



## **No Evidence of a Turnaround at Prairie State**

By David Schlissel, Director of Resource Planning Analysis

September 22, 2014

### **Summary**

American Municipal Power (AMP) and Northern Illinois Municipal Power Agency (NIMPA), two of the owners of the Prairie State coal plant, have recently released data on the plant's operating performance and cost of power for the months January through August 2014. This information demonstrates that there has been no meaningful "turnaround" in either the plant's performance or its higher cost of power as compared to market prices.

### **Findings**

The recent data from AMP and NIMPA reveals the following:

1. Prairie State's actual operating performance during the eight month period January through August 2014 was 18 percent lower than its owners had budgeted. The plant achieved only an average 64 percent capacity factor, far below the 78.5 percent capacity factor that the owners had predicted.
2. Prairie State's actual operating performance during the months of May through August was approximately 26 percent below what the plant's owners had budgeted. This continued poorer than predicted performance was significant in that both Prairie State units had completed extended planned maintenance outages by the end of April that were supposed to address problems that had been experienced since startup. This poorer than budgeted performance also was important because these months included the peak summer hours during which energy market prices are very high. These are the months when it is critical that the plant perform well.
3. The 64 percent capacity factor that Prairie State achieved during the first eight months of 2014 did not represent a significant 'turnaround' from the 58 percent factor that the plant had achieved in 2012 or the 60 percent capacity factor it achieved in 2013.
4. Prairie State's operating costs during the first eight months of 2014 were approximately \$4 million dollars higher than the owners had budgeted. When measured on a dollars per megawatt basis (\$ per MWh), Prairie State's actual operating costs during the months of January through August 2014 were approximately 24 percent higher than had been budgeted.
5. Prairie State's total power costs for its owners and, consequently, for the communities that buy power from these owners, continued to be very expensive

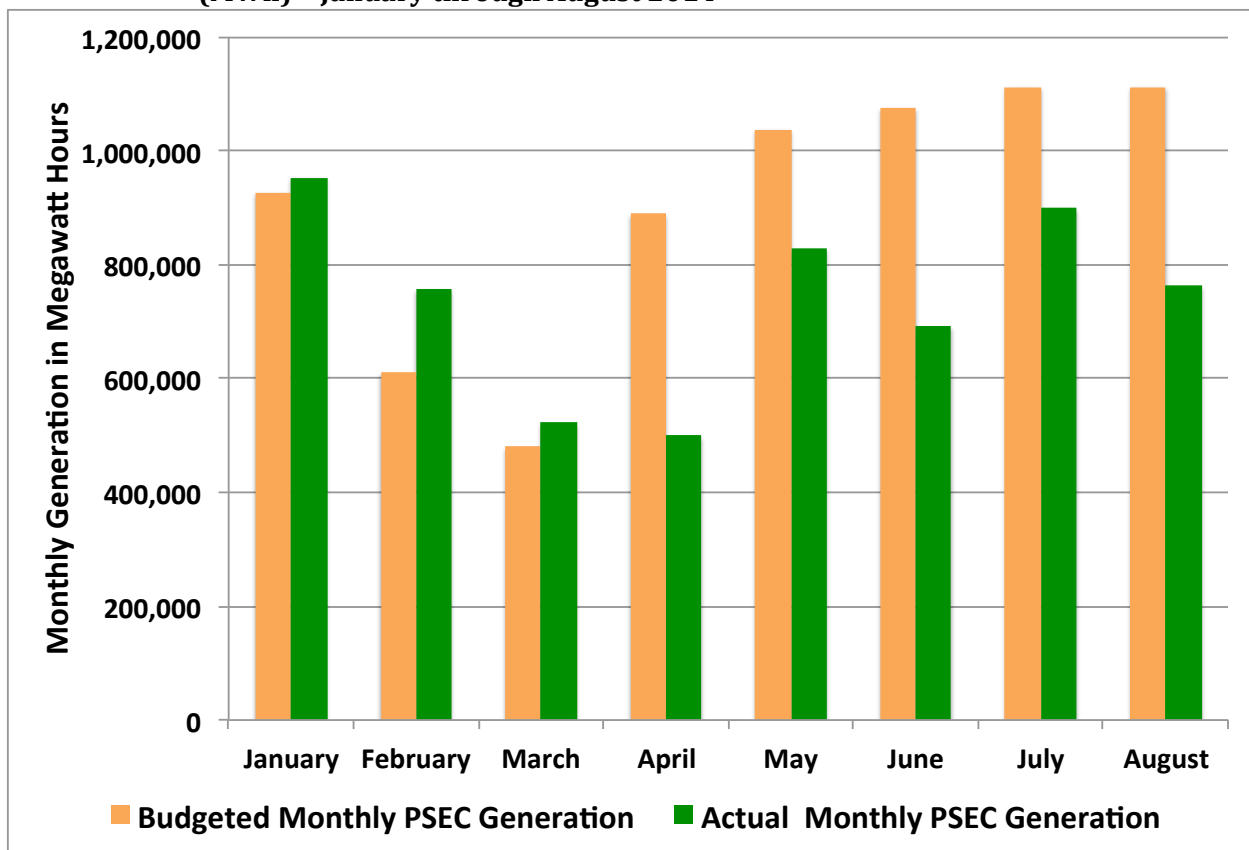
during the first eight months of the year, as compared to the cost of buying energy and capacity from the competitive PJM Wholesale Markets.

6. For example, AMP’s average cost of power from Prairie State during these months was \$76.07 per MWh, not including transmission or congestion costs. This was 40 percent more than it would have cost AMP to purchase the same amount of energy and capacity from the competitive PJM wholesale markets.
7. NIMPA’s average cost of power from Prairie State during the months of January through July 2014 was \$84.42 per MWh. This was approximately 68 percent more expensive than it would have cost NIMPA to buy the same amounts of energy and capacity from the competitive PJM wholesale markets.
8. There is no evidence that Prairie State has made or is on the verge of making a significant turnabout in terms of operating performance or costs or that the cost of power will be below market prices at any time in the foreseeable future. Instead, the cost of power from Prairie State will continue to be much more expensive than buying power from the competitive wholesale markets for many years.

### Operating Performance

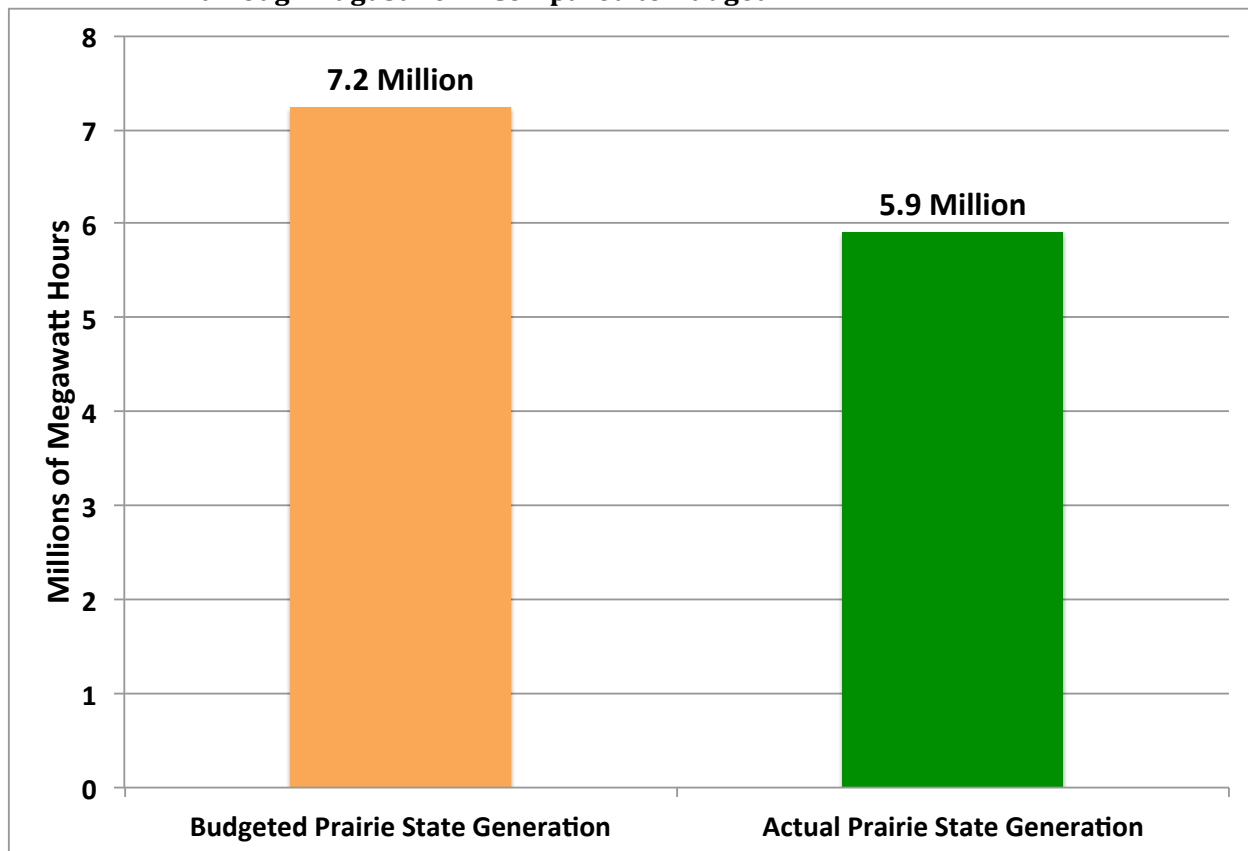
As shown in Figure 1, below, Prairie State’s actual operating performance was significantly worse than its budgeted performance in five of the eight months between January 1 and August 31, 2014.

**Figure 1: Prairie State Actual Versus Budgeted Monthly Generation in Megawatt Hours (MWh) – January through August 2014**



In fact, Prairie State’s actual total generation during this eight month long period was more than 18 percent lower than what the plant’s owners had budgeted, as can be seen in Figure 2, below.

**Figure 2: Prairie State Actual Total Generation for the Eight Month Period January through August 2014 Compared to Budget.**

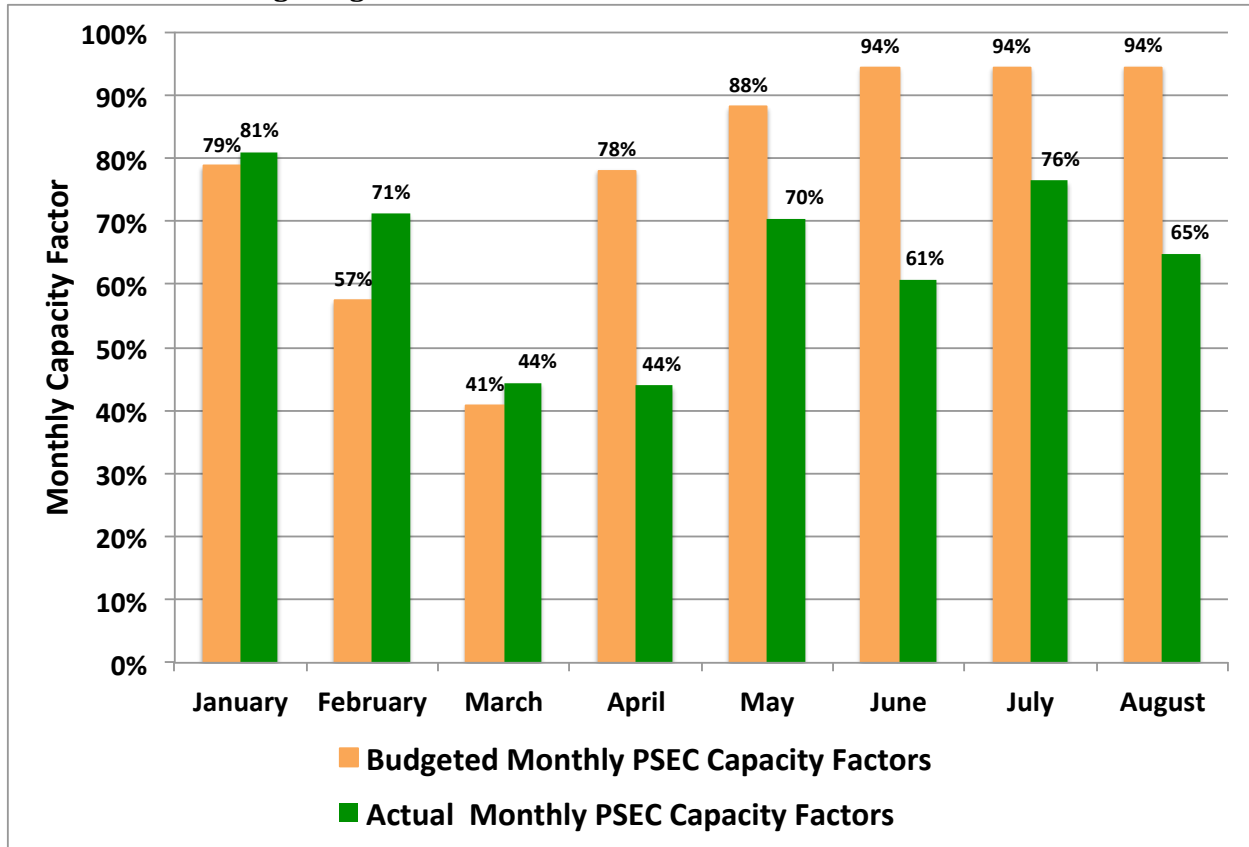


Moreover, the plant’s actual operating performance in February and March 2014 only looks good because its budgeted performance in those months was set so low due to the planned extended Unit 2 outage.

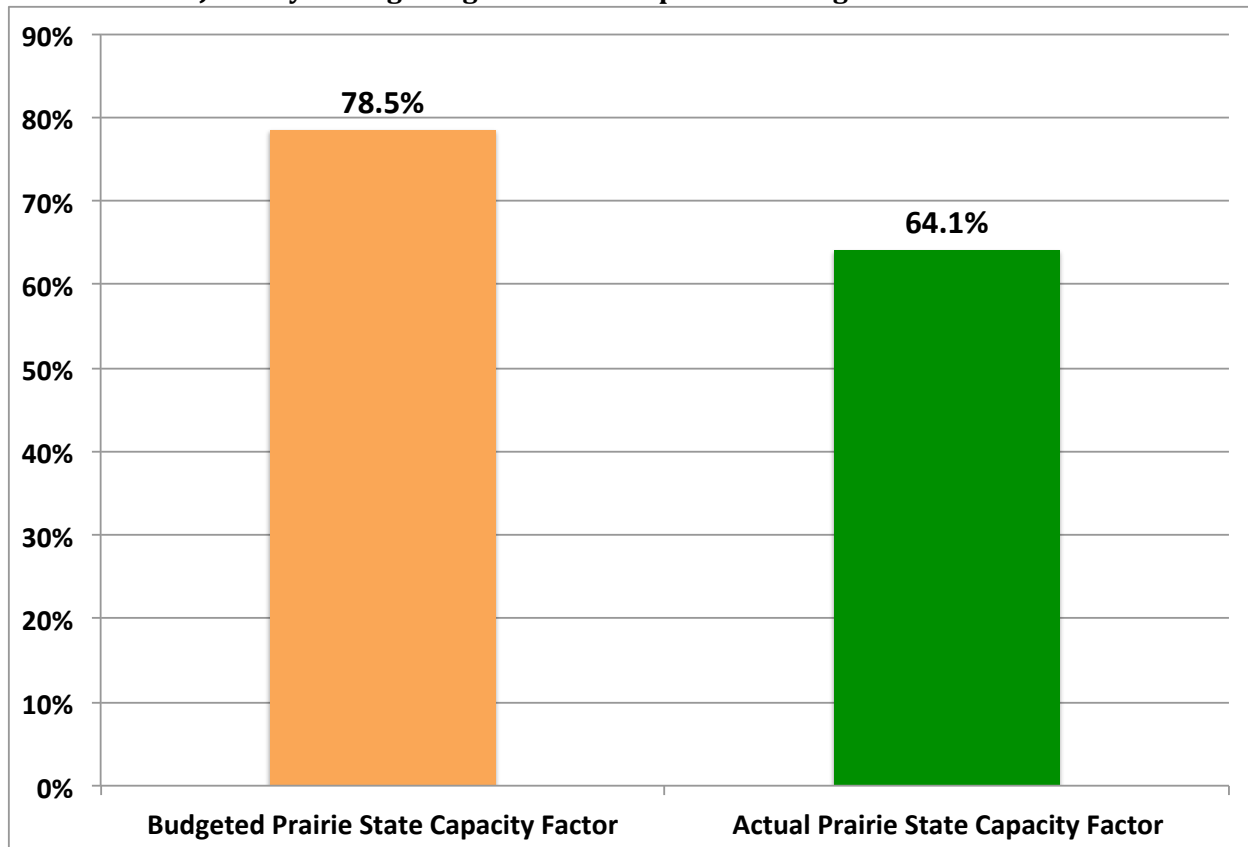
A power plant’s capacity factor is an accepted industry measure of how well a plant operates. The capacity factor is calculated by dividing the plant’s actual generation by how much the plant would generate if it operated at full power for 100 percent of the hours in the month or months being considered. The higher the capacity factor, the better the plant has operated.

As shown in Figure 3, below, Prairie State’s actual monthly capacity factors in the five months, April through August 2014, were significantly lower than the plant’s budgeted operating performance. In fact, as shown in Figure 4, below, Prairie State achieved only a 64.1 percent capacity factor during this period, far below the 78.5 percent capacity factor that its owners had budgeted.

**Figure 3: Prairie State's Actual versus Budgeted Monthly Capacity Factors - January through August 2014.**



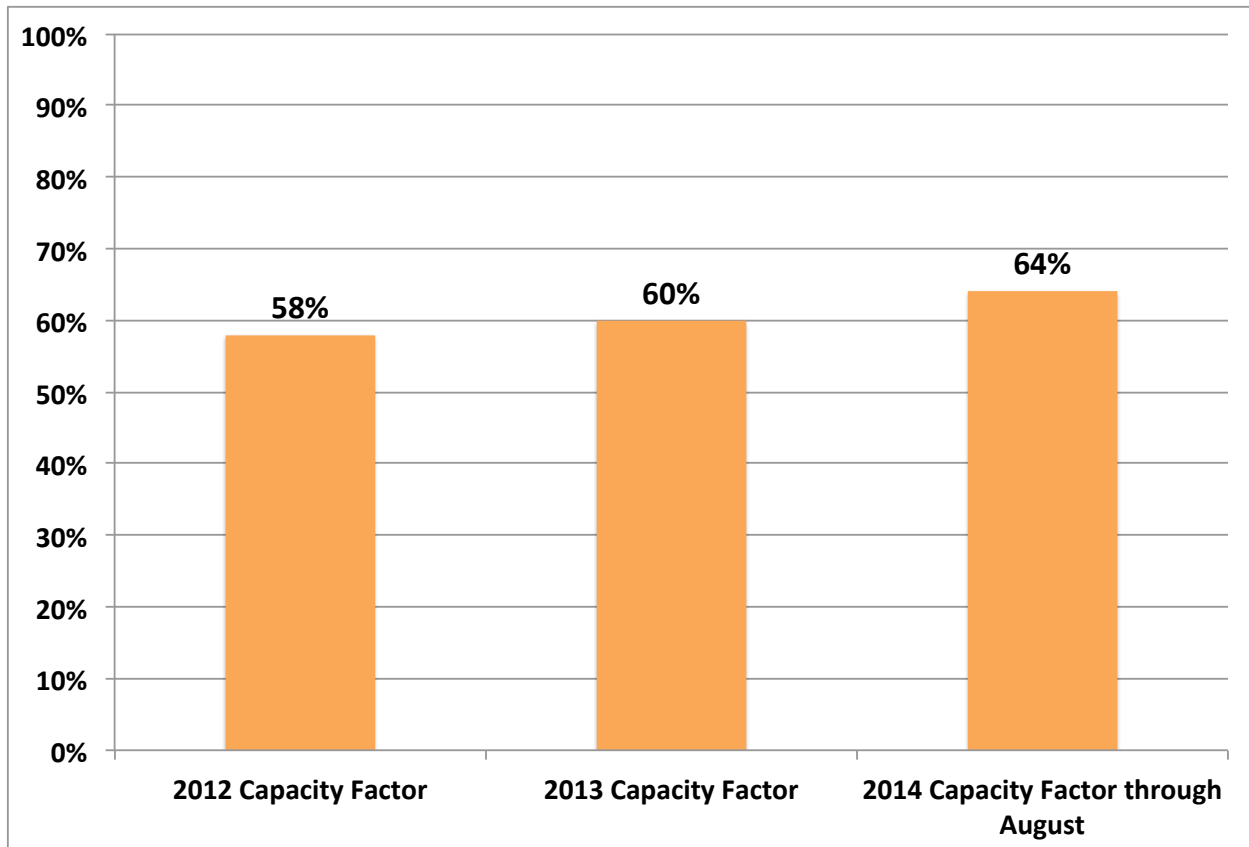
**Figure 4: Prairie State's Actual Capacity Factor for the Entire Eight Month Period January through August 2014 compared to Budget.**



Prairie State's generation during the months of May through August was approximately 26 percent below what the owners had budgeted. This continuing poorer than expected performance is important given that (1) by the end of April both Units had completed extended maintenance outages, during which the owners had planned to address equipment problems that had plagued the plant since its initial startup and (2) the months of May through August 2014 included the peak summer demand period during which market prices were the highest and during which it was essential that the plant operate the best. Unfortunately the repairs conducted at Prairie State to date do not seem to have been entirely successful in eliminating its operating issues.

Figure 5, below, shows that there has not been a significant improvement in Prairie State's operating performance to date in 2014 as compared to the plant's operating performance in 2012 and 2013.

**Figure 5: Prairie State’s Average Capacity Factors in 2012, 2013 and the First Eight Months of 2014.**

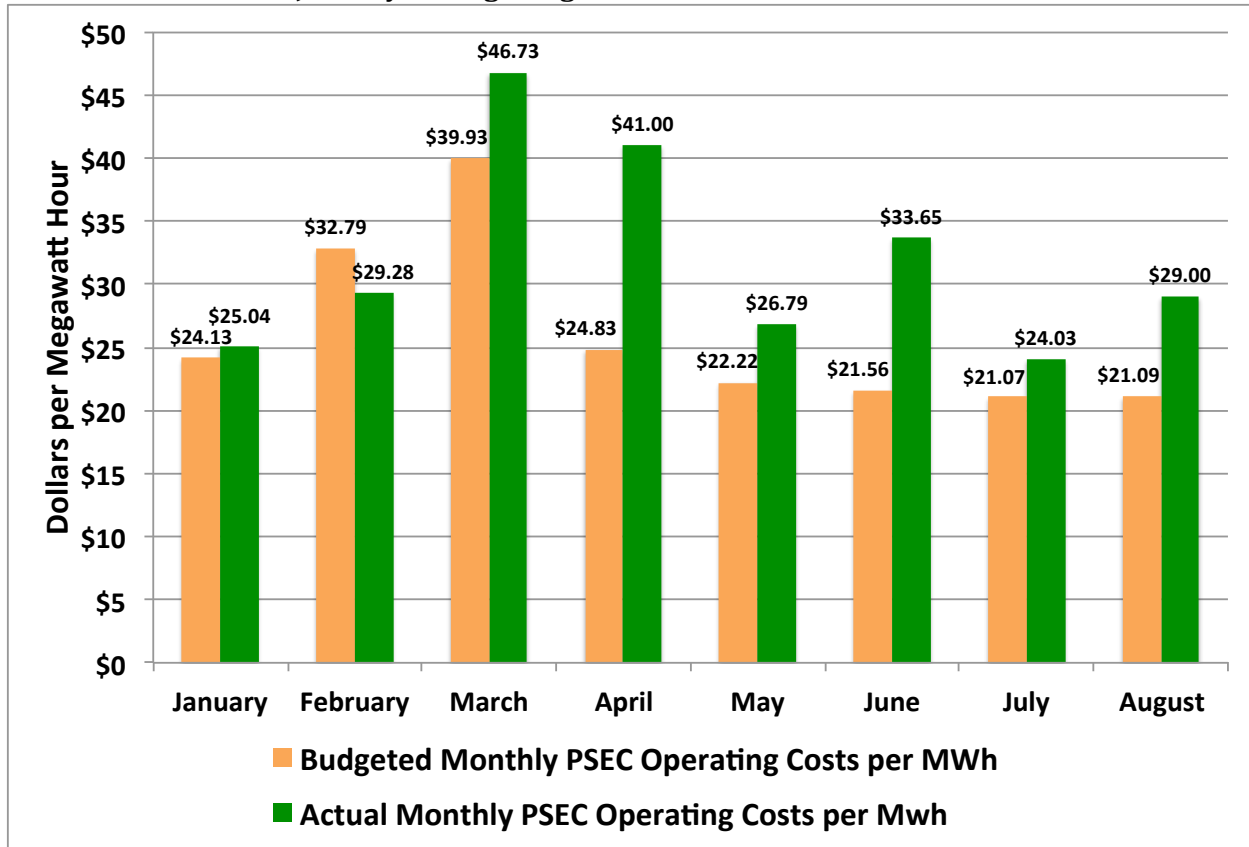


This does not indicate a major ‘turnaround’ in operating performance, nor is there any evidence that Prairie State actually will achieve the excellent operating performance that its owners claim for the plant on a sustained long-term basis.

### **Prairie State’s Operating Costs**

Prairie State’s actual operating costs have been higher than had been budgeted both for total operating costs and for operating costs per MWh. For example, the plant’s actual total operating costs during the months of January through August 2014 were approximately \$4 million higher than had been budgeted. When measured as dollars per MWh, Prairie State’s actual operating costs were some 24 percent higher than had been budgeted, as shown in Figure 6, below. These operating costs are over and above the costs of debt service for the plant.

**Figure 6: Prairie State’s Actual versus Budgeted Monthly Operating Costs in Dollars per MWh – January through August 2014.**

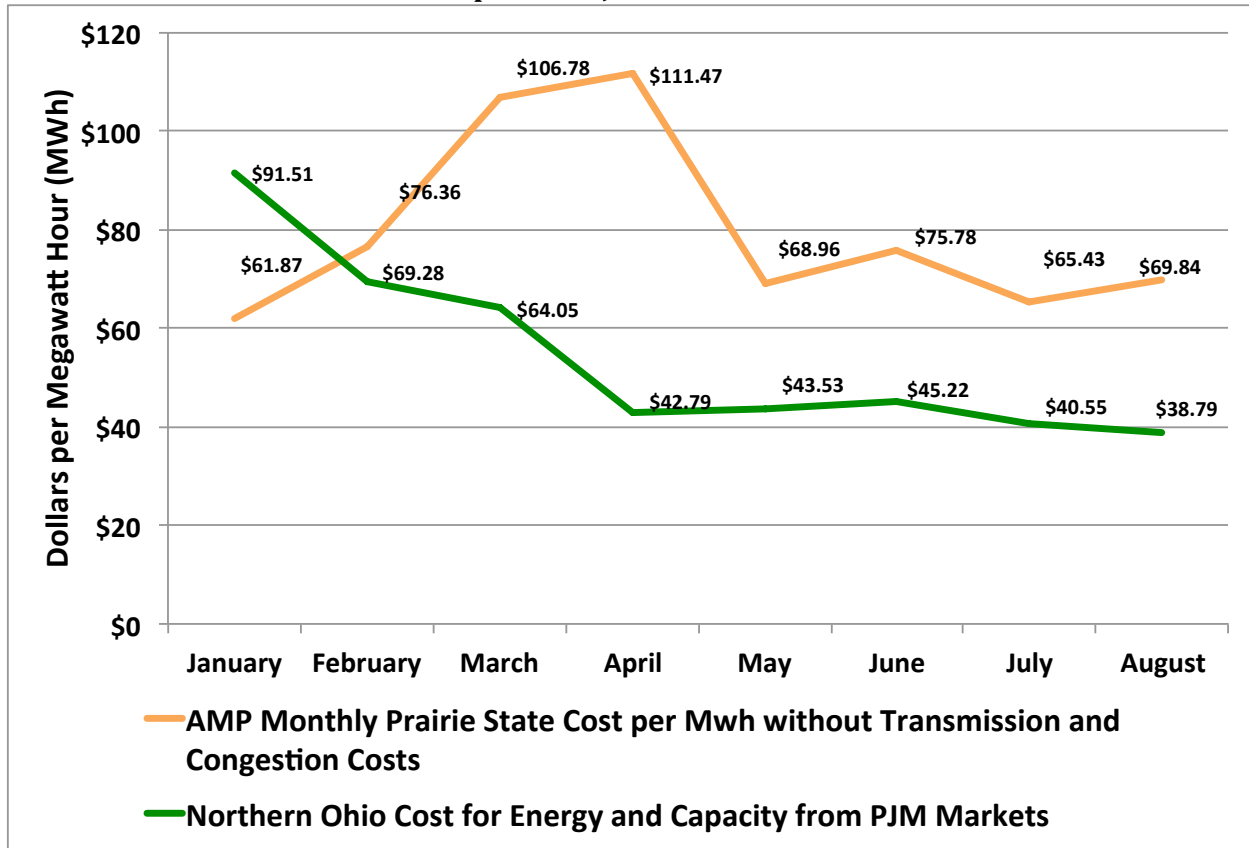


### **Prairie State Total Power Costs for Owners and Communities**

Prairie State’s total power costs continue to be very high compared to buying energy and capacity from the wholesale markets due to (1) the plant’s continuing poorer than budgeted generation, (2) its higher than budgeted operating costs and (3) the owners’ ongoing debt costs associated with the high cost of building the plant.

For example, AMP’s cost of power from Prairie State remains very high, even without considering transmission and congestion costs, as shown in Figure 7, below.

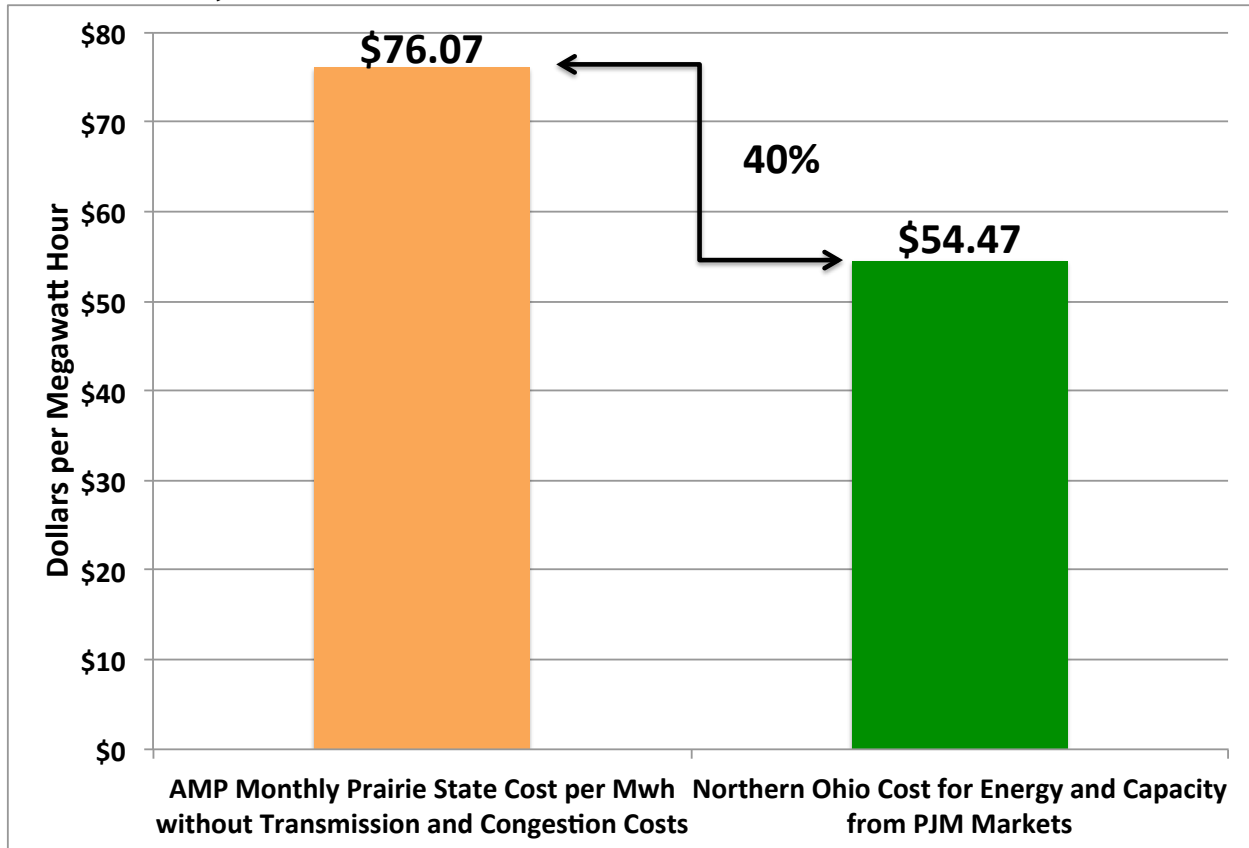
**Figure 7: AMP's Monthly Costs of Power from Prairie State for the First Eight Months of 2014 (Not Including Transmission and Congestion Costs) Compared to Buying Power from the Competitive PJM Wholesale Markets.**



Indeed, AMP's average cost of power from Prairie State during the first eight months of 2014 was \$76.07 per MWh, again without transmission and congestion costs. If these costs were available at this time, and were included, AMP's cost of power from Prairie State would have been substantially higher during this period. As shown in Figure 8, below, this \$76.07 per MWh cost of Prairie State power was 40 percent higher than it would have cost to buy the same amounts of energy and capacity from the competitive PJM wholesale markets. And this was a period that included very expensive energy market prices in January and February 2014 during the extreme cold snap caused by the 'polar vortex' event.



**Figure 8: AMP Average Cost of Prairie State Power during the Months of January through August 2014 Compared to Cost of Buying Power from Competitive PJM Wholesale Markets.**



As shown in Figure 9, below, NIMPA's monthly cost of power from Prairie State during the period January through July 2014 also was significantly higher than it would have cost to buy the same amounts of energy and capacity from the competitive PJM wholesale markets.

**Figure 9: NIMPA's Monthly Costs of Power from Prairie State for the First Seven Months of 2014 Compared to the Cost of Buying Power from the Competitive PJM Wholesale Markets.**

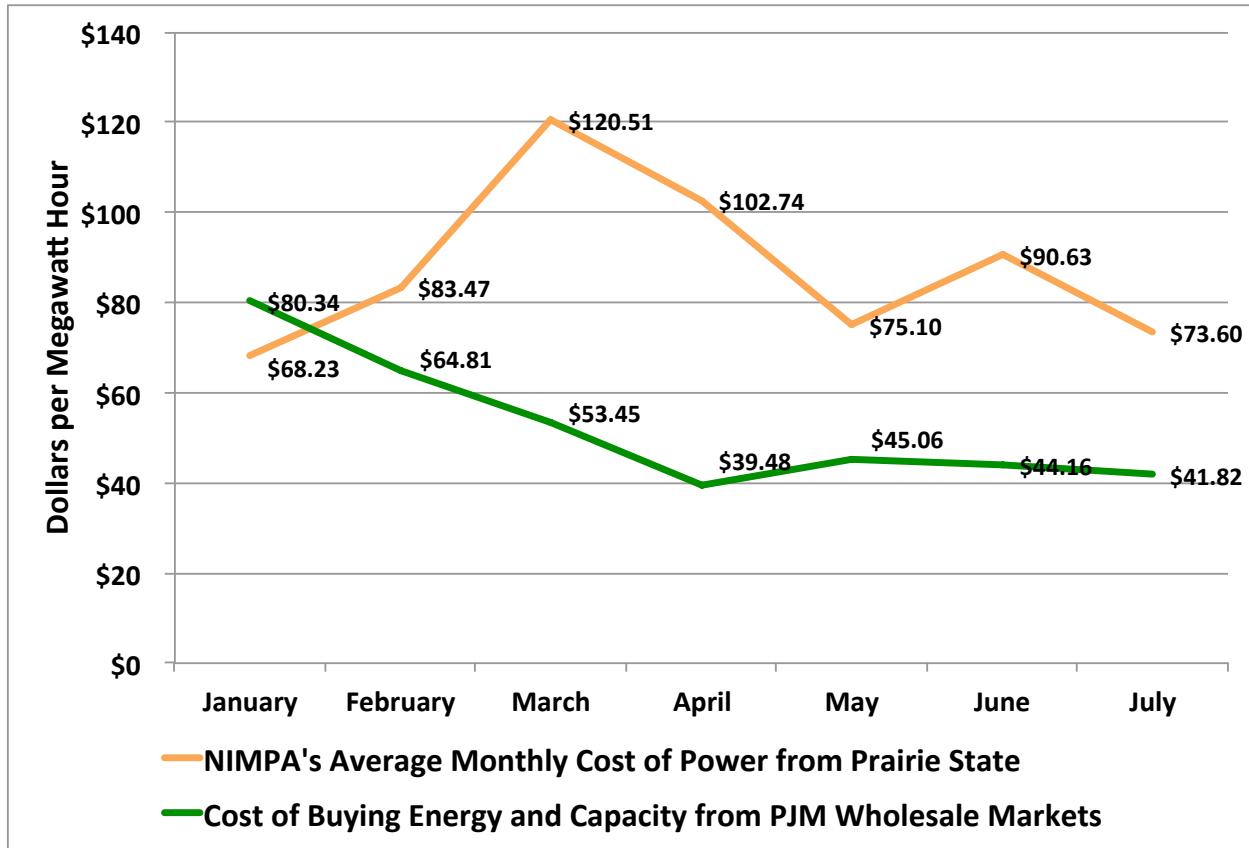


Figure 9 only includes costs for the period January through July 2014 because NIMPA has not yet released its costs for August.

NIMPA's average cost of power from Prairie State during the first six months of 2014 was \$86.67 per MWh. This was approximately 64 percent higher than the average \$50.34 per MWh that it would have cost NIMPA to purchase an equivalent amount of energy and capacity from the competitive PJM wholesale market during these same months.

**Figure 10: NIMPA Average Cost of Prairie State Power during the Months of January through July 2014 Compared to Cost of Buying Power from Competitive PJM Wholesale Markets.**

