	1.0000	1.0200	1.0446	1.0746	1.1068	1.1403	1.1748
Electric Plant	(calculated)	0.8999	0.9304	0.9580	0.9833	1.0000	1.0218	1.0469	1.0761	1.1072	1.1394	1.1725
Total Gas Plant	JUG@PCF	1.0168	1.0108	1.0219	1.0076	1.0000	1.0362	1.0697	1.1015	1.1319	1.1588	1.1878
Combined Cycle Plant	(calculated)	0.8959	0.9130	0.9316	0.9696	1.0000	1.0292	1.0572	1.0814	1.1062	1.1309	1.1567
Common Plant	(calculated)	0.9340	0.9548	0.9775	0.9908	1.0000	1.0248	1.0514	1.0809	1.1120	1.1429	1.1750
Components from Global Insight												
Labor O&M												
Util Svc Wkrs (with SDG&E union %'s from 2009 through 2019)	CELU4422000008 (adjusted)	0.9016	0.9241	0.9472	0.9709	1.0000	1.0300	1.0635	1.0980	1.1329	1.1666	1.1996
Mgys & Adminstrs	ECIPWMBFNS	0.9102	0.9305	0.9520	0.9756	1.0000	1.0276	1.0562	1.0866	1.1189	1.1527	1.1874
Profsnl & Techncl	ECIPWPARNs	0.9266	0.9448	0.9619	0.9813	1.0000	1.0222	1.0524	1.0832	1.1142	1.1463	1.1792
Nonlabor O&M elec												
Steam Elec Production	JEFOMMS	0.9799	0.9920	0.9995	0.9971	1.0000	1.0200	1.0372	1.0580	1.0837	1.1080	1.1323
Other Elec Production	JEOOMMS	0.9779	0.9902	0.9978	0.9983	1.0000	1.0161	1.0336	1.0534	1.0774	1.1001	1.1227
Elec Distribution	JEDOMMS	1.0016	1.0096	1.0162	1.0081	1.0000	1.0138	1.0280	1.0462	1.0680	1.0890	1.1096
Customer Accounts	JECAOMS	0.9436	0.9670	0.9890	0.9882	1.0000	1.0119	1.0328	1.0569	1.0833	1.1083	1.1345
Customer Svc & Info	JECSIOMS	0.9726	0.9844	0.9981	0.9929	1.0000	1.0095	1.0254	1.0450	1.0672	1.0891	1.1107
Admin & General except 926	JEADGOMMS_X926	0.9521	0.9656	0.9785	0.9906	1.0000	1.0147	1.0334	1.0531	1.0739	1.0947	1.1153
Nonlabor O&M gas												
Gas Transmission	JGTONMS	0.9717	0.9863	1.0036	0.9972	1.0000	1.0249	1.0405	1.0607	1.0864	1.1108	1.1365
Gas Distribution	JGDONMS	0.9707	0.9887	1.0095	0.9970	1.0000	1.0272	1.0431	1.0646	1.0914	1.1164	1.1441
Customer Accounts	JGCAOMS	0.9459	0.9684	0.9895	0.9886	1.0000	1.0116	1.0320	1.0556	1.0814	1.1059	1.1316
Customer Svc & Info	JGCSIOMS	0.9753	0.9877	1.0008	0.9946	1.0000	1.0080	1.0224	1.0402	1.0604	1.0800	1.0995
Admin & General except 926	JGADGOMMS_X926	0.9517	0.9649	0.9766	0.9906	1.0000	1.0150	1.0341	1.0537	1.0742	1.0947	1.1148
Utility Plant Construction Cost Indexes, Pacific Region												
Steam Production Plant	JUEPPF@PCF	0.9038	0.9163	0.9294	0.9718	1.0000	1.0260	1.0548	1.0781	1.1013	1.1244	1.1497
Other Production Plant	JUEPPO@PCF	0.8786	0.9059	0.9365	0.9647	1.0000	1.0362	1.0624	1.0888	1.1172	1.1451	1.1722
Electric Transmission Plant	JUEPD@PCF	0.9254	0.9430	0.9595	0.9794	1.0000	1.0258	1.0476	1.0706	1.0976	1.1244	1.1512
Electric Distribution Plant	JUEPD@PCF	0.9017	0.9342	0.9630	0.9863	1.0000	1.0200	1.0446	1.0746	1.1068	1.1403	1.1748
Total Gas Plant	JUG@PCF	1.0168	1.0108	1.0219	1.0076	1.0000	1.0362	1.0697	1.1015	1.1319	1.1588	1.1878

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Removing Pensions & Benefits Component from Non-Labor O&M Cost Indexes					
from IHS/Markit Global Insight 2017q1 Utility Cost Forecast (published May 2017)					
JE[G]ADG926MS=	O&M Cost Index, Pensions and Benefits (same for gas and electric)				
JGADGOMMS=	A&G Non-Labor O&M cost index, gas utilities (X926=without P&B costs)				
JEADGOMMS=	A&G Non-Labor O&M cost index, electric utilities (X926=without P&B costs)				
0.188 and 0.397 weights are per IHS/Markit Global Insights's John Bauman 5-2-17 email.					
		JE[G]ADG926MS wt. =.188	JE[G]ADG926MS wt. =.397	w/o JE[G]ADG926MS	w/o JE[G]ADG926MS
<u>2016=1.0000</u>	<u>JE[G]ADG926MS</u>	<u>JGADGOMMS</u>	<u>JEADGOMMS</u>	<u>JGADGOMMS X926</u>	<u>JEADGOMMS X926</u>
2012	0.9023	0.9424	0.9323	0.9517	0.9521
2013	0.9266	0.9577	0.9501	0.9649	0.9656
2014	0.9491	0.9714	0.9668	0.9766	0.9785
2015	0.9740	0.9875	0.9840	0.9906	0.9906
2016	1.0000	1.0000	1.0000	1.0000	1.0000
2017	1.0319	1.0182	1.0215	1.0150	1.0147
2018	1.0688	1.0407	1.0475	1.0341	1.0334
2019	1.1091	1.0641	1.0754	1.0537	1.0531
2020	1.1511	1.0886	1.1045	1.0742	1.0739
2021	1.1934	1.1133	1.1339	1.0947	1.0947
2022	1.2377	1.1379	1.1639	1.1148	1.1153

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SDG&E Escalation Component Weightings (from actual 2016 O&M expenses)					
GEOMPI	<i>SDG&E Non-Shared Services: Non-Labor O&M</i>				Global Insight-based
Weights w/ Labor	Weighting	\$	FERC Accts	Description	Series Name
59.78%		\$238,457,020		<u>Labor (Elec+Gas)</u>	
				<u>Electric</u>	
	5.69%	\$7,317,140	500-514	Steam Elec Production	JEFOMMS
	15.92%	\$20,476,940	546-554	Other Elec Production	JEOMMS
	40.23%	\$51,726,877	580-598	Elec Distribution	JEDOMMS
	7.98%	\$10,267,307	901-905	Customer Accounts	JECAOMS
	4.69%	\$6,025,154	907-910	Customer Svc & Info	JECIOMS
	<u>25.49%</u>	<u>\$32,774,365</u>	920-935 x926	Admin & General except 926	JEADGOMMS_X926
32.24%	100.00%	\$128,587,784		ELEC NON-LABOR TOTAL	
				<u>Gas</u>	
	12.14%	\$3,862,307	850-867	Gas Transmission	JGTOMMS
	36.03%	\$11,460,052	870-894	Gas Distribution	JGDOMMS
	10.51%	\$3,344,288	901-905	Customer Accounts	JGCAOMS
	4.43%	\$1,408,069	907-910	Customer Svc & Info	JGCSIOMS
	<u>36.89%</u>	<u>\$11,735,354</u>	920-935 x926	Admin & General except 926	JGADGOMMS_X926
7.98%	100.00%	\$31,810,071		GAS NON-LABOR TOTAL	
	<i>SDG&E Shared Services O&M</i>				Global Insight-based
	Weighting	\$	FERC Accts	Description	Series Name
	49.42%	\$44,850,367		<u>Labor</u>	---
				<u>Non-Labor</u>	
	0.00%	\$0	500-514	Steam Elec Production	JEFOMMS
	0.33%	\$297,387	580-598	Elec Distribution	JEDOMMS
	0.00%	\$2,000	850-867	Gas Transmission	JGTOMMS
	0.00%	\$1,096	870-894	Gas Distribution	JGDOMMS
	0.44%	\$395,175	901-905	Customer Accounts (elec)	JECAOMS
	0.15%	\$131,725	901-905	Customer Accounts (gas)	JGCAOMS
	0.30%	\$272,582	907-910	Customer Svc & Info (elec)	JECIOMS
	0.11%	\$99,948	907-910	Customer Svc & Info (gas)	JGCSIOMS
	36.90%	\$33,486,604	920-935 x926	Admin & General except 926 (elec)	JEADGOMMS_X926
	<u>12.35%</u>	<u>\$11,208,378</u>	920-935 x926	Admin & General except 926 (gas)	JGADGOMMS_X926
	100.00%	\$90,745,261	---	TOTAL	---

Source: file "GRC_USS_NSS by FERC 2016 for Esc Weights 03-24-17.xlsx"; from GRC and Revenue Requirements Dept.

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O&M Labor Component Weightings: based on actual 2016 SDG&E labor earnings					
<u>Job Area</u>	<u>SDG&E Categories</u>	<u>Weights</u>	<u>SDG&E 2016 \$</u>	<u>Global Insight Description</u>	<u>Global Insight series</u>
Union	Union	29.400%	\$ 151,971,346.80	(U)ilfty Svc Wkrs)	CEU4422000008
Supervisory	Exec & MgmtSup	24.879%	\$ 128,600,220.84	(M)grs & Adminstrs)	ECIPWMBFNS
NonUnion NonSup	Mgmtnt & Associate	45.721%	\$ 236,333,429.26	(Prof)snl & Techncl)	ECIPWPARNs

Source: Compensation & Benefits Dept. (2016 earnings by job function)

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SDG&E Combined Cycle Plant Component Weightings				
(Palomar Generating Facility)				
	<u>CoCd</u>	<u>Class</u>	<u>Description</u>	<u>Acq.value</u>
	2100	E0131010	Land	\$14,480,000
	2100	E0131100	Struct. and Improv.	\$57,518,450
	2100	E0131200	Boiler Plant Equip.	\$106,539,244
	2100	E0131400	Turbogenerator Units	\$96,278,246
	2100	E0131500	Accessory Elect. Eq.	\$37,179,442
	2100	E0131600	Misc. Power Plnt Eq.	\$31,067,209
	2100	E0134100	Struct. and Improv.	\$14,011,464
	2100	E0134200	Fuel Holders, P & A	\$13,937,545
	2100	E0134400	Generators	\$171,365,461
	2100	E0134500	Accessory Elect. Eq.	\$6,532,254
	2100	*	San Diego Gas & Electric	\$548,909,314
Weightings for Combined Cycle Escalation				
Steam Prod.				0.688
Other Prod.	2100	E0134400	Generators	0.312
				\$377,543,853
				\$171,365,461
Source: Accounting Operations, file "To Scott Wilder PA Detail.xlsx", 3-12-2014				