Estes Powerplant
Colorado-Big Thompson Project

Ancillary Services

<table>
<thead>
<tr>
<th>Estes Ancillary Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinning Reserve</td>
</tr>
<tr>
<td>Non-Spinning Reserve</td>
</tr>
<tr>
<td>Replacement Reserve</td>
</tr>
<tr>
<td>Regulation/Load Following</td>
</tr>
<tr>
<td>Black Start</td>
</tr>
<tr>
<td>Voltage Support</td>
</tr>
</tbody>
</table>

Generators

<table>
<thead>
<tr>
<th>Estes Generators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Number and Capacity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit #</th>
<th>Original Capacity (kW)</th>
<th>Capacity Increased (kW)</th>
<th>Present Capacity (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15,000</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>2</td>
<td>15,000</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>3</td>
<td>15,000</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>3 units</td>
<td>45,000</td>
<td>-</td>
<td>45,000</td>
</tr>
</tbody>
</table>
Estes Powerplant
30-100 MW

Generation

Estes Fiscal Year Net Generation

Estes Monthly Net Generation

Estes Water Supply

[Graphs and diagrams showing data over years and months for net generation and water supply]
Prime Laboratory Benchmarks

Benchmark 1
Wholesale Firm Rate

Benchmark 2
Reclamation’s Production Costs as Percentage of Wholesale Firm Rate
Benchmark 3
Production Costs

Estes Powerplant
30-100 MW

Estes Operation Costs

Fiscal Years

Estes Operation Costs
Fiscal Year 2007

Estes Maintenance Costs

Fiscal Years

Estes Maintenance Costs
Fiscal Year 2007
Benchmark 3
Production Costs

Estes Powerplant
30-100 MW

Estes Operation and Maintenance Costs

Fiscal Year 2007

Total Production Costs
External Comparison

Fiscal Year 2007

Total Production Costs
External Comparison

Estimated Group Average = $54.6/MWh
Reclamation Group Average = $9.1/MWh

Estes
$/MWh

Fiscal Year


Operation
Maintenance

40%
60%

Operation
Maintenance

Estes
$/MW

Fiscal Year


167 External Plants

External Group Average = $30,336/MW
Reclamation Group Average = $25,237/MW
Estes Powerplant
30-100 MW

Benchmark 4
Workforce Deployment

### Estes FY 2007 Equivalent Work Staffing Year Levels

<table>
<thead>
<tr>
<th></th>
<th>Equivalent Work Year Staffing Charged to Powerplant</th>
<th>Leave Additive</th>
<th>Denver and Washington Equivalent Work Year Staffing Additive</th>
<th>Total Equivalent Work Year Allocated to Powerplant</th>
<th>Total Equivalent Staffing Work Year per Generating Unit</th>
<th>Total Equivalent Work Year Staffing per Megawatt</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>0.02</td>
<td>0.00</td>
<td>0.05</td>
<td>0.08</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Operation</td>
<td>1.45</td>
<td>0.16</td>
<td>0.00</td>
<td>1.61</td>
<td>0.54</td>
<td>0.04</td>
</tr>
<tr>
<td>Maintenance</td>
<td>2.34</td>
<td>0.26</td>
<td>0.00</td>
<td>2.60</td>
<td>0.87</td>
<td>0.06</td>
</tr>
<tr>
<td>Total Staffing</td>
<td>3.81</td>
<td>0.43</td>
<td>0.05</td>
<td>4.29</td>
<td>1.43</td>
<td>0.10</td>
</tr>
</tbody>
</table>

### Estes FY 2007 Equivalent Work Year per Unit

- **Maintenance**: 0.02 0.16 0.00 0.05
- **Operation**: 1.45 0.16 0.00 1.61
- **General**: 2.34 0.26 0.00 2.60

### Estes FY 2007 O&M Equivalent Work Years per Unit

- **Maintenance**: 0.16 0.00 0.00 0.05
- **Operation**: 1.45 0.16 0.00 1.61
- **General**: 2.34 0.26 0.00 2.60

### Estes FY 2007 O&M Equivalent Work Years per MW

- **Maintenance**: 0.02 0.00 0.00 0.05
- **Operation**: 0.16 0.16 0.00 0.05
- **General**: 0.26 0.26 0.00 0.05
Benchmark 5
Plant Availability Factor

Estes Powerplant
30-100 MW

Benchmark 6
Plant Forced Outage Factor
Benchmark 7
Plant Scheduled Outage Factor

Estes
Scheduled Outage Factor

Fiscal Years

Unit Starts

Estes
Average Starts per Unit

Fiscal Years
## Benchmark Data Comparison

<table>
<thead>
<tr>
<th>Fiscal Year 2007</th>
<th>Estes Powerplant</th>
<th>Reclamation Average 30-100 MW Group</th>
<th>Total Reclamation Average</th>
<th>Industry Average</th>
<th>Best Performers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale Firm Rate Mills/kWh</td>
<td>23.9</td>
<td>Not Applicable</td>
<td>*22.45</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Production Cost as Percentage of Wholesale Firm Rate</td>
<td>1.94%</td>
<td>Not Applicable</td>
<td>12.1%</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>O&amp;M Cost $/MWh</td>
<td>8.40</td>
<td>7.85</td>
<td>2.76</td>
<td>***54.63</td>
<td>1.00</td>
</tr>
<tr>
<td>O&amp;M Costs $/MW</td>
<td>19,046</td>
<td>24,132</td>
<td>7,847</td>
<td>***30,336</td>
<td>2,897</td>
</tr>
<tr>
<td>O&amp;M Equiv Work Year per MW</td>
<td>0.09</td>
<td>0.10</td>
<td>0.03</td>
<td>Not Available</td>
<td>0.0</td>
</tr>
<tr>
<td>Availability Factor</td>
<td>81.7</td>
<td>81.3</td>
<td>82.3</td>
<td>**88.64</td>
<td>98.5</td>
</tr>
<tr>
<td>Forced Outage Factor</td>
<td>0.1</td>
<td>0.2</td>
<td>2.6</td>
<td>**2.61</td>
<td>0.0</td>
</tr>
<tr>
<td>Scheduled Outage Factor</td>
<td>18.1</td>
<td>18.5</td>
<td>15.1</td>
<td>**8.74</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*Weighted by Net Generation
**2006 NERC Average
***Energy Information Administration Data