

Crystal Powerplant
Colorado River Storage Project
Wayne N. Aspinall Storage Unit

Ancillary Services

**Crystal
Ancillary Services**

Spinning Reserve	Yes
Non-Spinning Reserve	Yes
Replacement Reserve	Yes
Regulation/Load Following	Yes
Black Start	Yes
Voltage Support	Yes

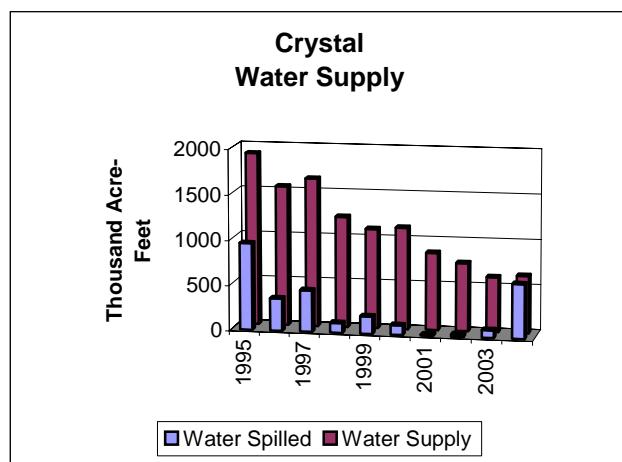
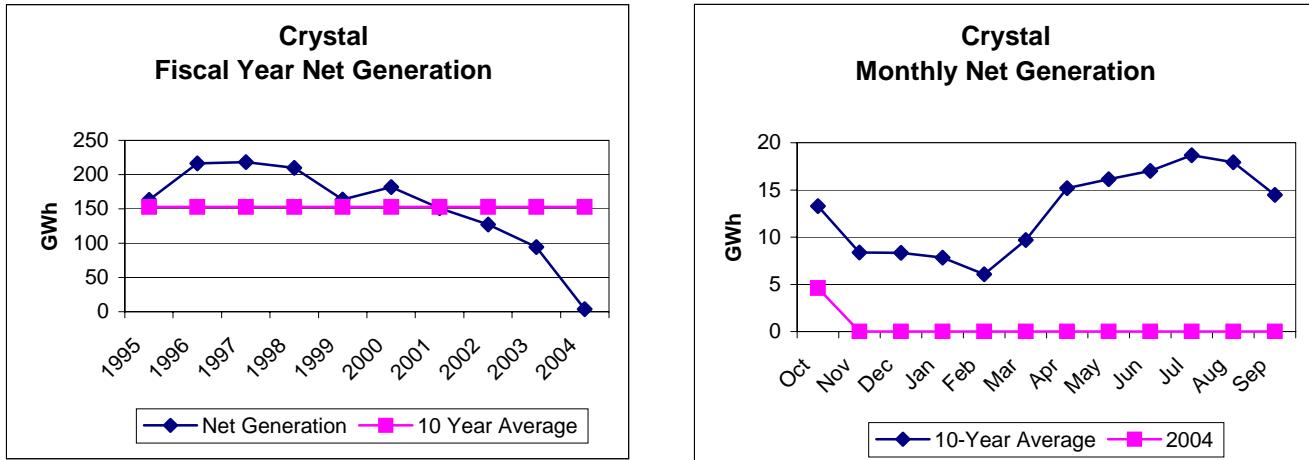
Generators

Crystal Generators
Existing Number and Capacity

Unit #	Original Capacity (kW)	Capacity Increased (kW)	Present Capacity (kW)
1	28,000	3,500	31,500
1 Unit	28,000	3,500	31,500

Crystal Powerplant
10-30 MW

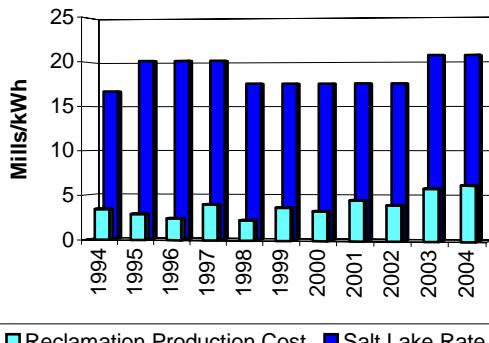
Generation



Prime Laboratory Benchmarks

Benchmark 1 **Wholesale Firm Rate**

Wholesale Firm Composite Rate **Salt Lake Rate**

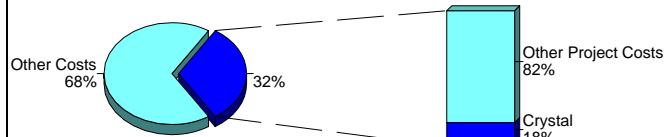


Benchmark 2

Reclamation's Production Cost as Percentage of Wholesale Firm Rate

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

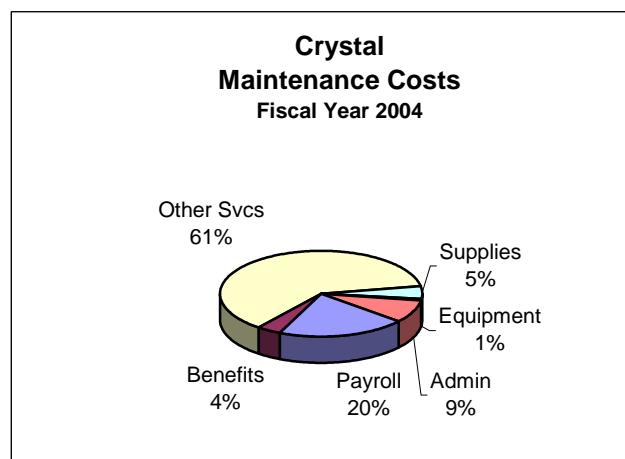
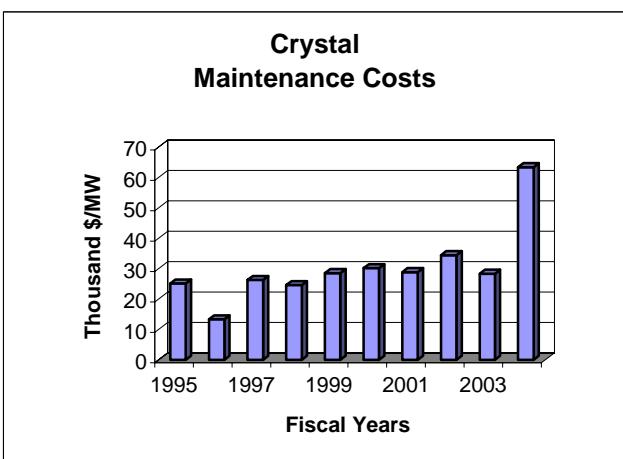
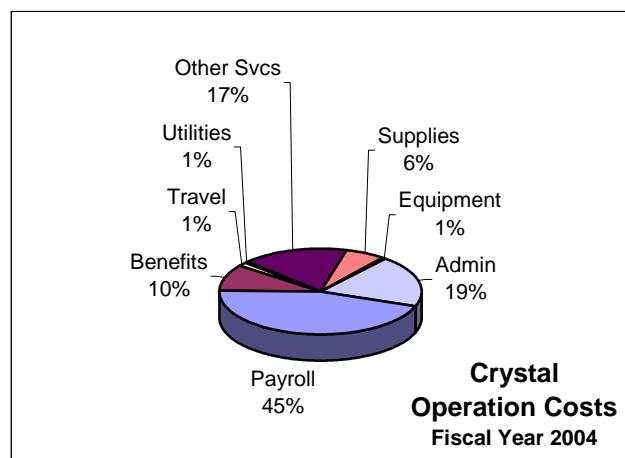
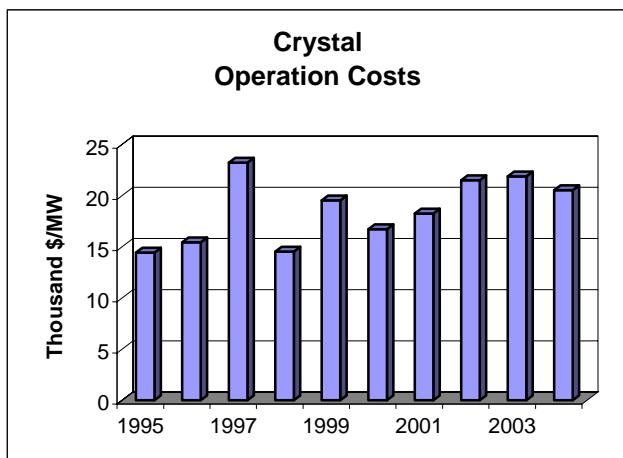
Western-Salt Lake City Project Rate



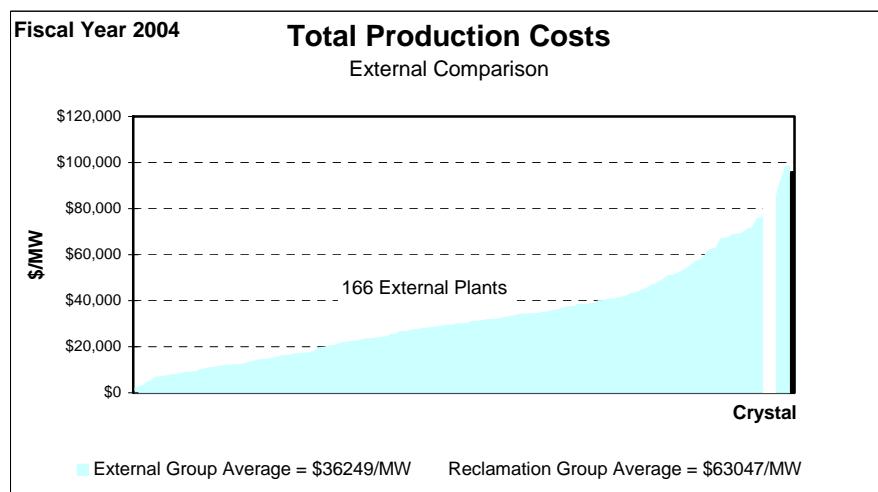
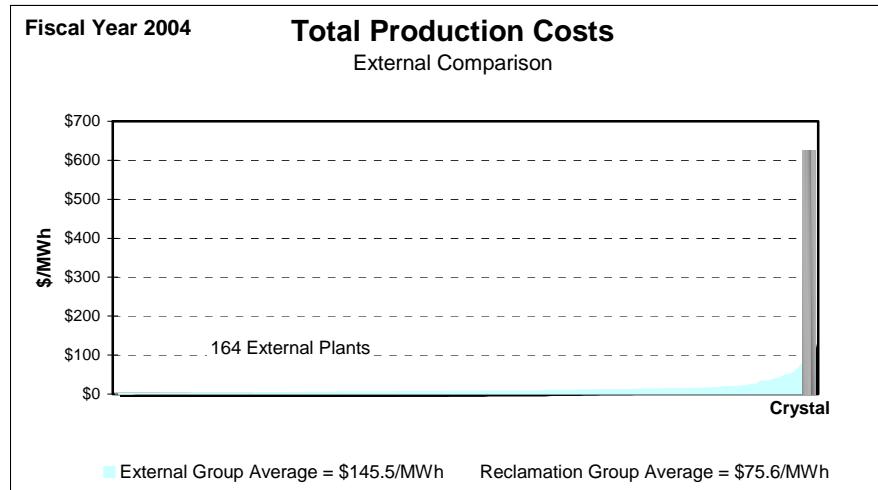
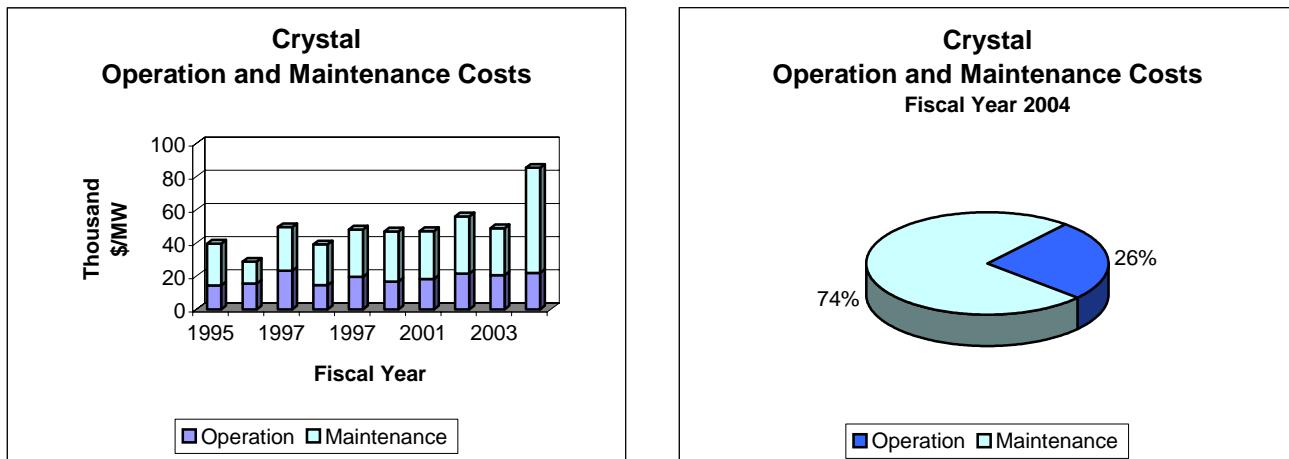
Fiscal Year 2004

Crystal Powerplant
10-30 MW

Benchmark 3
Production Cost



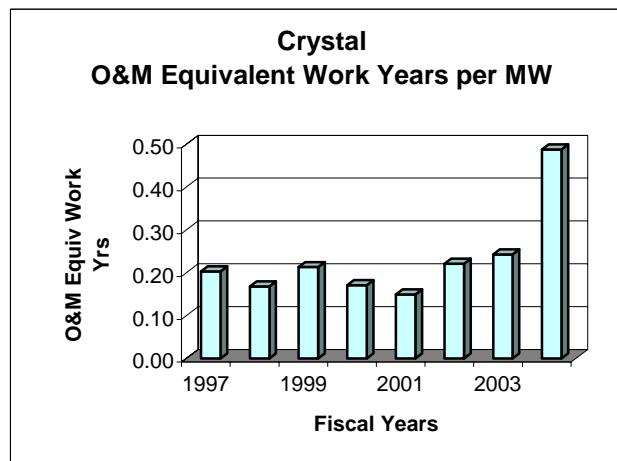
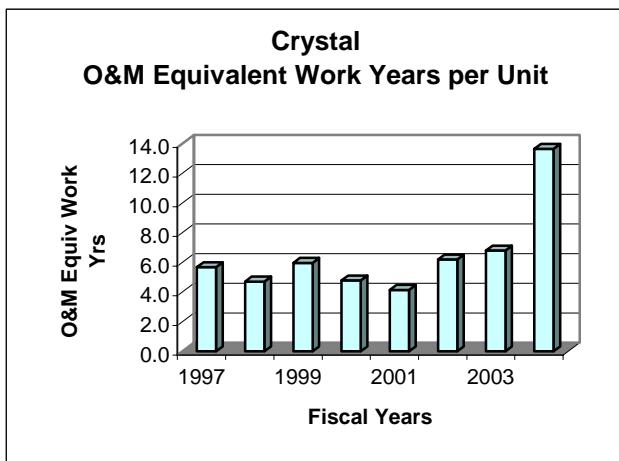
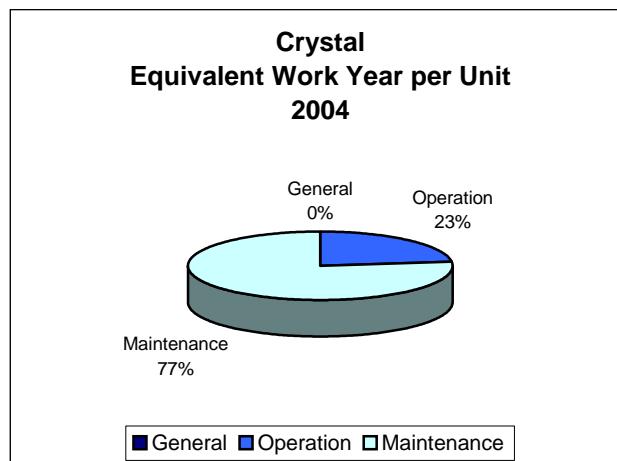
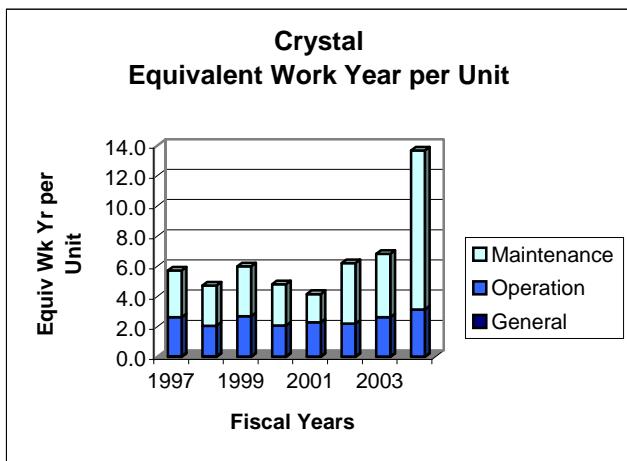
Benchmark 3
Production Cost



Benchmark 4
Workforce Deployment

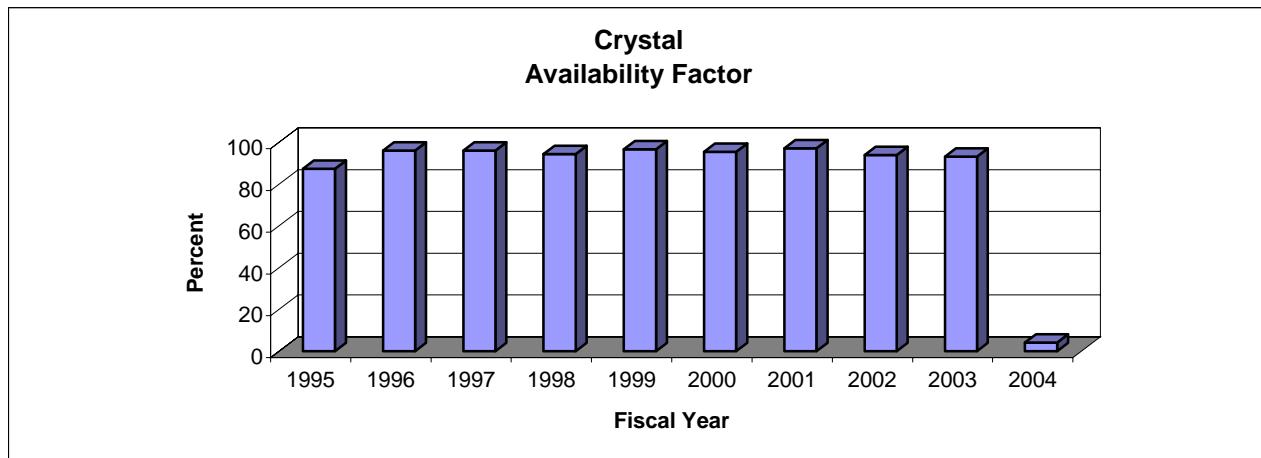
Crystal 2004 Equivalent Work Year Levels

	Equiv Work Year Charged to Powerplant	Leave Additive	Denver and Washington Equiv Work Year Additive	Total Equiv Work Year Allocated to Powerplant	Total Equiv Work Year per Generating Unit	Total Equiv Work Year per Megawatt
General	0.00	0.00	0.02	0.02	0.02	0.00
Operation	2.81	0.32	0.00	3.12	3.12	0.11
Maintenance	9.45	1.07	0.00	10.52	10.52	0.38
Total Staffing	12.26	1.38	0.02	13.66	13.66	0.49

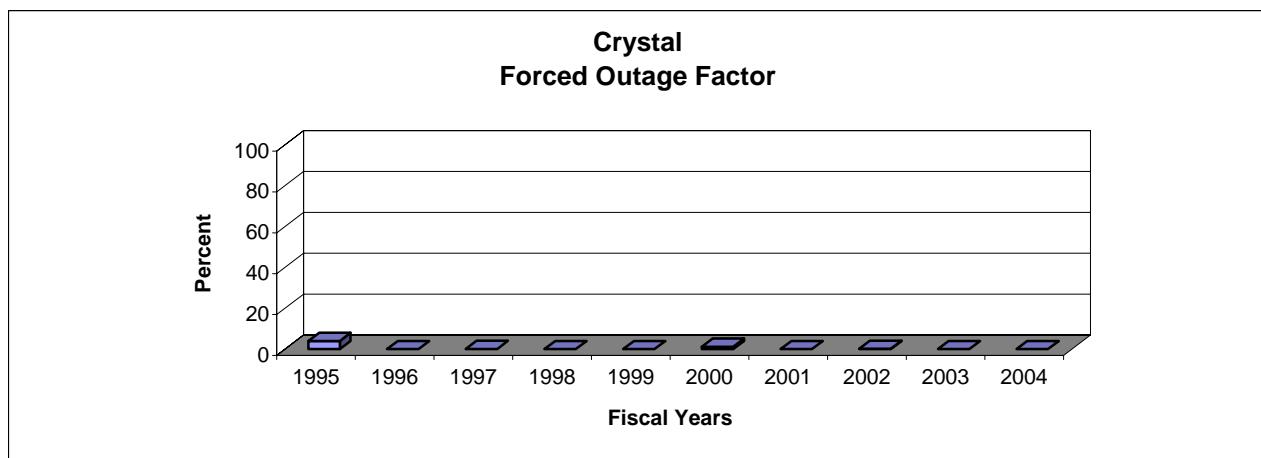


Benchmark 5

Availability Factor

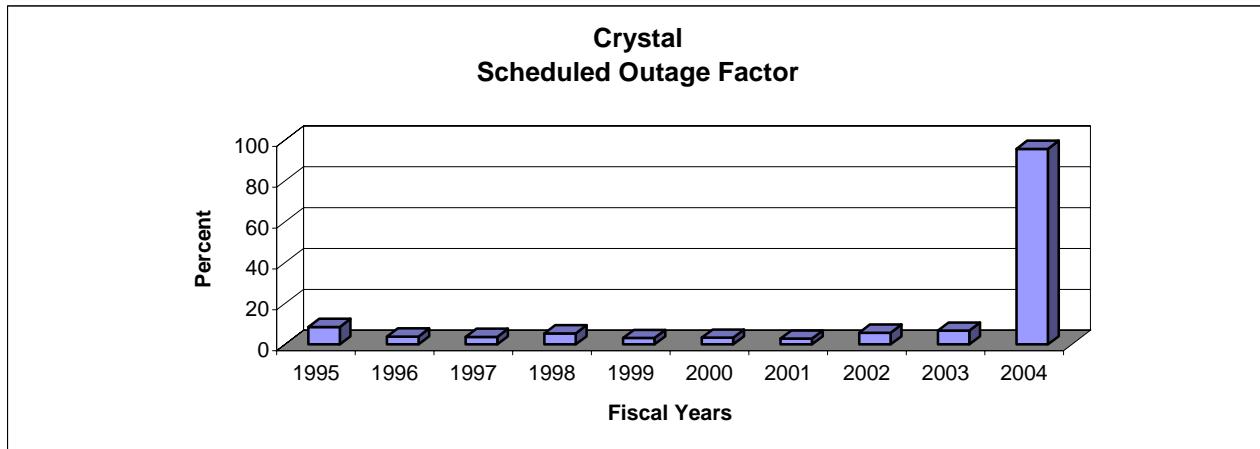


**Benchmark 6
Forced Outage Factor**

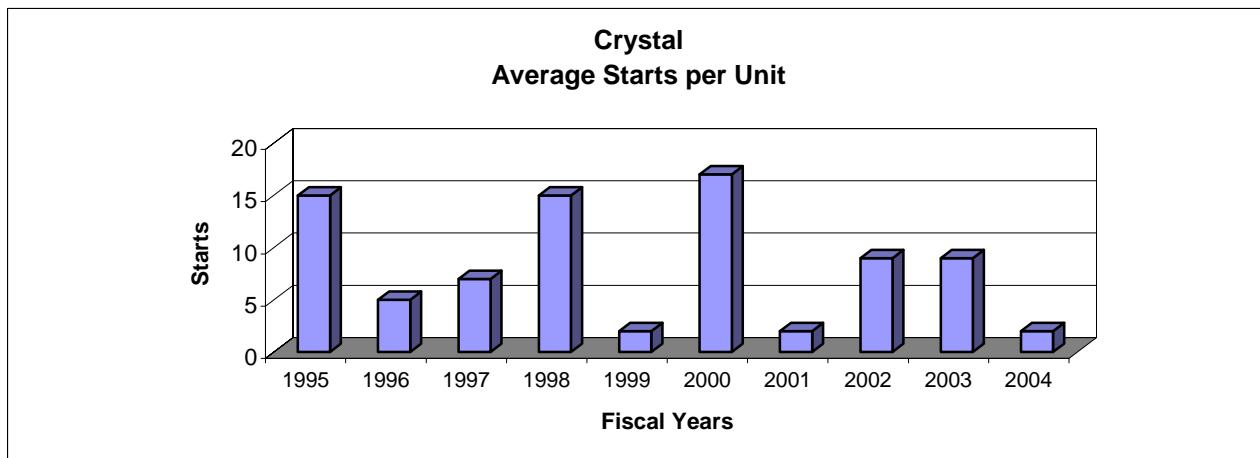


FY-95 - Transformer low voltage bushing failure

Benchmark 7
Scheduled Outage Factor



Starts



Crystal Powerplant
10-30 MW

Benchmark Data Comparison					
Fiscal Year 2004	Crystal Powerplant	Reclamation Average 10-30 MW Group	Total Reclamation Average	Industry Average	Best Performers
Wholesale Firm Rate Mills/kWh	20.7	Not Applicable	*21.06	Not Available	Not Available
Production Cost as Percentage of Wholesale Firm Rate	2.79%	Not Applicable	13.5%	Not Applicable	Not Applicable
O&M Cost \$/MWh	625.85	24.61	2.77	145.47	1.23
O&M Costs \$/MW	85,304.28	65,356.27	7,316.97	36,248.69	2,951.22
O&M Equiv Work Year per MW	0.49	0.33	0.04	Not Available	0
Availability Factor	4.2	71.0	86.9	**89.2	99.96983495
Forced Outage Factor	0.00	0.1	0.7	***1.9	0.00
Scheduled Outage Factor	95.8	28.9	12.4	**8.9	0.02

*Weighted by Net Generation

**2003 NERC Average