

**Buffalo Bill Powerplant**  
**Pick-Sloan Missouri Basin Program**

**Ancillary Services**

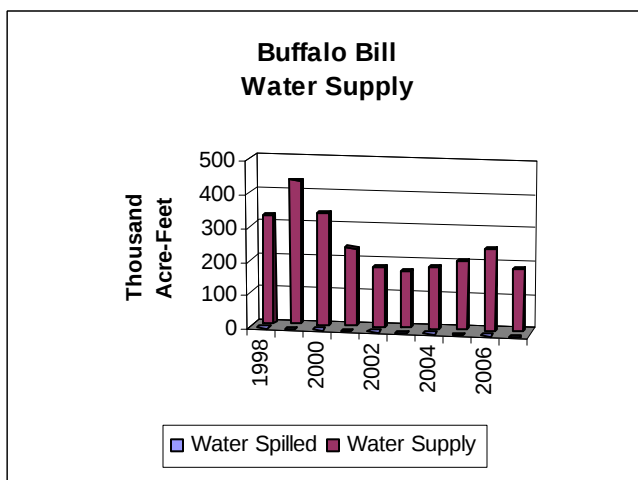
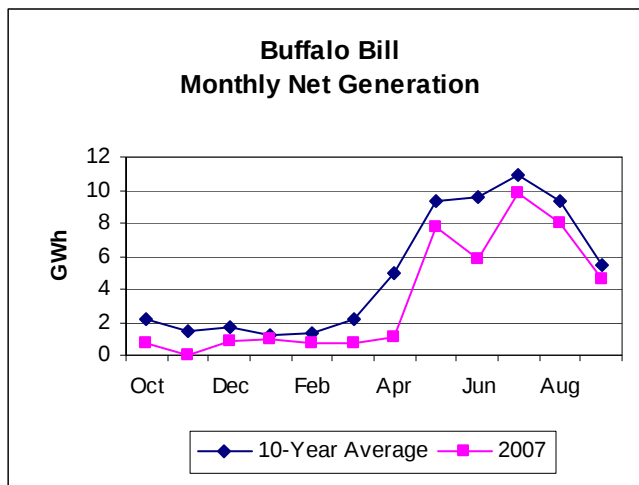
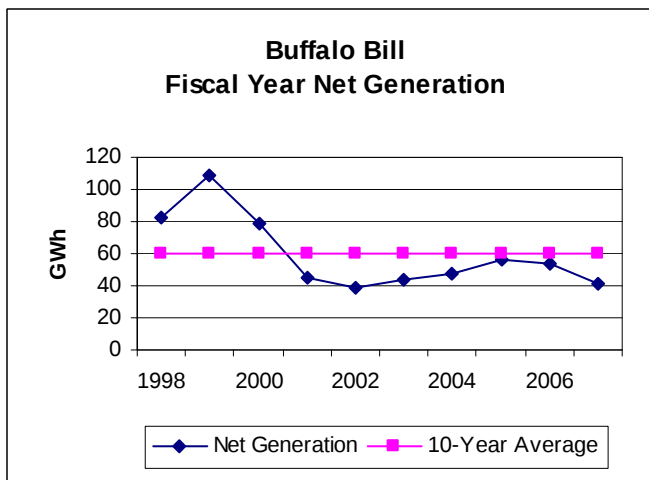
| <b>Buffalo Bill<br/>Ancillary Services</b> |     |
|--------------------------------------------|-----|
| Spinning Reserve                           | No  |
| Non-Spinning Reserve                       | No  |
| Replacement Reserve                        | No  |
| Regulation/Load Following                  | No  |
| Black Start                                | No  |
| Voltage Support                            | Yes |

**Generators**

| <b>Buffalo Bill Generators</b> |                           |                            |                             |
|--------------------------------|---------------------------|----------------------------|-----------------------------|
| Existing Number and Capacity   |                           |                            |                             |
| Unit #                         | Original Capacity<br>(kW) | Capacity Increased<br>(kW) | Present<br>Capacity<br>(kW) |
| 1                              | 6,000                     | -                          | 6,000                       |
| 2                              | 6,000                     | -                          | 6,000                       |
| 3                              | 6,000                     | -                          | 6,000                       |
| 3 units                        | 18,000                    | -                          | 18,000                      |

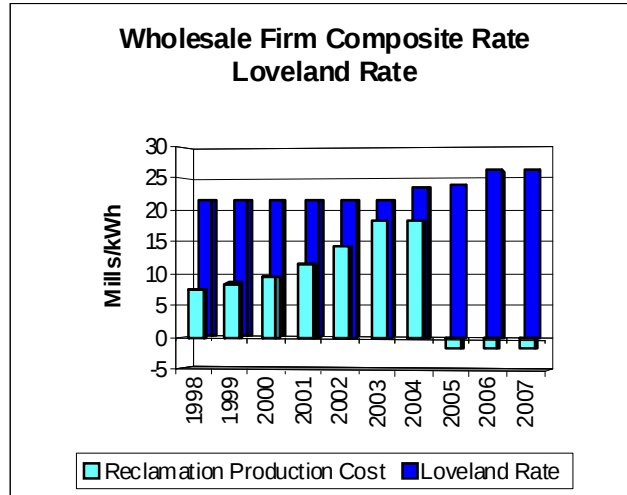
# **Buffalo Bill Powerplant** **10-30 MW**

## **Generation**

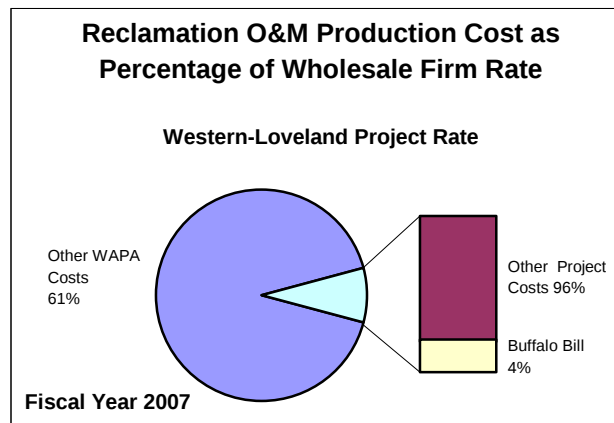


## Prime Laboratory Benchmarks

### Benchmark 1 Wholesale Firm Rate

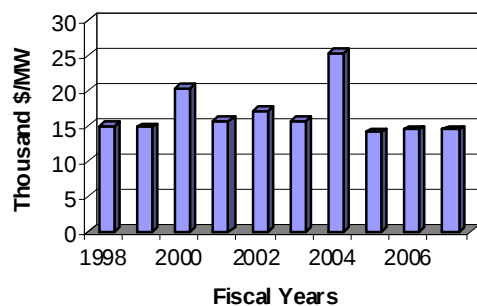


### Benchmark 2 Reclamation's Production Costs as Percentage of Wholesale Firm Rate

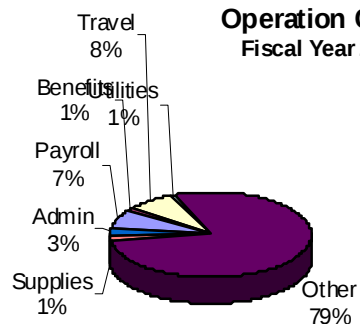


**Benchmark 3  
Production Costs**

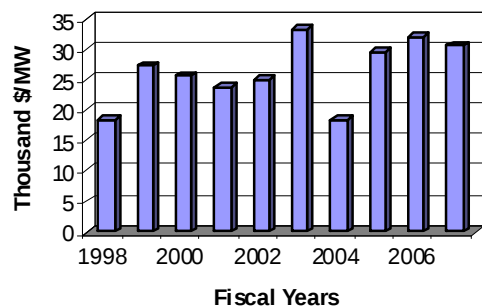
**Buffalo Bill  
Operation Costs**



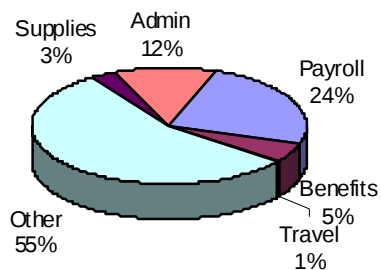
**Buffalo Bill  
Operation Costs  
Fiscal Year 2007**



**Buffalo Bill  
Maintenance Costs**

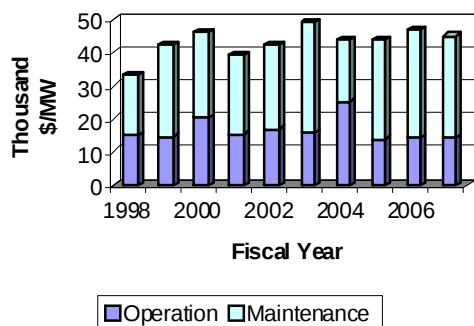


**Buffalo Bill  
Maintenance Costs  
Fiscal Year 2007**

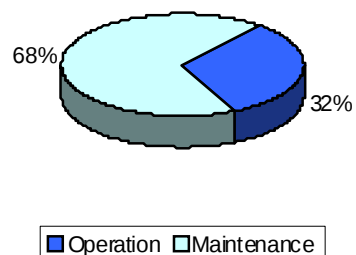


**Benchmark 3  
Production Costs**

**Buffalo Bill  
Operation and Maintenance Costs**

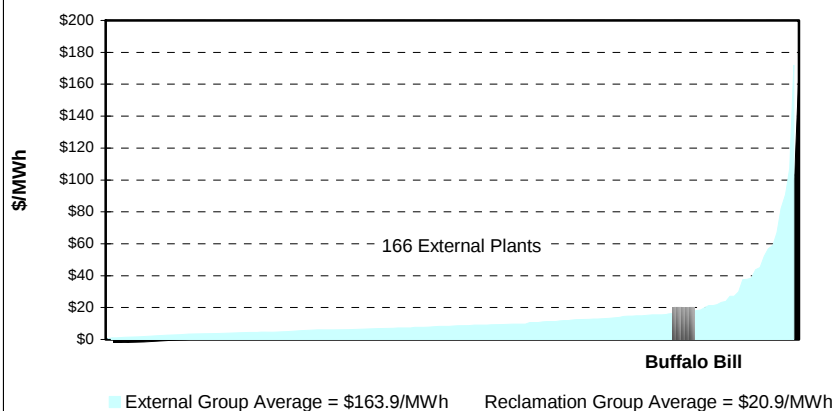


**Buffalo Bill  
Operation and Maintenance Costs  
Fiscal Year 2007**



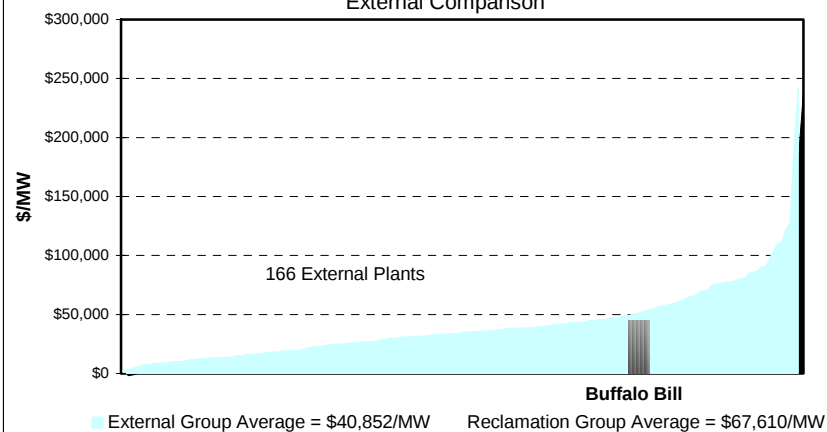
Fiscal Year 2007

**Total Production Costs  
External Comparison**



Fiscal Year 2007

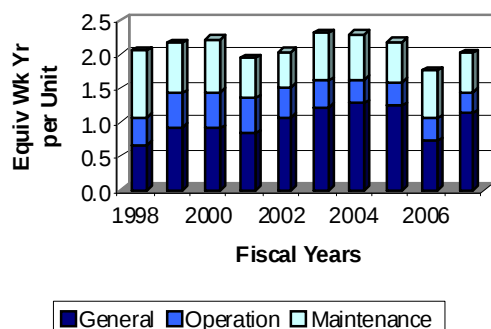
**Total Production Costs  
External Comparison**



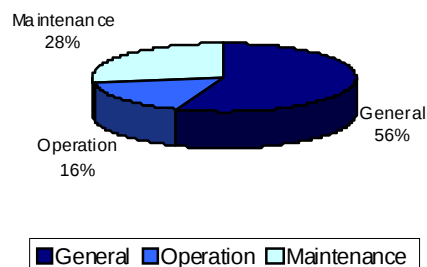
**Benchmark 4**  
**Workforce Deployment**

| <b>Buffalo Bill FY 2007 Equivalent Work Staffing Year Levels</b> |                                                     |                |                                                              |                                                    |                                                         |                                                  |
|------------------------------------------------------------------|-----------------------------------------------------|----------------|--------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------|--------------------------------------------------|
|                                                                  | 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                                                          | 2.98                                                | 0.34           | 0.05                                                         | 3.37                                               | 1.12                                                    | 0.19                                             |
| Operation                                                        | 0.86                                                | 0.10           | 0.00                                                         | 0.96                                               | 0.32                                                    | 0.05                                             |
| Maintenance                                                      | 1.52                                                | 0.17           | 0.00                                                         | 1.69                                               | 0.56                                                    | 0.09                                             |
| Total Staffing                                                   | 5.36                                                | 0.61           | 0.05                                                         | 6.02                                               | 2.01                                                    | 0.33                                             |

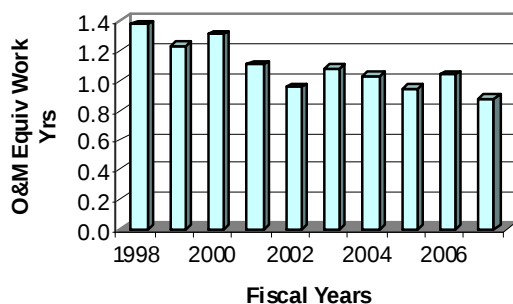
**Buffalo Bill**  
**Equivalent Work Year per Unit**



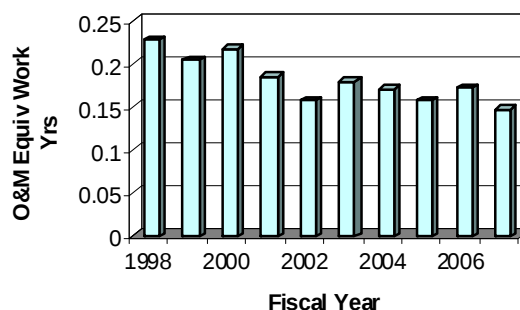
**Buffalo Bill**  
**Equivalent Work Year per Unit 2007**



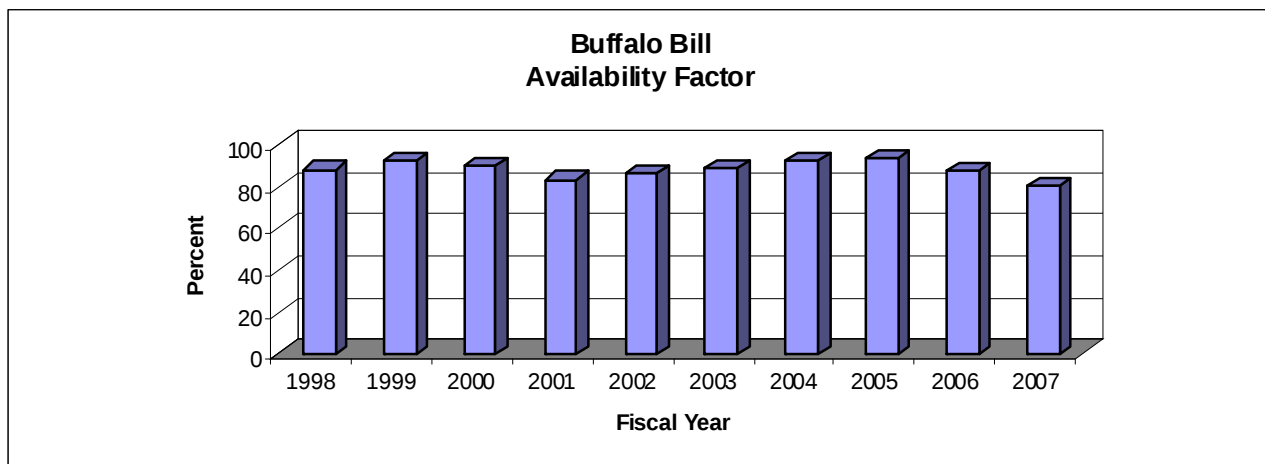
**Buffalo Bill**  
**O&M Equivalent Work Years per Unit**



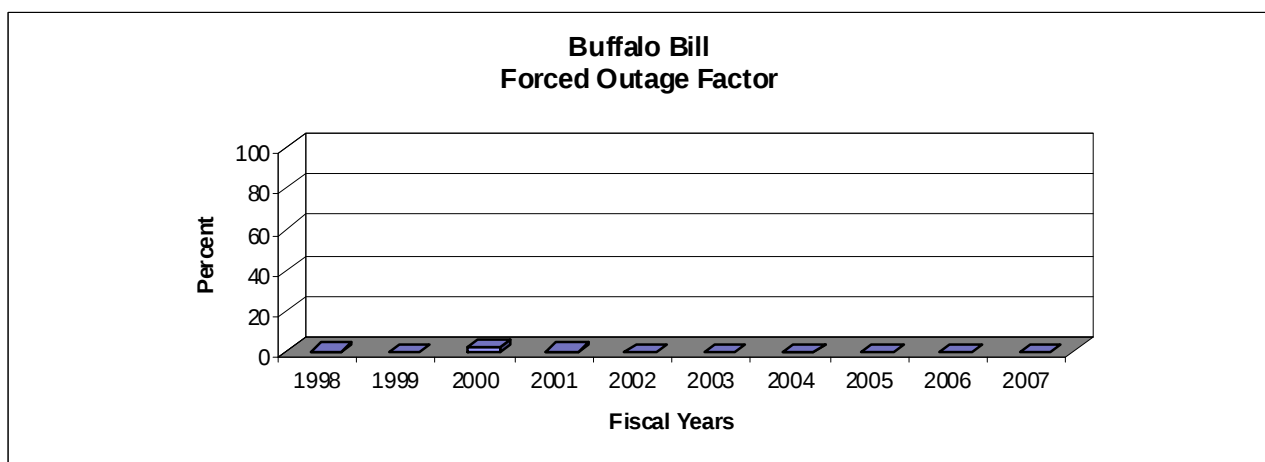
**Buffalo Bill**  
**O&M Equivalent Work Years per MW**



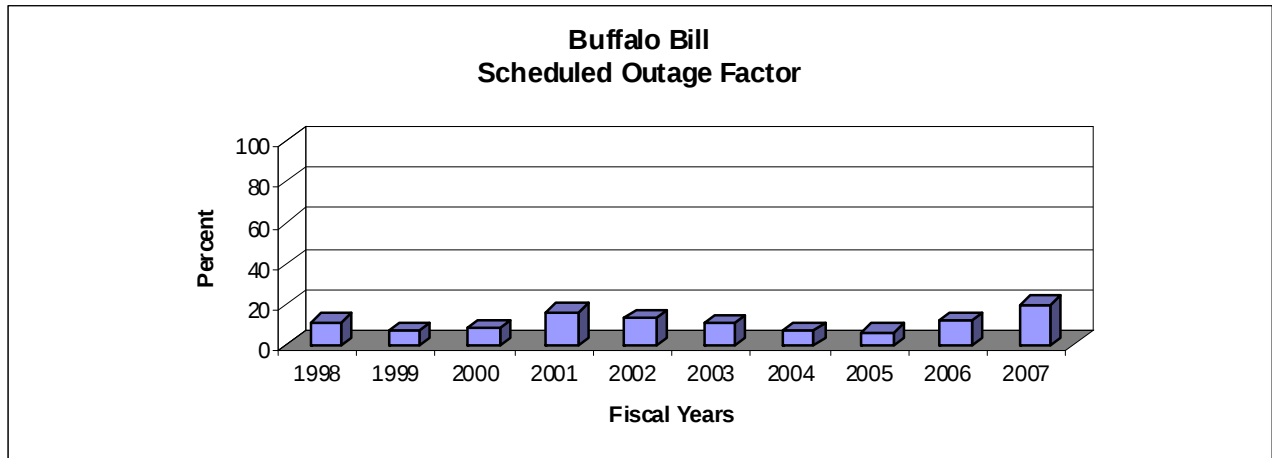
**Benchmark 5  
Plant Availability Factor**



**Benchmark 6  
Plant Forced Outage Factor**

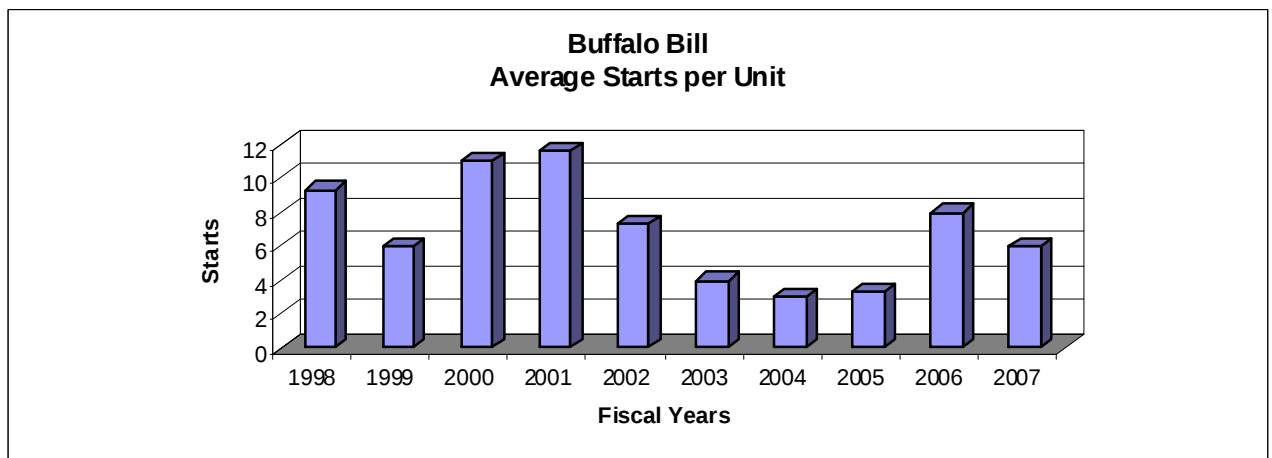


**Benchmark 7  
Plant Scheduled Outage Factor**



FY-01 - Extended outage on all units for re-coating of power penstock.

**Unit Starts**



**Buffalo Bill Powerplant**  
**10-30 MW**

| <b>Benchmark Data Comparison</b>                            |                                |                                           |                                  |                         |                        |
|-------------------------------------------------------------|--------------------------------|-------------------------------------------|----------------------------------|-------------------------|------------------------|
| <b>Fiscal Year 2007</b>                                     | <b>Buffalo Bill Powerplant</b> | <b>Reclamation Average 10-30 MW Group</b> | <b>Total Reclamation Average</b> | <b>Industry Average</b> | <b>Best Performers</b> |
| <b>Wholesale Firm Rate Mills/kWh</b>                        | 23.9                           | Not Applicable                            | *22.45                           | Not Available           | Not Available          |
| <b>Production Cost as Percentage of Wholesale Firm Rate</b> | 1.84%                          | Not Applicable                            | 12.1%                            | Not Applicable          | Not Applicable         |
| <b>O&amp;M Cost \$/MWh</b>                                  | 19.77                          | 16.40                                     | 2.76                             | ***163.95               | 1.00                   |
| <b>O&amp;M Costs \$/MW</b>                                  | 45,071                         | 62,731                                    | 7,847                            | ***40,852               | 2,897                  |
| <b>O&amp;M Equip Work Year per MW</b>                       | 0.15                           | 0.22                                      | 0.03                             | Not Available           | 0.0                    |
| <b>Availability Factor</b>                                  | 79.93                          | 88.5                                      | 82.3                             | **88.64                 | 98.5                   |
| <b>Forced Outage Factor</b>                                 | 0.03                           | 0.1                                       | 2.6                              | **2.61                  | 0.0                    |
| <b>Scheduled Outage Factor</b>                              | 20.03                          | 11.4                                      | 15.1                             | **8.74                  | 0.0                    |

\*Weighted by Net Generation

\*\*2006 NERC Average

\*\*\*Energy Information Administration Data