

## **Palisades Powerplant Palisades Project**

### **Ancillary Services**

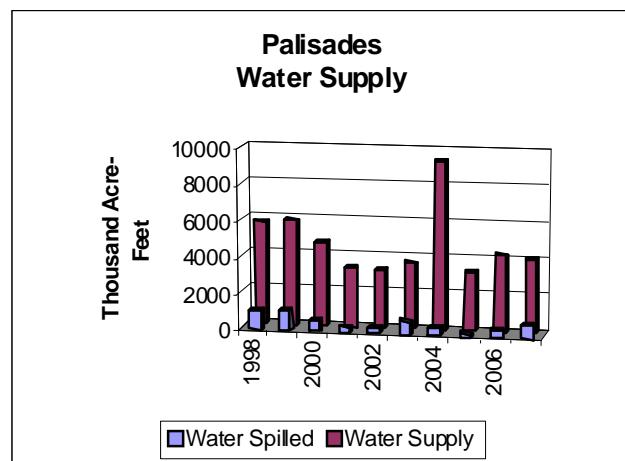
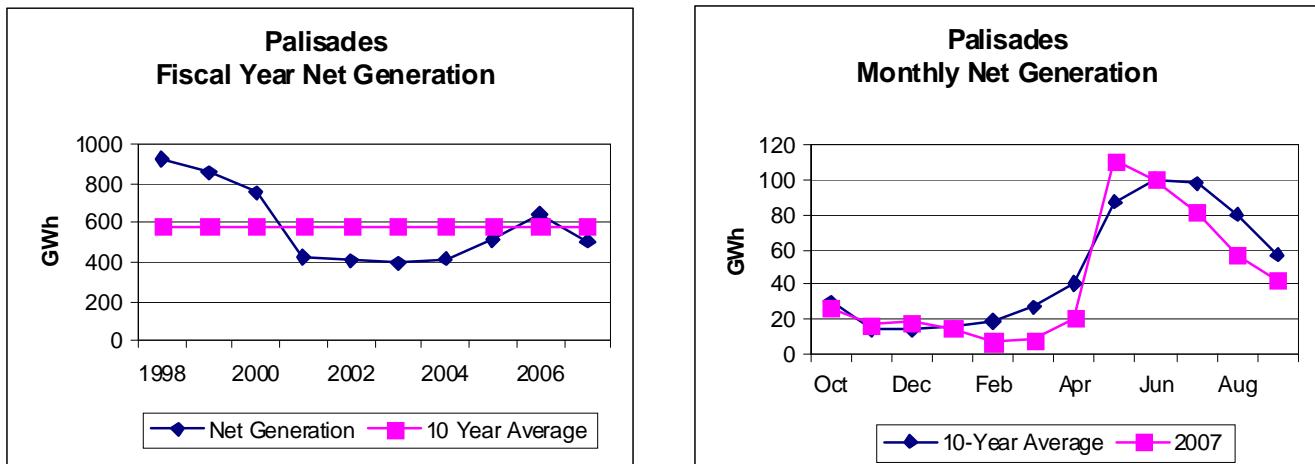
<b>Palisades Ancillary Services</b>	
Spinning Reserve	Yes
Non-Spinning Reserve	Yes
Replacement Reserve	Yes
Regulation/Load Following	Yes
Black Start	Yes
Voltage Support	Yes

### **Generators**

<b>Palisades Generators</b>			
Existing Number and Capacity			
Unit #	Original Capacity (kW)	Capacity Increased (kW)	Present Capacity (kW)
1	28,500	15,641	44,141
2	28,500	15,641	44,141
3	28,500	15,641	44,141
4	28,500	15,641	44,141
4 units	114,000	62,564	176,564

**Palisades Powerplant**  
**100-500 MW**

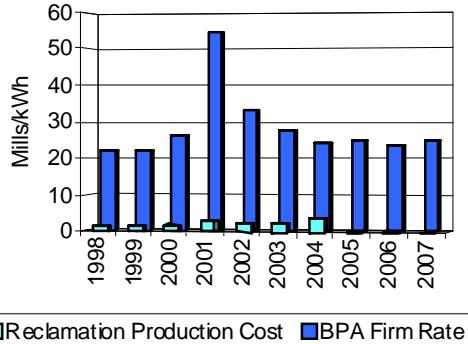
**Generation**



**Prime Laboratory Benchmarks**

**Benchmark 1**  
**Wholesale Firm Rate**

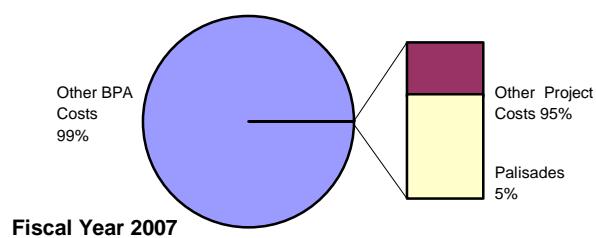
**Wholesale Firm Composite Rate**  
**Bonneville Power Administration Rate**



**Benchmark 2**  
**Reclamation's Production Cost as Percentage of Wholesale Firm Rate**

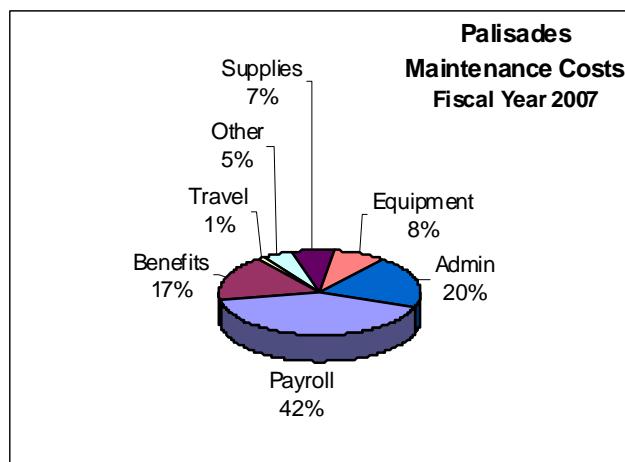
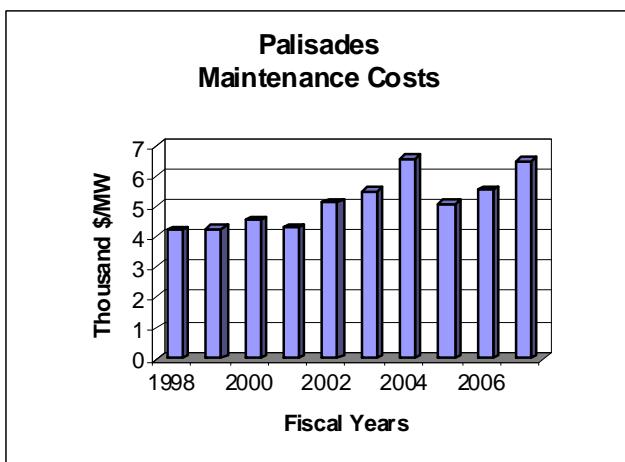
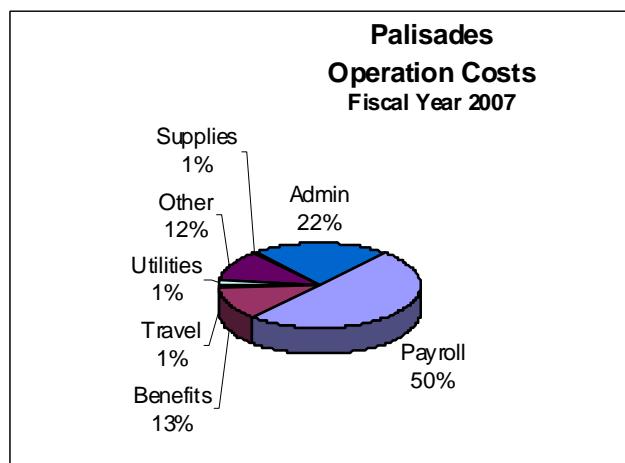
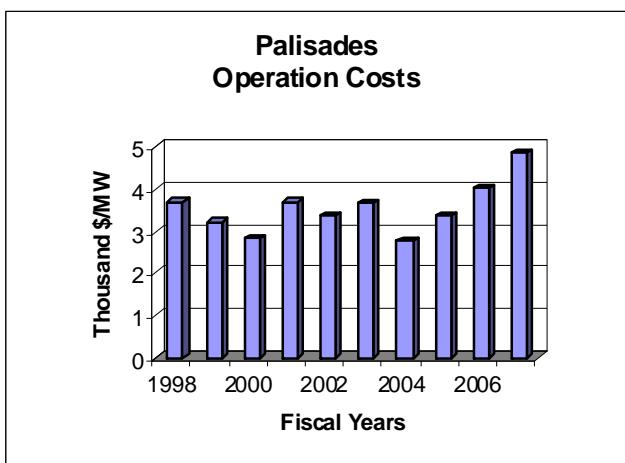
**Reclamation O&M Production Cost as  
Percentage of Wholesale Firm Rate**

**Bonneville Power Admin Project Rate**

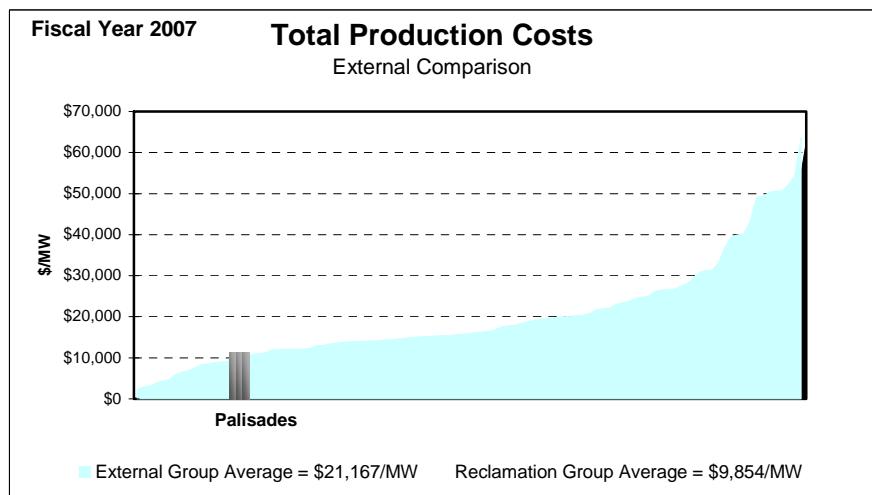
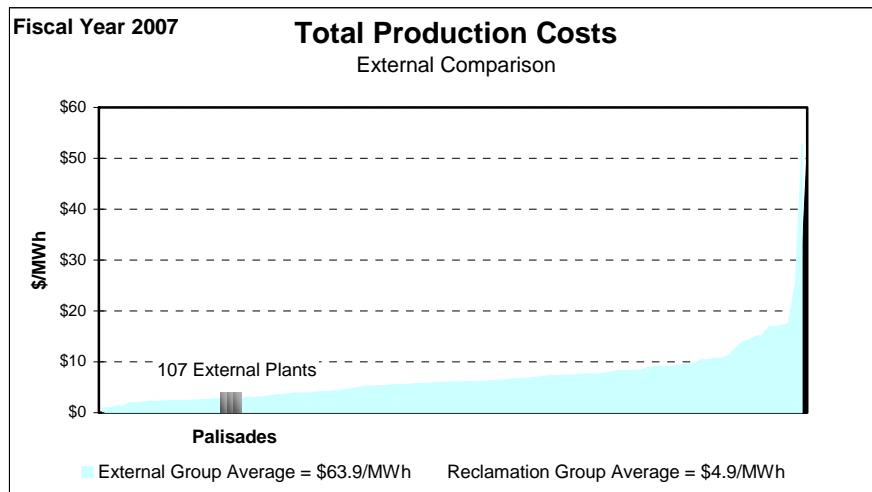
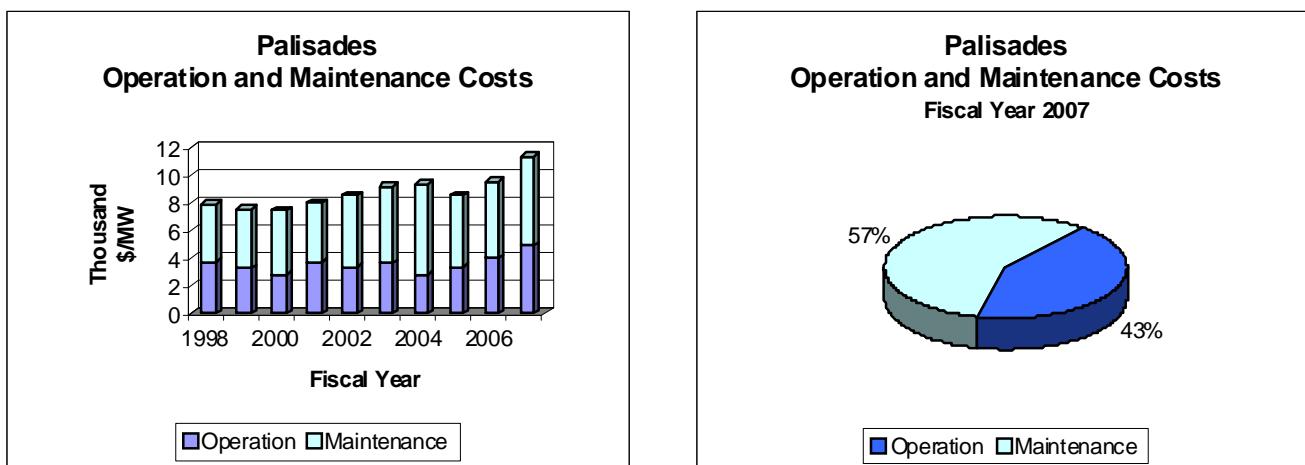


**Palisades Powerplant**  
**100-500 MW**

**Benchmark 3**  
**Production Cost**



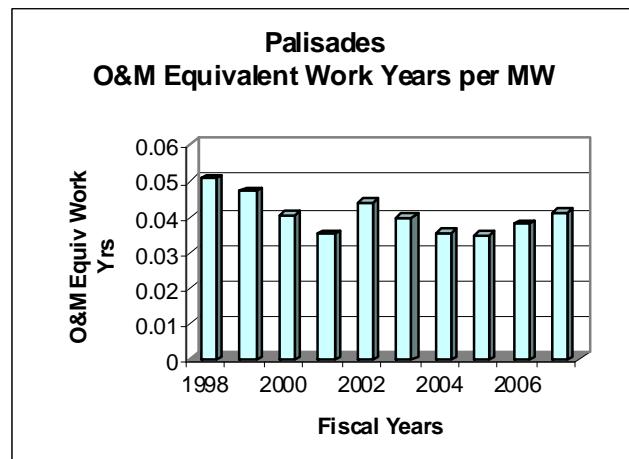
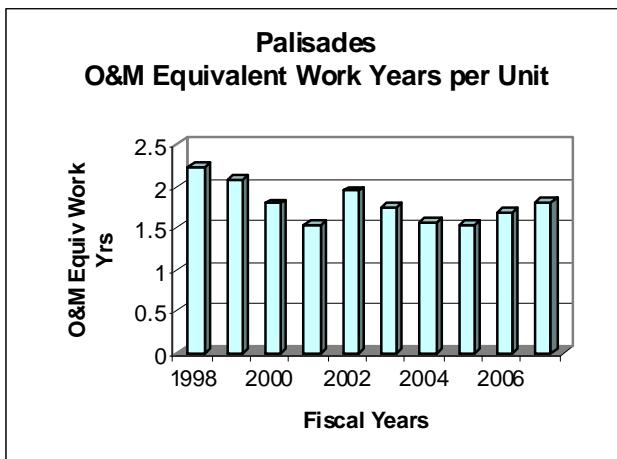
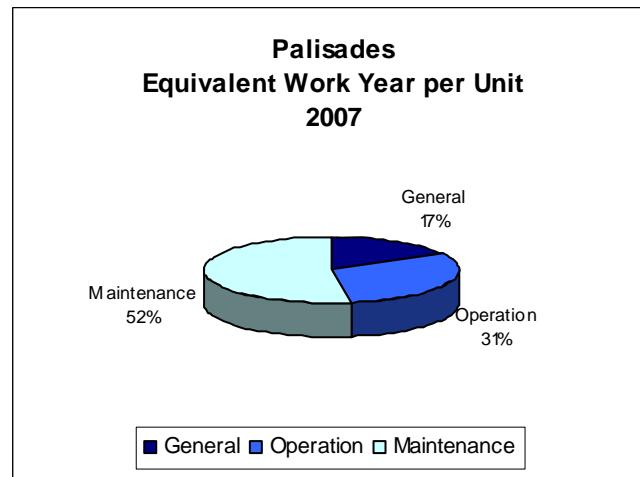
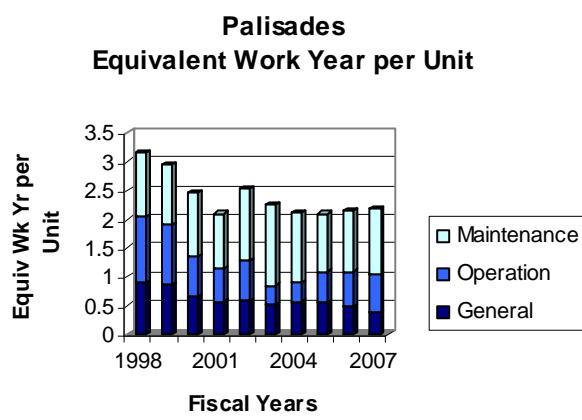
**Benchmark 3**  
**Production Cost**



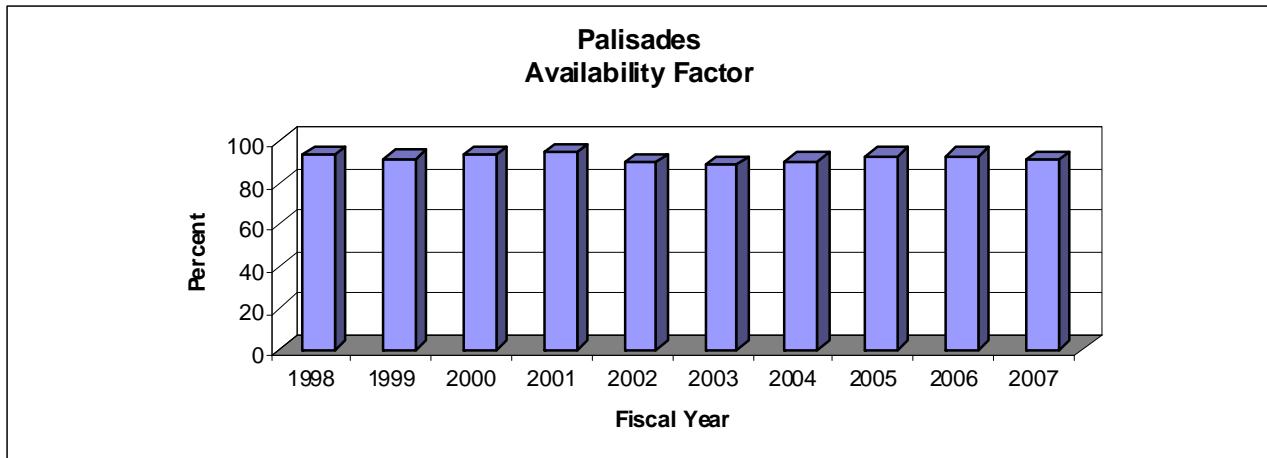
**Benchmark 4**  
**Workforce Deployment**

**Palisades FY 2007 Equivalent Work Staffing Year Levels**

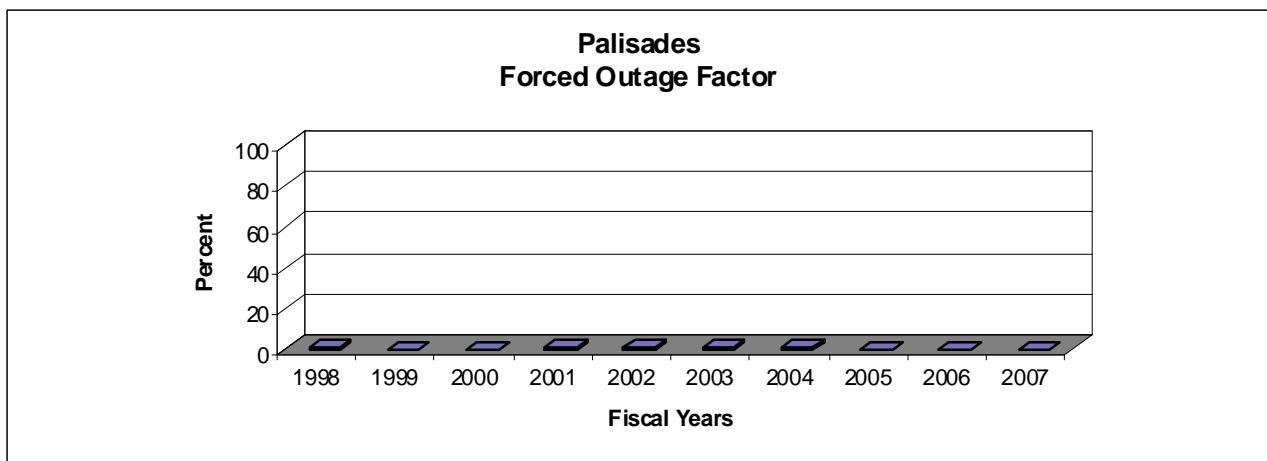
	Equivalent Work Year Staffing Charged to Powerplant	Leave Additive	Denver and Washington Equivalent Work Year Staffing Additive	Total Equivalent Work Year Allocated to Powerplant	Total Equivalent Staffing Work Year per Generating Unit	Total Equivalent Work Year Staffing per Megawatt
General	1.27	0.13	0.07	1.48	0.37	0.01
Operation	2.42	0.26	0.00	2.68	0.67	0.02
Maintenance	4.15	0.44	0.00	4.59	1.15	0.03
Total Staffing	7.84	0.83	0.07	8.75	2.19	0.05



**Benchmark 5**  
**Availability Factor**

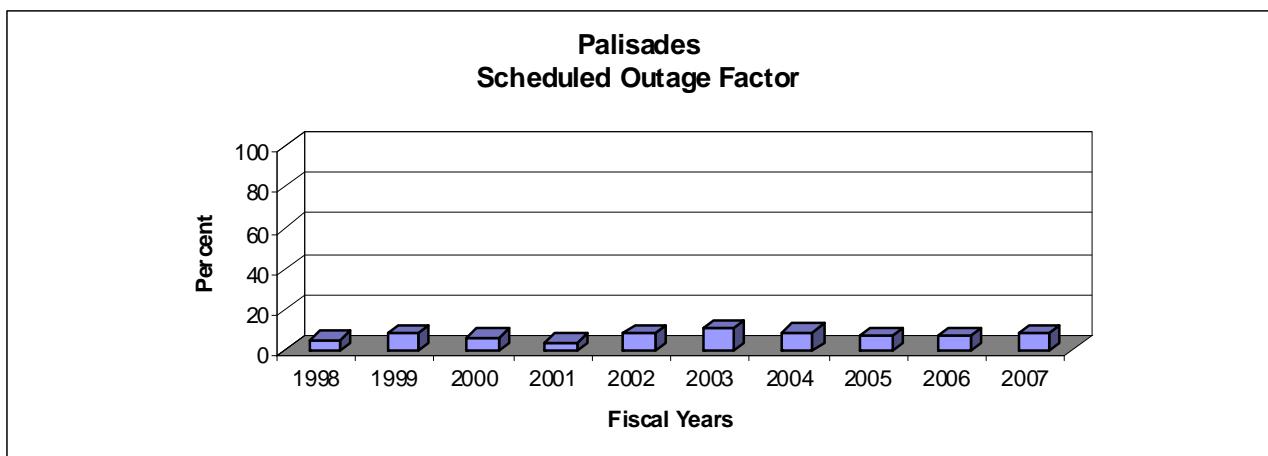


**Benchmark 6**  
**Forced Outage Factor**

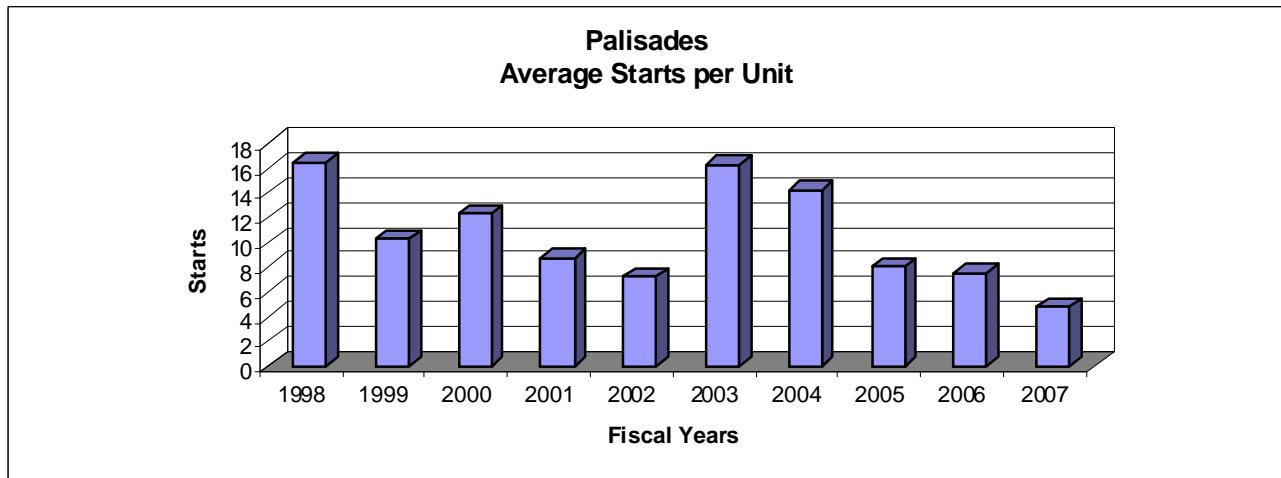


**Palisades Powerplant**  
**100-500 MW**

**Benchmark 7**  
**Scheduled Outage Factor**



**Starts**



**Palisades Powerplant**  
**100-500 MW**

<b>Benchmark Data Comparison</b>					
<b>Fiscal Year 2007</b>	<b>Palisades Powerplant</b>	<b>Reclamation Average 100- 500 MW Group</b>	<b>Total Reclamation Average</b>	<b>Industry Average</b>	<b>Best Performers</b>
<b>Wholesale Firm Rate Mills/kWh</b>	24.8	Not Applicable	*22.45	Not Available	Not Available
<b>Production Cost as Percentage of Wholesale Firm Rate</b>	0.07%	Not Applicable	12.1%	Not Applicable	Not Applicable
<b>O&amp;M Cost \$/MWh</b>	3.96	4.44	2.76	***63.88	1.00
<b>O&amp;M Costs \$/MW</b>	11,362	10,502	7,847	***21,167	2,897
<b>O&amp;M Equiv Work Year per MW</b>	0.04	0.04	0.03	Not Available	0.00
<b>Availability Factor</b>	91.1	83.5	82.3	**88.64	98.5
<b>Forced Outage Factor</b>	0.1	1.2	2.6	**2.61	0.0
<b>Scheduled Outage Factor</b>	8.8	15.4	15.1	**8.74	0.0

\*Weighted by Net Generation

\*\*2006 NERC Average

\*\*\*Energy Information Administration Data