

Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-04

To: ENERGY DIVISION
Prepared by: Ryan Stevenson
Title: Principal Advisor
Dated: 04/24/2014

Question SOC-2 a & b:

While many of the components for transmission line and substation construction and upgrades are acquired in the worldwide marketplace, other goods and services are acquired locally. Has SCE made any evaluation of the local and regional economic benefits that would derive from construction of the WOD Upgrade Project? If so,

a. Please describe SCE's estimate. If available, include information on SCE's:

- (1) Estimate of wages anticipated to be paid to construction workers resident in the Southern California region (as opposed to construction workers from elsewhere in the country).
- (2) Estimate of dollar value of materials, equipment, fuel, and other purchases expected to be made from California vendors.

b. As well, please identify if SCE has calculated a multiplier effect of wages and purchases in the regional economy.

Response to Question SOC-2 a & b:

SCE has not conducted an evaluation of the local and regional economic benefits resulting from the WOD Upgrade Project (WOD or Project). However, in 2010, SCE conducted an evaluation of the economic benefits resulting from SCE's capital expenditure program, of which, transmission upgrade projects are a part of. In order to provide a rough-order-of-magnitude estimate of the economic impacts of WOD, SCE estimated the economic benefits of the Project by leveraging the assumptions, methodology, and multipliers resulting from the 2010 SCE Capital Expenditure Program Economic Impact Analysis.

a. In this exercise, SCE simply updated the assumptions, averaged the multipliers derived from the SCE capital expenditure program, and made some broad assumptions regarding capital expenditures in order to estimate the economic impacts of the Project. SCE makes no claim as to the accuracy of the results of this exercise. Please see the following responses and the attached WOD Economic Impact Analysis that includes the rough-order-of-magnitude economic impact estimate.

- (1) The estimate of wages anticipated to be paid to construction workers should be represented by craft labor (\$608M craft, \$181M non-craft). We did not break out the resident

and non-resident construction wages in the estimate.

(2) The estimate of dollar value of materials, equipment, fuel, and other purchases expected to be made are represented under non-labor as Material (\$139.5M), Other (\$24.8M) and Direct Allocated (\$79.8M). We did not explicitly break out California and non-California purchases.

b. The multipliers are included in the attachment. The economic impacts were estimated for the State of California and regional impacts were not explicitly calculated.

Rough-Order-Of-Magnitude WOD Upgrade Project Economic Impact Analysis

Introduction

The purpose of this analysis is to estimate the impacts of the proposed WOD Upgrade Project's (WOD or Project) capital expenditures on the California economy over a twelve-year period from 2008 through 2019. The WOD expenditures proposed by SCE will be for improvements to its existing transmission and distribution (T&D) systems. The study is simply an estimate of the economic impacts based upon the findings in the SCE Capital Expenditure Program Economic Impact Study, performed by IHS Global Insight in 2010. Although we present the total expenditures of the Project, this analysis primarily focuses upon the benefits resulting from the later years of the Project (i.e., 2015 and forward).

Under the SCE proposal, annual capital spending for WOD would range between \$0.120 million and \$309 million during the eleven-year period, totaling over \$1 billion throughout the Project. SCE's proposed WOD expenditures have sizable economic impacts on employment, output, value added, and wages. On average, 4,697 jobs per annum are created per year starting in 2015. Furthermore, these jobs are skilled and high paying, providing an average compensation of more than \$85,000 per employee and producing high value added of about \$257,000 per employee.

Study Area

To assess the economic impacts of WOD, the SCE Capital Expenditure Program Economic Impact study, performed by IHS Global Insight in 2010, defined its study area as the entire state of California. While SCE's service area does not include the entire state, the economic activity generated by the Project will undoubtedly have significant impacts outside of the service area. By looking at the entire state, we are capturing employees who are commuting into the service area, and other backward linkages occurring throughout California that are associated with the WOD expenditures.

Most of the labor inputs needed for the capital expenditures will be obtained in California. The electric energy production and distribution maintained by these improvements would also be consumed by residents, businesses, and governments located in California. Due to its heavy mix of high-paying service sector jobs, California median household income is about 15% higher than the national average.

Proposed Annual WOD Upgrade Project Expenditures by Labor and Nonlabor (\$ Thousands)

| | NOMINAL \$ (in Thousands) | | | | | | | | | | | | TOTAL |
|---------------------------|---------------------------|-------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|----------|-------------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | |
| Total Labor | \$169 | \$- | \$1,126 | \$3,239 | \$9,626 | \$9,212 | \$8,514 | \$75,792 | \$153,559 | \$220,652 | \$236,755 | \$71,303 | \$789,947 |
| <i>Craft</i> | - | - | - | - | - | - | 333 | 54,048 | 122,915 | 179,945 | 192,879 | 58,186 | 608,307 |
| <i>Non-Craft</i> | 169 | - | 1,126 | 3,239 | 9,626 | 9,212 | 8,181 | 21,744 | 30,645 | 40,707 | 43,876 | 13,116 | 181,640 |
| Total Non-Labor | \$2 | \$120 | \$147 | \$237 | \$311 | \$1,097 | \$2,139 | \$24,354 | \$51,069 | \$71,249 | \$72,387 | \$21,065 | \$244,177 |
| <i>Material</i> | - | - | - | - | - | - | 287 | 13,588 | 27,648 | 43,484 | 41,083 | 13,481 | 139,571 |
| <i>Other</i> | - | - | - | - | - | 3 | 30 | 2,332 | 7,613 | 5,527 | 8,232 | 1,059 | 24,796 |
| <i>Direct Allocated</i> | 2 | 120 | 147 | 237 | 311 | 1,094 | 1,822 | 8,435 | 15,809 | 22,238 | 23,072 | 6,524 | 79,810 |
| TOTAL PROJECT COST | \$171 | \$120 | \$1,272 | \$3,475 | \$9,938 | \$10,308 | \$10,653 | \$100,146 | \$204,629 | \$291,902 | \$309,142 | \$92,367 | \$1,034,124 |

Estimated Impacts

Annual capital spending under the Project will generate temporary increases in study area employment, averaging 2,719 person-years of employment on a full-time equivalent basis during 2008 –2019, and 4,697 jobs per annum 2015 forward, as seen in the table below. The increase in employment is expressed in person-years, so that one job equals one person-year of employment. The number of jobs created, additional value added, and additional wages generated in the economy due to SCE's proposed WOD expenditures are significant in absolute magnitude. Every \$1 million of proposed SCE WOD expenditure creates more than four jobs in the California economy. The employment multiplier is above 2.0, meaning that for each direct job created by SCE's proposed WOD expenditures, indirect and induced impacts will produce more than one additional job in the study area. To the extent that the WOD capital expenditures continue beyond the study period, the increases in employment, output, value added, income, and taxes will also continue.

The impacts on output, value added, and wages are notable. For the California economy as a whole, average annual wages in 2014 are above \$60,000, and gross state product per employee is valued at about \$150,000. In comparison, the WOD expenditure plan generates jobs that pay more than \$85,000 on average and produce \$257,000 of value added per employee, substantially outpacing the state figures. Thus, the WOD expenditure plan creates high-quality jobs.

**Estimated Economic Impacts of the WOD Upgrade Project
(\$ Thousands)**

| | 2008-2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Average - 2015 - 2019 |
|------------------------------|-----------|------------|------------|------------|------------|------------|--------------|--------------------------|
| Labor | \$ 31,885 | \$ 75,792 | \$ 153,559 | \$ 220,652 | \$ 236,755 | \$ 71,303 | \$ 789,947 | \$ 151,612 |
| Non-Labor | \$ 4,053 | \$ 24,354 | \$ 51,069 | \$ 71,249 | \$ 72,387 | \$ 21,065 | \$ 244,177 | \$ 48,025 |
| Total Expenditures | \$ 35,938 | \$ 100,146 | \$ 204,629 | \$ 291,902 | \$ 309,142 | \$ 92,367 | \$ 1,034,124 | \$ 199,637 |
| Employment | | | | | | | | |
| Direct | 428 | 891 | 1,805 | 2,593 | 2,782 | 838 | 9,337 | 1,782 |
| Total | 1,128 | 2,348 | 4,758 | 6,836 | 7,335 | 2,209 | 24,614 | 4,697 |
| Multiplier | 2.64 | 2.64 | 2.64 | 2.64 | 2.64 | 2.64 | - | |
| Output | | | | | | | | |
| Direct | \$ 39,132 | \$ 95,637 | \$ 195,415 | \$ 278,759 | \$ 295,223 | \$ 88,208 | \$ 992,374 | \$ 190,648 |
| Total | \$ 59,844 | \$ 146,254 | \$ 298,840 | \$ 426,294 | \$ 451,472 | \$ 134,893 | \$ 1,517,597 | \$ 291,551 |
| Multiplier | 1.53 | 1.53 | 1.53 | 1.53 | 1.53 | 1.53 | - | |
| Value Added | | | | | | | | |
| Direct | \$ 27,470 | \$ 67,136 | \$ 137,179 | \$ 195,685 | \$ 207,242 | \$ 61,921 | \$ 696,633 | \$ 133,833 |
| Total | \$ 39,114 | \$ 95,591 | \$ 195,322 | \$ 278,625 | \$ 295,082 | \$ 88,166 | \$ 991,900 | \$ 190,557 |
| Multiplier | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 | - | |
| Labor Income | | | | | | | | |
| Employee Compensation | \$ 36,419 | \$ 75,792 | \$ 153,559 | \$ 220,652 | \$ 236,755 | \$ 71,303 | \$ 794,480 | \$ 151,612 |
| Proprietors Income | \$ 12,787 | \$ 26,611 | \$ 53,916 | \$ 77,472 | \$ 83,126 | \$ 25,035 | \$ 278,947 | \$ 53,232 |
| Total Earnings | \$ 47,456 | \$ 102,403 | \$ 207,475 | \$ 298,124 | \$ 319,881 | \$ 96,338 | \$ 1,071,678 | \$ 204,844 |
| State and Local Taxes | | | | | | | | |
| Personal Income Taxes | \$ 1,653 | \$ 3,439 | \$ 6,968 | \$ 10,013 | \$ 10,744 | \$ 3,236 | \$ 36,053 | \$ 6,880 |
| Sales Taxes | \$ 327 | \$ 1,747 | \$ 3,663 | \$ 5,111 | \$ 5,192 | \$ 1,511 | \$ 17,551 | \$ 3,445 |
| Corporate Income Taxes | \$ 347 | \$ 849 | \$ 1,735 | \$ 2,474 | \$ 2,621 | \$ 783 | \$ 8,809 | \$ 1,692 |
| Other Taxes | \$ 404 | \$ 988 | \$ 2,019 | \$ 2,880 | \$ 3,050 | \$ 911 | \$ 10,251 | \$ 1,969 |
| Total State Taxes | \$ 2,625 | \$ 7,023 | \$ 14,385 | \$ 20,478 | \$ 21,606 | \$ 6,441 | \$ 72,557 | \$ 13,986 |

Conclusion

WOD clearly has a positive impact on the California economy. Looking at 2015 forward, the Project will support, on average, 4,697 jobs per annum and produce more than \$291 million worth of output per year. In line with impacts on employment and output, WOD also has sizable positive impacts on value added, wages, and tax revenues. The computations show that every \$1 million of WOD spending by SCE creates more than four jobs in the California economy. These jobs are highly desirable, with average employee compensation of almost \$85,000 per year and value added of \$257,000 per year per employee.

Study Notes:

The study incorporates the offsetting effects of higher electricity rates in the methodology, so we observe that the overall positive impacts of the proposed WOD expenditures remain significant even in presence of increased electricity rates. The impacts reported in this study are conservative because they are net of negative impacts of electricity price increases based on an alternative scenario with higher rates. Nonetheless, the study indicates significant positive impacts for the California economy as a whole as a result of the Project.