

**SOUTHERN CALIFORNIA GAS COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY
2016 TCAP Phase 1**

4/3/2015

**Workpapers to the Prepared Supplemental Testimony
of Steve Watson**

	<u>Bcf</u>		<u>MMcfd</u>	
		Withdrawal	Injection 2016	Injection 2017-2019
Total	138.1	3,175	770	915
Balancing	5.1	525	200	345
Core	83	2,225	388	388
Unbundled	50	425	182	182

TABLE 1

	Injection	Inventory	Withdrawal	Total Storage
Storage Service	33%	33%	33%	100%

Table 2

2016 Storage Embedded Cost Allocation Based on Firm Rights

	Allocation Volume	Total	Units	Costs(\$MM)
Core Reservation				
Inventory	83	138	Bcf	\$ 19.3
Injection	388	770	MMcfd	\$ 16.2
Withdrawal	2,225	3,175	MMcfd	\$ 22.5
Total Core				<u>\$ 57.90</u>
Load Balancing				
Inventory	5.1	138	Bcf	\$ 1.2
Injection	200	770	MMcfd	\$ 8.3
Withdrawal	525	3,175	MMcfd	\$ 5.3
Total Load Balancing				<u>\$ 14.81</u>
Unbundled Storage				
Inventory	50.0	138	Bcf	\$ 11.6
Injection	182	770	MMcfd	\$ 7.6
Withdrawal	425	3,175	MMcfd	\$ 4.3
Total Unbundled Storage				<u>\$ 23.48</u>
Total Storage Cost				<u><u>\$ 96.19</u></u>
BTU Factor		1.0235		

TABLE 1

	Injection	Inventory	Withdrawal	Total Storage
Storage Service	33%	33%	33%	100%

Table 2

2017-19 Storage Embedded Cost Allocation Based on Firm Rights

	Allocation Volume	Total	Units	Costs(\$MM)
Core Reservation				
Inventory	83	138	Bcf	\$ 22.2
Injection	388	915	MMcfd	\$ 15.6
Withdrawal	2,225	3,175	MMcfd	\$ 25.8
Total Core				<u>\$ 63.62</u>
Load Balancing				
Inventory	5.1	138	Bcf	\$ 1.4
Injection	345	915	MMcfd	\$ 13.9
Withdrawal	525	3,175	MMcfd	\$ 6.1
Total Load Balancing				<u>\$ 21.36</u>
Unbundled Storage				
Inventory	50.0	138	Bcf	\$ 13.3
Injection	182	915	MMcfd	\$ 7.3
Withdrawal	425	3,175	MMcfd	\$ 4.9
Total Unbundled Storage				<u>\$ 25.61</u>
Total Storage Cost				<u>\$ 110.58</u>
BTU Factor		1.0235		

Table 4: Costs By Function

	<u>2016</u>		<u>2017-19</u>	
	<u>(\$MM)</u>	<u>(\$MM)</u>	<u>(\$MM)</u>	<u>(\$MM)</u>
	S. Watson's 2016		S. Watson's 2016	
	TCAP Phase 1 Direct	Status Quo	TCAP Phase 1 Direct	Status Quo
	Testimony		Testimony	Status Quo
Core	59.64	57.90	65.73	63.62
Balancing	21.11	14.81	27.83	21.35
Unbundled storage	15.44	23.48	17.02	25.61
	<u>96.19</u>	<u>96.19</u>	<u>110.58</u>	<u>110.58</u>