San Onofre Economic Impact Study
November 5, 2015

Tom Palmisano
Vice President Decommissioning & Chief Nuclear Officer
Purpose

• Purpose of analysis
  – Local interest in decommissioning jobs
  – Project jobs/“trade work” going to local organized labor
  – Quantify near-term economic output
Background

- **Output during operations**
  - Estimated at $3.3 billion/year in California (in 2010)
  - Higher employment and more “permanent” jobs
  - Average of 500 contract employees

<table>
<thead>
<tr>
<th>Phase</th>
<th>Average Annual Budget ($ in millions)</th>
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<td>242</td>
<td>375</td>
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Background

- Decommissioning output
  - Estimated at $293 million/year in California (~1/10th)
  - Lower employment and more temporary jobs
  - Current average 100 contract employees

<table>
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<tr>
<th>San Onofre Staffing</th>
<th></th>
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Introduction

• Retained Beacon Economics
• Focus of study
  – Major work from 2013 to 2026
• Assessed primary impacts:
  – Employment – jobs for region’s residents
  – Output – goods and services
  – Tax revenues – state and local
  – Boost to economic activity
Economic Impact Analysis
SONGS Decommissioning Project

Dustin Schrader
Public Policy Manager, Beacon Economics
Overview

• **Economic impact**
  – $3.2 billion spend
  – Major work phase from 2013 - 2026
  – 2 primary sources of impact
  – Construction and effects on regional growth

• **Benefits**
  – Employment – jobs for region’s residents
  – Output – demand for goods and services
  – State and local tax revenues
  – Boost to economic activity
Types of Economic Impacts

• **Direct impact**
  – Expenditures to dismantle the nuclear generation station (e.g. construction)
  – Provides jobs for city and county residents

• **Indirect impact**
  – Purchase of building materials
  – New real estate

• **Induced impact**
  – Worker spending
  – Tax revenues (Sales tax on goods purchased)
Overview of IMPLAN

• Used to estimate a project’s economic impact on a particular geography

• Typically constructed at the county level
  – This analysis was done at county, state, and U.S. level

• Based on multipliers:
  – $X invested in the local economy
  – Generates $Y in output and Z jobs
IMPLAN Multipliers

• Multipliers vary by industry and geography

• California vs. San Bernardino County
  – California has larger multipliers. Why?
  – Leakage into other regions

• Example: PC manufacturing in San Bernardino County
  – Requires silicon chips as major input
  – County is not major chip manufacturing area
  – PC manufacturer has to buy chips from another county
  – PC purchases do not impact SB County ( “leak out”)

• General rule of thumb
  – Larger geography = less leakage
  – More diverse local economy = less leakage
### Project Expenditures by Category

<table>
<thead>
<tr>
<th>Sector</th>
<th>Amount ($ Millions)</th>
<th>Pct. Of Total Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Mgmt./Remediation</td>
<td>1,004.2</td>
<td>30.68</td>
</tr>
<tr>
<td>Utilities</td>
<td>735.1</td>
<td>22.46</td>
</tr>
<tr>
<td>Construction (Nonresidential)</td>
<td>654.5</td>
<td>20.00</td>
</tr>
<tr>
<td>Architectural/Engineering Services</td>
<td>451.2</td>
<td>13.78</td>
</tr>
<tr>
<td>Investigation/Security</td>
<td>273.7</td>
<td>8.36</td>
</tr>
<tr>
<td>Insurance Carriers</td>
<td>40.3</td>
<td>1.23</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>32.9</td>
<td>1.01</td>
</tr>
<tr>
<td>Advertising &amp; Related Services</td>
<td>29.5</td>
<td>0.90</td>
</tr>
<tr>
<td>Environmental/Other Tech. Consulting</td>
<td>19.5</td>
<td>0.60</td>
</tr>
<tr>
<td>Machinery Rental/Leasing</td>
<td>16.5</td>
<td>0.50</td>
</tr>
<tr>
<td>Real Estate</td>
<td>10.6</td>
<td>0.33</td>
</tr>
<tr>
<td>Computer Manufacturing</td>
<td>3.9</td>
<td>0.12</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1.6</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,273.4</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
Expenditures by Major Group

Project Spending

- 31% Waste Management/Remediation
- 27% Energy
- 22% Construction (Hard Costs)
- 20% Other Costs (e.g. Architecture)
Note on Impacts

- **Jobs** aren’t permanent; most will end when the project is finished (i.e. spending stops)

- **Output** reflects revenues or business opportunities for local vendors in each geographical region, *not* for SONGS partners

- **Labor income** isn’t only for SONGS workers
### Summary of Economic Impacts

<table>
<thead>
<tr>
<th>Area</th>
<th>Jobs (Full-Time Equiv.)</th>
<th>Output ($ Millions)</th>
<th>Labor Income ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>45,415</td>
<td>9,022.7</td>
<td>2,807.7</td>
</tr>
<tr>
<td>California</td>
<td>20,720</td>
<td>4,105.8</td>
<td>1,384.3</td>
</tr>
<tr>
<td>San Diego County</td>
<td>6,572</td>
<td>1,180.1</td>
<td>408.6</td>
</tr>
<tr>
<td>Orange County</td>
<td>6,330</td>
<td>1,238.8</td>
<td>435.5</td>
</tr>
<tr>
<td>Los Angeles County</td>
<td>4,334</td>
<td>941.9</td>
<td>299.3</td>
</tr>
<tr>
<td>Riverside County</td>
<td>984</td>
<td>176.3</td>
<td>58.7</td>
</tr>
<tr>
<td>San Bernardino County</td>
<td>883</td>
<td>178.4</td>
<td>58.3</td>
</tr>
<tr>
<td>Rest of California</td>
<td>1,618</td>
<td>390.2</td>
<td>124.0</td>
</tr>
<tr>
<td>Out of State</td>
<td>24,695</td>
<td>4,916.9</td>
<td>1,423.4</td>
</tr>
</tbody>
</table>
Secondary Impacts

- **$1.9 billion** in California output through secondary effects alone
  - *Real Estate* (6th highest tot. output)
    - $5.3 mil direct; $53.9 mil indirect; $55.7 mil induced
  - *Petroleum Refineries* (7th highest tot. output)
    - $0 direct; $84.1 mil indirect; $11.1 mil induced

- Companies almost always need to increase energy consumption and expand facilities in response to a big increase in business activity
$185.0 million in state and local tax revenue generated across California

- Major sources:
  - Sales tax: $45.5 million
  - Personal income tax: $44.2 million
  - Business property tax: $36.2 million

- Increase in income generates state tax revenue, while increase in spending generates local tax revenue
## Orange County Impacts

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Jobs (Full-Time Equiv.)</th>
<th>Output ($ Millions)</th>
<th>Labor Income ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>3,990</td>
<td>799.5</td>
<td>293.1</td>
</tr>
<tr>
<td>Indirect</td>
<td>1,249</td>
<td>251.5</td>
<td>83.8</td>
</tr>
<tr>
<td>Induced</td>
<td>1,091</td>
<td>187.9</td>
<td>58.6</td>
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<td>6,330</td>
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- Orange County will see the largest output impacts of any county
  - Driven by largest direct spending in any county ($293.1 mil)

- Major sectors impacted:
  1. Utilities ($229.0 mil)
  2. Waste/Remediation ($152.4 mil)
  3. Arch./Engineering ($151.1 mil)

- More jobs supported in Investigation/Security than any other sector (1,739; 1,711 dir)

- Food Services (175), Real Estate (161) benefit from secondary job impacts
San Diego County Impacts

• SD County will see the largest employment impacts of any county

• Less labor income but more jobs than Orange County. Why?
  – High-wage vs. low-wage jobs
  – Orange County spending will support more workers in high-wage sectors (Arch./Engineering, Utilities)

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<tr>
<td>Direct</td>
<td>3,757</td>
<td>710.0</td>
<td>253.9</td>
</tr>
<tr>
<td>Indirect</td>
<td>1,158</td>
<td>216.4</td>
<td>73.6</td>
</tr>
<tr>
<td>Induced</td>
<td>1,657</td>
<td>253.7</td>
<td>81.1</td>
</tr>
<tr>
<td>Total</td>
<td>6,572</td>
<td>1,180.1</td>
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Real Estate Impacts

• Some studies claim removal of nuclear facilities increases nearby home values
  – Roughly 6.4%, homes < 10 miles from site

• 3 cities in S Orange County within range
  – Dana Point, San Clemente, San Juan Capistrano

• Assume 6.4% increase in assessed valuation
  – Over long-run; short-run limited by Prop 13

• Assume 20% of prop. tax revenue goes to 3 cities
  – Dana Point - ~$900,000
  – San Clemente - ~$1.3 million
  – San Juan Capistrano - ~$600,000
Key Findings

• $9 billion in output in U.S.
  – $4.1 billion in output in California, with $1.9 billion through secondary effects

• Much of the economic activity will come in Southern California
  – Orange County: ~6,300 jobs, $1.2 bil output, $436 mil labor income
  – San Diego County: ~6,600 jobs, $1.2 bil output, $409 mil labor income

• $185 million in state and local tax revenue in California
To view or download this presentation or for further information, visit:
www.BeaconEcon.com
or
www.SONGScommunity.com

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