### Ancillary Services

<table>
<thead>
<tr>
<th>Marys Lake 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>Marys Lake 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>8,100</td>
<td>-</td>
<td>8,100</td>
</tr>
<tr>
<td>1 Unit</td>
<td>8,100</td>
<td>-</td>
<td>8,100</td>
</tr>
</tbody>
</table>
Marys Lake Powerplant
0-10 MW

Generation

Marys Lake
Fiscal Year Net Generation

Marys Lake
Monthly Net Generation

Marys Lake
Water Supply
Prime Laboratory Benchmarks

Benchmark 1
Wholesale Firm Rate

![Bar chart showing Wholesale Firm Composite Rate and Loveland Rate from 1998 to 2007.](chart1.png)

Legend: 
- Reclamation Production Cost
- Loveland Rate

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

![Pie chart showing Reclamation O&M Production Cost as Percentage of Wholesale Firm Rate.](chart2.png)

Legend: 
- Western-Loveland Project Rate
- Other WAPA Costs 61%
- Other Project Costs 96%
- Marys Lake 4%

Fiscal Year 2007
Benchmark 3
Production Costs

Marys Lake Powerplant
0-10 MW

Marys Lake Operation Costs

Marys Lake Maintenance Costs

Marys Lake Operation Costs
Fiscal Year 2007

Marys Lake Maintenance Costs
Fiscal Year 2007
Benchmark 3
Production Costs

Marys Lake Powerplant
0-10 MW

**Benchmark 3**
Production Costs

**Marys Lake Operation and Maintenance Costs**

- Fiscal Year 2007
  - Operation
  - Maintenance

**Marys Lake Operation and Maintenance Costs**

- Fiscal Year 2007
  - 64%
  - 36%

**Total Production Costs**

- **Fiscal Year 2007**
  - External Comparison
  - Marys Lake
  - $0
  - $50,000
  - $100,000
  - $150,000
  - $200,000
  - $250,000
  - $300,000

  - External Group Average = $25.1/MWh
  - Reclamation Group Average = $18.1/MWh

**Total Production Costs**

- **Fiscal Year 2007**
  - External Comparison
  - Marys Lake
  - $0
  - $50
  - $100
  - $150
  - $200
  - $250
  - $300

  - External Group Average = $75,984/MW
  - Reclamation Group Average = $80,508/MW

**Benchmark 4**
Marys Lake Powerplant
0-10 MW

Workforce Deployment

### Marys Lake FY 2007 Equivalent Work Staffing Year Levels

<table>
<thead>
<tr>
<th>Equivalent FY 2007</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>0.01</td>
<td>0.00</td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Operation</td>
<td>0.52</td>
<td>0.06</td>
<td>0.00</td>
<td>0.58</td>
<td>0.58</td>
</tr>
<tr>
<td>Maintenance</td>
<td>2.13</td>
<td>0.22</td>
<td>0.00</td>
<td>2.36</td>
<td>2.36</td>
</tr>
<tr>
<td>Total Staffing</td>
<td>2.67</td>
<td>0.28</td>
<td>0.02</td>
<td>2.97</td>
<td>2.97</td>
</tr>
</tbody>
</table>
Benchmark 5
Plant Availability Factor

Marys Lake
Availability Factor

Fiscal Year

Benchmark 6
Plant Forced Outage Factor

Marys Lake
Forced Outage Factor

Fiscal Years
Benchmark 7  
Plant Scheduled Outage Factor

Marys Lake  
Scheduled Outage Factor

Unit Starts

Marys Lake  
Average Starts per Unit
## Benchmark Data Comparison

<table>
<thead>
<tr>
<th>Fiscal Year 2007</th>
<th>Marys Lake Powerplant</th>
<th>Reclamation Average 0-10 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>26.1</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>0.4%</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>5.71</td>
<td>14.71</td>
<td>2.76</td>
<td>***25.9</td>
<td>1.00</td>
</tr>
<tr>
<td>O&amp;M Costs $/MW</td>
<td>28,728</td>
<td>60,518</td>
<td>7,847</td>
<td>***75,984</td>
<td>2,897</td>
</tr>
<tr>
<td>O&amp;M Equiv Work Year per MW</td>
<td>0.00</td>
<td>0.42</td>
<td>0.03</td>
<td>Not Available</td>
<td>0.0</td>
</tr>
<tr>
<td>Availability Factor</td>
<td>98.5</td>
<td>88.7</td>
<td>82.3</td>
<td>**88.64</td>
<td>98.5</td>
</tr>
<tr>
<td>Forced Outage Factor</td>
<td>0.2</td>
<td>0.9</td>
<td>2.6</td>
<td>**2.61</td>
<td>0.0</td>
</tr>
<tr>
<td>Scheduled Outage Factor</td>
<td>1.3</td>
<td>10.4</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