

**ORA DATA REQUEST  
ORA-SDGE-172-TCR  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: APRIL 9, 2018  
DATE RESPONDED: MAY 17, 2018**

**Exhibit Reference:** SDG&E-14-R and SDG&E-15-R

**SDG&E Witness:** Alan F. Colton and William H. Speer

**Subject:** Capital Projects with O&M Expenses

**Please provide the following:**

1. Regarding 4 kV Modernization, BC 626, Ex. SDG&E-15-R, p. WHS-53, states “The O&M component of this capital project was estimated at 5%. The O&M to capital split is based off of actuals from similar projects SDG&E has completed.” Regarding this project:

- a. Provide the accounting codes used by SDG&E staff to record time spent working on the capital portion of 4 kV Modernization work in a substation.
- b. Provide the accounting codes used by SDG&E staff to record time spent working on the O&M portion of 4 kV Modernization work in a substation.
- c. Provide the accounting codes used by SDG&E staff to record time spent working on the capital portion of 4 kV Modernization work on a distribution circuit.
- d. Provide the accounting codes used by SDG&E staff to record time spent working on the O&M portion of 4 kV Modernization work on a distribution circuit.
- e. Explain why 4 kV modernization projects have an O&M component.
- f. Provide a list of all tasks or materials that are classified as O&M in 4 kV modernization projects.
- g. Explain how SDG&E staff are informed which work to record as capital versus O&M.
- h. Provide the project cost data used by SDG&E to determine the 5% O&M to capital split.
- i. Explain why the evaluation in subpart h above is applicable to future 4 kV modernization work, and provide supporting data and analyses if available.

**SDG&E Response 01:**

- a. Capital Budget Code 17269 is being used for 4kV Modernization. Specific Work Orders have not yet been created.
- b. The Capital Budget Code 17269 being used for 4kV Modernization will, in accounting reconciliation, allocate a fraction of costs to O&M to be determined by the work order profile for that activity. Specific Work Orders have not yet been created.

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**SDG&E Response 01:-Continued**

Similar projects have used O&M accounts FE58300 (overhead line expenses), FE58400 (underground line expenses) and FE59400 (maintenance of lines.)

- c. Capital Budget Code 17269 is being used for 4kV Modernization. Specific Work Orders have not yet been created.
- d. The Capital Budget Code 17269 being used for 4kV Modernization will, in accounting reconciliation, allocate a fraction of costs to O&M to be determined by the work order profile for that activity. Specific Work Orders have not yet been created. Similar projects have used O&M accounts FE58300 (overhead line expenses), FE58400 (underground line expenses) and FE59400 (maintenance of lines.)
- e. 4kV Modernization efforts that will address overhead systems include O&M costs associated with minor units of property with their associated construction labor. In addition to minor units of property, underground 4kV to 12 kV cutover projects include the additional O&M expense of adjusting existing 4kV transformer tap settings to the required 12 kV setting.
- f. An example of the tasks that may be associated with 4kV modernization projects is listed below. The O&M component of these tasks will include minor units of property associated with the construction labor.

LOC TAGS	WRK F-C	MU ID	AU ID	DESCRIPTION/CONSTRUCTION NOTES	QTY RQD	WRK UM	MTL RSP	TIM RSP	STANDARD TRT	PAGE	CREW TYPE	EST HRS
001 12.0	I-N		3426B0	PAD 3426 3-PHASE TRANSFORMER	3	EA	U	U	S	3426.1	BOOMT	
											3-AF4	
1.2	I-N		131-260-1G									
	I-N		3313-B	HANDHOLE 3313 BASE 18" SECTION	3	EA	U	U	S	3313	BOOMT	9.0
											3-AF4	1.5
	I-N		1-3SLB	1-3 IN DB 90 D 36 IN R BEND SLURRY ENC	6	EA	U	U	S	3373.2	3-WF3	0.3
	I-N		REG600	REGULATOR 1 PHASE PAD-MOUNT 600 AMP	3	EA	U	U	S		2WF3	0.7
	I-N	CC--T9		CONN CONFIG 600A T9 (SWI)	6	EA	U	U	S	4181.16	2WF3	3.0
	I-N		TG-E-R	TRENCH GRD WIRE W/RODS (EQUIP/SWI/HH)	3	EA	U	U	S	4510.2	3SWF3	0.6
	I-N		1"PE	1 IN POLYETHYLENE CONDUIT	38	FT	U	U	S	3373.1	3-WF3	0.3
	I-N		1EB3SL	1-3 IN EB CONDUIT SLURRY ENCASED	124	FT	U	U	S	3376.1	3-WF3	1.7
	I-N		1-3SLC	1-3 IN DB 11.25 D 25 FT R SLURRY ENC	6	EA	U	U	S	3372.2	3-WF3	0.5
	I-N		P-1000	CABLE AL PECN-PEJ 3-1/C 1000 UN-TPLX	165	FT	U	U	S	4002.2	2WF3	4.5
											CADOL	1.5
											0-CAB	1.5
	I-N		GR-MAT	GROUND MAT (PER LOCATION) I & R	3	EA	U	U	S		2WF3	0.6
	I-N		PER-GR	PERSONAL GROUNDS (PER PHASE) I & R	3	EA	U	U	S		2WF3	0.5
	I-N		HI-POT	HIGH POT CABLE (PER PHASE)	6	EA	U	U	S		2WF3	2.4
	I-N		PHAZ-C	PHASE CABLE (PER PHASE)	3	EA	U	U	S		2WF3	0.8



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**SDG&E Response 01:-Continued**

											C-BH	
5.0 131-11												
I-N	TG-E-W	TRENCH GRD WIRE W/O RODS (EQUIP/SWI/HH)	2	EA	U	U	S	4510.1	3SWF3	0.4		
I-N	GDWIRE	GROUND WIRE 2-7 STR CU	2	EA	U	U	S	4512.5	3-AF4	0.6		
I-N	4-5SLB	4-5 IN DB 90 D 36 IN R BEND SLURRY ENC	2	EA	U	U	S	3373.2	3-WF3	0.4		
I-N	1-3SLB	1-3 IN DB 90 D 36 IN R BEND SLURRY ENC	2	EA	U	U	S	3373.2	3-WF3	0.1		
I-N	PME-10	SWI AIR BREAK DF 600A 4WAY	2	EA	U	U	S		2WF3	1.0		
I-N	CC-P90	CONN CONFIG 600A P90 (SWI)	24	EA	U	U	S	4181.20	2WF3	12.4		
I-N	OP-SWI	OPERATE UG SWITCH (PER OPERATION)	4	EA	U	U	S		2WF3	2.0		
-----DP001EML-REMOTE50-001											SAN DIEGO GAS AND ELECTRIC	
PAGE NO 5												
09/13/13 09:17											DPSS - DESIGN REVIEW COPY - SUMMARY	
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PROJECT: 357832 JOB:01 REV:0 TYPE: UD NAME: EDP DESIGN COST ESTIMATING UG STATUS: ACT												
WORK ORDER:												
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DESIGN: 27 NAME: VOLTAGE REG PADMNT 3 PH SET STATUS: ACT												
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WRK	F-C	MU ID	AU ID	DESCRIPTION/CONSTRUCTION NOTES	QTY	WRK	MTL	TIM	STANDARD	CREW	EST	
					RQD	UM	RSP	RSP	TRT	PAGE	TYPE	HRS
TAGS												
I-N				PHASE CABLE (PER PHASE)	24	EA	U	U	S		2WF3	6.0
I-N				HIGH POT CABLE (PER PHASE)	24	EA	U	U	S		2WF3	9.6

- g. SDG&E’s capitalization policy determines that new additions of plant, property and equipment that have a useful life of more than one year are to be capitalized. New additions include any costs incurred to construct, install and/or prepare plant, property, and equipment for its intended use. The purpose of capitalizing these costs (as opposed to charging them to operation and maintenance (O&M) expense) is to allocate (depreciate or amortize) the total costs over the life of the capital asset. SDG&E determines whether projects are capital or O&M at the beginning of a project according to the capitalization policy, and time and material charged to the project work order is based on the work order profile for that activity.
- h. Overhead 4kV modernization work is estimated to incur 3% O&M costs associated with minor units of property, which are not individually identified capital assets but on which work must be performed in completion of the project. This includes such work as reconfiguring existing conduit and spreading of existing overhead conductors. For underground 4kV modernization work, up to 7% O&M expenses may be incurred due the additional need for field labor to adjust existing 4kV transformer tap settings to the required 12kV setting. Combining overhead and underground cutover activities, SDG&E estimates an average of 5% O&M for the total program

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**SDG&E Response 01:-Continued**

- i. The evaluation above is applicable to future work as these tasks such as pole replacements, cable replacement, and transformer installation are repeatable tasks that SDG&E has been performing regularly for many years.

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2. Regarding Distribution Circuit Reliability Construction, BC 93240, and specifically bridged cutout switch replacements, Ex. SDG&E-15-CWP, p. 35 indicates that cost per switch of \$40,000, 90% of which is capital and 10% of which is O&M expense. Regarding this project:

- a. Is it correct that SDG&E's O&M forecast assumes that a switch costs \$40,000, and that 10% of the cost is considered O&M? If not, please explain.
- b. Describe a bridged cutout switch in terms of its normal function(s) and location(s) in the distribution system.
- c. Describe the known issues with bridged cutout switches that are leading SDG&E to replace them, and provide supporting data and analyses if available.
- d. Provide the number of bridged cutout switches SDG&E has replaced to date.
- e. Provide the number of bridged cutout switches SDG&E plans to replace.
- f. Provide the number of bridged cutout switches SDG&E does not plan to replace.
- g. Provide the accounting codes used by SDG&E staff to record time spent working on the capital portion of bridged cutout switch replacement projects.
- h. Provide the accounting codes used by SDG&E staff to record time spent working on the O&M portion of bridged cutout switch replacement projects.
- i. Explain why bridged cutout switch replacement projects have an O&M component.
- j. Provide a list of all tasks or materials that are classified as O&M in bridged cutout switch replacement projects.
- k. Explain how SDG&E staff are informed which work to record as capital versus O&M.
- l. Provide the project cost data used by SDG&E to determine the O&M to capital split, consistent with SDG&E's response to subpart a above.
- m. Explain why the evaluation in subpart l above is applicable to future bridged cutout switch replacements, and provide supporting data and analyses if available.

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**SDG&E Response 02:**

- a. The \$40,000 cost is inclusive of the cost of the switch as well as the labor required to install the switch. 10% of this total cost is considered O&M.
- b. Bridged cutout switches are used as an isolating device in lieu of a fused cutout switch. The fuse is omitted for purposes of coordinating with upstream relaying devices. They are placed on the circuit to improve reliability by limiting the number of customers affected by a fault on the circuit.
- c. Cutout switches are bridged (fuses are removed and replaced with a solid blade) when the fuse is unable to properly coordinate with other relaying devices (e.g. fault interrupting switches) on the circuit. This results in increased outage exposure for the customers downstream of these devices. Over time, these switches experience aging, particularly in high-corrosion areas. In order to prevent failures, unnecessary delays in outage restoration, and to improve sectionalizing opportunities across the system (outage resilience), SDG&E seeks to strategically replace the highest risk bridged cutout switches over the next several years.
- d. No bridged cutout switches have yet been replaced as part of this program.
- e. SDG&E plans to replace 1,572 bridged cutout switches.
- f. SDG&E does not plan to replace 524 bridged cutout switches.
- g. Bridged cutout switch replacements will be part of Capital Budget Code 17261. No specific work orders have been created.
- h. Bridged cutout switch replacements will be part of Budget Code 17261, which will, in accounting reconciliation, allocate a fraction of costs to O&M to be determined by the work order profile for that activity. No specific work orders have been created.
- i. O&M costs associated with bridged cutout switch replacements will include minor units of property associated with the construction labor.
- j. An example of the tasks that may be associated with bridged cutout switch replacements is listed below. The O&M component of these tasks will include minor units of property associated with the construction labor.

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|WRK|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
LOC|F-C|MU ID|AU ID |      |      |      |      |      |      |      |      |      |      |      |      |
TAGS
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
001|I-N|      |DS-SUB| ELECT TRBLMAN/ASST SUBSTATION SWITCHING |      | 2|EA| U | U | S |      |      |      |      |      |      |      |
0.6|P110008
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|239-T1-630
|I-N|      |COVER | PROTECTIVE COVERUP-PER VOLT LEVEL-TO 3/0 |      | 1|EA| U | U | S |      |      |      |      |      |      |
0.4|630-1R
  
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**SDG&E Response 02:-Continued**

I-N	MDPOLE	MACHINE DIG POLE HOLE - HWY DIGGER	1	EA	U	U	S		1-MD2	1.2
I-N	SP2	SET POLE 45 THRU 55	1	EA	U	U	S		1-WF4	0.5
I-N	50'1SW	50'1 STEEL POLE WEATHERING	1	EA	U	U	S	354.4		
I-N	6ADF	CROSSARM, 12FT, 6 POSITION D.E.A FIBERGL	2	EA	U	U	S	380	1-WF4	0.6
I-N	6DE	6-12KV DE NON-PORCELAIN	1	EA	U	U	S	750.4	1-WF4	0.6
I-N	IPCNI	INSUL POLY CLAMP TOP, NYLON JAW 1" PIN	3	EA	U	U	S	750.2		
I-N	CWA636	WIRE, 636 STR., POLYETHYLENE COVERED	30	FT	U	U	S	719		
I-N	DE636	636 ACSR DE STRAIN CLAMP	6	EA	U	U	S	741		
I-N	WC636	W/C 636 AL TO 636	6	EA	U	U	S	784	1-WF4	1.2
I-N	WCS636	WEDGE CONNECTOR STIRRUP FOR #636 ACSR	3	EA	U	U	S	788	1-WF4	0.6
I-N	LCH	LARGE CONNECTOR LABOR - HOT	9	EA	U	U	S		1-WF4	1.8
I-N	CT500C	500 CU COMPRESSION TERMINAL	6	EA	U	U	S	795		
I-N	SRNOVA (EXPL)	630A NOVA SERVICE RESTORER - FORM 6	1	EA			S	1271	1-WF4	8.7
	BOND8	#8 BOND CU	30	FT	U		S	715	1-EM2	22.0
	BSHCOV	BUSHING COVERS (2) TRANSFORMER -HOT/COLD	1	EA	U		S	1630		
	BS4	#4 B.STR	10	FT	U		S	715		
	D900	900 AMP HOOK STICK HS SWI	6	EA	U		S	1442		
	FLEX1	FLEXABLE CONDUIT 1 INCH	6	FT	U		S	1271		
	ILDSW	IN-LINE HOOKSTICK HS DISC SWI 600A	3	EA	U		S	1218		
	LA12	12KV LIGHTNING ARRESTER W/COVER	6	EA	U		S	1247		
	NOVASR	630A NOVA SERVICE RESTORER - FORM 6	1	EA	U		S	1271		
	POLY4	#4 POLYETHYLENE COVER COPPER WIRE	110	FT	U		S	1630		
	PTBRKT	SERVICE RESTORER P/T MOUNTING BRACKET	1	EA	U		S	1271		
	PVC-1+	1 1/2" X 10' SCHED 40 PVC	2	EA	U		S	614.2		
	PVC3/4	3/4" X 10' SCHED 40 PVC	3	EA	U		S	1330.3		
	SRPT	SERVICE RESTORER POTENTIAL TRANSFORMER	1	EA	U		S	1271		
	TESTRC	TEST AND ENERGIZE OH SERVICE RESTORER	1	EA	U		S			
	THW12	#12 THW - BLACK	40	FT	U		S	716		
	THW12W	#12 THW - WHITE	40	FT	U		S			
	VSTRIP	VISIBILITY STRIP/DELINEATOR - NAIL ON	1	SE	U		S	217		

-----DP001EML-REMOTE50-001 SAN DIEGO GAS AND ELECTRIC  
 PAGE NO 4  
 10/15/13 10:43 DPSS - DESIGN REVIEW COPY - SUMMARY

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 PROJECT: 357832 JOB:02 REV:0 TYPE: OD NAME: EDP DESIGN COST ESTIMATING OH STATUS: ACT  
 WORK ORDER:  
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 DESIGN: 09 NAME: SR 630A NOVA W/SCADA 12KV STATUS: ACT  
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WRK	LOC	F-C	MU ID	AU ID	DESCRIPTION/CONSTRUCTION NOTES	QTY	WRK	MTL	TIM	STANDARD	CREW	EST	
						RQD	UM	RSP	RSP	TRT	PAGE	TYPE	HRS
					1UMOLD	U-MOULDING-OVERHEAD SERVICE RESTORER	4	EA	U		S	1271	
					12COAS	1-12' COA W/36" STRAP BRACES	1	EA	U		S	380.2	
					2S	1-2S	1	EA	U		S	380.2	
I-N				TJL	TEMPORARY JUMPERS - WIRE 4/0 & ABOVE	3	EA	U	U	S		1-WF4	0.6
I-N				O/C-CO	OPEN & CLOSE CUTOUPS 4KV & 12KV	6	SE	U	U	S		1-WF4	0.6
I-N				LN-S/E	LANE CLOSURE STREET - STA/EQUIP 400 FT	1	EA	U	U	S		3-T2L	1.0
I-N				WF4SWI	WF-4 MECH/CREW SWITCHES & CUTOUPS	4	HR	U	U	S		1-WF4	4.0
I-N				STA-HR	WF-3 HI-RANGER/ASST STATION MATERIAL	4	HR	U	U	S		1-WF3	4.0
I-N				DE12LH	TEMP DEADEND LABOR 12KV 4/0 & ABOVE HOT	6	EA	U	U	S		1-WF4	4.8



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**SDG&E Response 02:-Continued**

I - N	J12LH	JUMPER LABOR - 12KV 4/0 & ABOVE HOT		3   EA   U   U   S	1 - WF4	0.9
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- k. SDG&E’s capitalization policy determines that new additions of plant, property and equipment that have a useful life of more than one year are to be capitalized. New additions include any costs incurred to construct, install and/or prepare plant, property, and equipment for its intended use. The purpose of capitalizing these costs (as opposed to charging them to operation and maintenance (O&M) expense) is to allocate (depreciate or amortize) the total costs over the life of the capital asset. SDG&E determines whether projects are capital or O&M at the beginning of a project according to the capitalization policy, and time and material charged to the project work order is based on the work order profile for that activity.
- l. The \$40,000 cost is inclusive of the cost of the switch as well as the labor required to install the switch. This includes approximately \$26,000 for the cost of the switch and \$14,000 for labor to install the switch, of which \$4,000 is considered O&M.
- m. The evaluation above is applicable to future work as these tasks are repeatable and similar to other tasks that SDG&E has been performing regularly.