SCE TEST YEAR 2018 GENERAL RATE CASE APPLICATION
A.16-09-001

TURN CROSS-EXAMINATION EXHIBIT TURN-136

Excerpts of Responses to Data Request TURN-16

Regarding Infrastructure Replacement

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 02.b:

2. In Table III-4 on page 17 of SCE-02, Vol. 8, SCE has the historical and forecast spend under the Worst Circuit Rehabilitation/Cable Replacement Programs.

    b. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 02.b:

SCE addresses the reasonableness, including quantities and qualitative benefits, of the WCR program in the testimony of SCE-02, Vol. 8 on pages 5 and 13-27.

See response to TURN-SCE-016-Q1 for discussion regarding 2014 authorized amounts.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 03.b:

3. In Table III-7 on page 31 of SCE-02, Vol. 8, SCE has the historical and forecast spending for CIC Testing and Injection, with separate amounts listed for cable testing and cable injection.

   b. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized for cable testing, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 03.b:

As shown in Figure I-1 on page 5 of testimony and workpaper page 19, SCE recorded less than authorized for this program in 2015. SCE addresses the reasonableness of the Cable Life Extension program in testimony at SCE-02, Volume 8 on pages 5 and 27-36.

See response to TURN-SCE-016-Q1 for discussion regarding 2014 authorized amounts.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 03.c:

3. In Table III-7 on page 31 of SCE-02, Vol. 8, SCE has the historical and forecast spending for CIC Testing and Injection, with separate amounts listed for cable testing and cable injection.

c. For 2014 and 2015, please provide the amount that SCE forecasted for each year in its 2015 test year GRC for cable injection, and (if different) the amount the Commission authorized for each year in D.15-11-021.

Response to Question 03.c:

As discussed in SCE-02, Volume 8 on pages 30-31, cable injection is a new technique identified after the 2015 GRC application, and therefore was not included in the Test Year 2015 GRC.

Southern California Edison
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DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 03.d:

3. In Table III-7 on page 31 of SCE-02, Vol. 8, SCE has the historical and forecast spending for CIC Testing and Injection, with separate amounts listed for cable testing and cable injection.

   d. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized for cable injection, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 03.d:

See responses to TURN-SCE-016-Q 3b and 3c.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 04.a:

4. In Table III-12 on page 49 of SCE-02, Vol. 8, SCE has the historical and forecast spending for the Overhead Conductor Program.

    a. Please identify by page and line number where in SCE's testimony and workpapers the utility explains the reasonableness of its forecast of 320 circuit-miles in 2016, and 300 circuit-miles in each year from 2017-2020.

Response to Question 04.a:

As of 2014, SCE had approximately 16,000 circuit miles of small conductor (which met standards at the time of installation) that does not meet current design standards. Small conductor is at higher risk of being damaged during faults. At a replacement rate of approximately 300 miles per year, it would take approximately 53 years to replace all small conduction on SCE's system.

Given other necessary work that utilizes the same resources and can occur in the same geographic area, SCE believes that our request of 320 miles in 2016 and 300 annually from 2017-2020 is reasonable and justified. This annual level of work balances costs, resources, and impacts to customers, while SCE's prioritization of scope selection maximizes the impact of annual OCP work. SCE's OCP testimony in SCE02, Volume 8 on pages 47-52 discusses the justification of the program and how scope is selected and prioritized.

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DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 04.c:

4. In Table III-12 on page 49 of SCE-02, Vol. 8, SCE has the historical and forecast spending for the Overhead Conductor Program.

    c. Please explain in detail why the workpapers for SCE-02, Vol. 8 (at page 97) show 5 units as the total count for 2015, while Table III-12 of the testimony shows 74 units as the recorded figure for 2015.

Response to Question 04.c:

At the time SCE performed the unit costs analysis, only work orders for 5 out of the 74 miles were closed. Since costs can span multiple years, simply taking the annual expenditures and dividing by the total miles would not provide an accurate unit cost. Using closed work orders ensures that all costs of the project are captured in the unit cost analysis. This is why SCE uses the methodology of using closed work orders to accurately capture unit costs.

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DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 04.e:

4. In Table III-12 on page 49 of SCE-02, Vol. 8, SCE has the historical and forecast spending for the Overhead Conductor Program.

    e. For the amount SCE recorded in 2015 for the Overhead Conductor Program, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 04.e:

SCE addresses the reasonableness of the OCP program in the testimony at SCE-02, Volume 8 on pages 47-51; SCE-02, Vol. 1 on pages 43-44; and SCE-02, Vol. 1 Appendix on pages 5-15.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 04.f:

4. In Table III-12 on page 49 of SCE-02, Vol. 8, SCE has the historical and forecast spending for the Overhead Conductor Program.

    f. In footnote 31 on page 47 of the testimony, SCE refers to the appendix of SCE-02, Vol. 1 as support for the statement, "In 2014, we started safety and reliability risk analysis, which demonstrated the safety risk of electrocution caused by energized wire down events is considerable relative to other system risks." Please identify by page and line number each portion of the appendix that SCE is citing as support for this statement.

Response to Question 04.f:

Section B.1. entitled "Overhead Conductor" that starts on page 5 of SCE-02, Volume 1, Appendix to Operational Overview and Risk-Informed Decision Making describes the risk analysis related to OCP. Specifically, Table I-3 on page 7 in this appendix summarizes the Current Residual Risk (CRR) scores for OCP. The Safety CRR of 625,000 for Overhead Conductor Down leading to injury, as shown in Table I-3, is relatively high compared to other system risks for wire down events.

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DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 05.b:

5. In Table III-14 on page 53 of SCE-02, Vol. 8, SCE has the historical and forecast spending for underground oil switch replacements.

    b. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized for underground oil switch replacements, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 05.b:

SCE addresses the reasonableness, including quantities and qualitative benefits, of the Underground Oil Switch Replacement program in the testimony at SCE-02, Volume 8 on pages 5 and 52-57.

See response to TURN-SCE-016-Q1 for discussion regarding 2014 authorized amounts.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 06.c:

6. In Table III-15 on page 58 of SCE-02, Vol. 8, SCE has the historical and forecast spending for capacitor bank replacement.`

    c. Please provide the unit cost used as the basis of SCE's forecast for capacitor bank replacement for 2015 in the 2015 GRC (A.13-11-003). If that unit cost is lower than the unit cost of $47,128 for 2015 as set forth at page 107 of SCE's 2018 GRC workpapers, please identify each place where SCE's 2018 GRC testimony and workpapers demonstrates the reasonableness of the 2015 unit cost set forth in the workpapers.

Response to Question 06.c:

The unit cost for capacitor bank replace for 2015 in the 2015 GRC was forecast to be approximately $38k compared to recorded unit cost of approximately $47k for 2015 in SCE's 2018 GRC. Below is an explanation of the major driver for the increase.

The capacitor bank program involves replacing both underground and overhead capacitor banks. The cost to replace underground capacitor banks is much higher than the cost to replace overhead capacitor banks. For example, in 2015 the cost to replace an underground capacitor bank was approximately $90k compared to approximately $35k for an overhead capacitor bank replacement. Since underground replacement costs are much higher, the mix of replacements impacts the overall unit cost.

As shown in the table below, the percentage of overhead and underground dollars that contribute to the unit cost by year are calculated. Based on these results, the 2011-2014 average shows a 76% contribution from overhead and 24% contribution from underground. In comparison, the 2015 unit cost was based on 58% overhead contribution and 42% underground contribution. Based on the information discussed above, 2015 resulted in a higher unit cost compared to previous years because more work was performed on the underground equipment.

Replacement Counts

	2011	2012	2013	2014	2015
Overhead	220	164	288	214	113
Underground	33	38	20	39	32
Total	253	202	308	253	145

Expenditures (2015 Constant $)

	2011	2012	2013	2014	2015
Overhead	$5,662,656	$4,857,549	$7,467,605	$6,949,561	$3,941,061
Underground	$1,303,183	$1,989,913	$1,998,211	$2,553,988	$2,892,563
Total	$6,965,839	$6,847,462	$9,465,816	$9,503,549	$6,833,624

Weighted Average $ (Constant 2015)

	2011	2012	2013	2014	2015	Tot
OH Weighted Avg.	$ 22,382	$ 24,047	$ 24,245	$ 27,469	$ 27,180	$
UG Weighted Avg.	$ 5,151	$ 9,851	$ 6,488	$ 10,095	$ 19,949	$
Total	$ 27,533	$ 33,898	$ 30,733	$ 37,563	$ 47,128	$

Weighted Average %

	2011	2012	2013	2014	2015
OH Weighted Average %	81%	71%	79%	73%	58%
UG Weighted Average %	19%	29%	21%	27%	42%

SCE selected the last year recorded unit cost as we expected this to be most representative of the mix of underground to overhead capacitor bank replacements for this rate case cycle. Attached is a working file entitled “Capacitor Bank Supporting Tables” that supports the table shown above.

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DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 07.b:

7. In Table III-16 on page 62 of SCE-02, Vol. 8, SCE has the historical and forecast spending for automatic recloser replacements.

    b. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized for automatic recloser replacements, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 07.b:

SCE addresses the reasonableness, including quantities and qualitative benefits, of the Automatic Recloser Replacement program in the testimony at SCE-02, Volume 8 on pages 61-65.

See response to TURN-SCE-016-Q1 for discussion regarding 2014 authorized amounts.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.

Southern California Edison
2018 GRC A.16-09-001

DATA REQUEST SET TURN-SCE-016

To: TURN
Prepared by: Matt Stumpf
Title: Project Manager
Dated: 11/30/2016

Question 08.b:

8. In Table III-17 on page 67 of SCE-02, Vol. 8, SCE has the historical and forecast spending for PCB-contaminated transformer replacements.

    b. For the amount SCE recorded in 2014 and 2015 in excess of the amount authorized for PCB-contaminated transformer replacements, please identify each place in SCE's testimony and workpapers in the instant GRC where SCE demonstrates the reasonableness of that amount.

Response to Question 08.b:

As shown in Figure I-1 on page 5 of testimony and workpaper page 19, SCE recorded less than authorized for this program in 2015. SCE addresses the reasonableness of the PCB Transformers Replacement program in the testimony at SCE-02, Volume 8 on pages 65-69.

See response to TURN-SCE-016-Q1 for discussion regarding 2014 authorized amounts.

In addition, please see the response to Data Request ORA-SCE-052, Question 3, for additional discussion on the relationship between recorded and authorized costs.