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April 1, 2003

MEMORANDUM

TO: Power Committee

FROM: Terry Morlan

SUBJECT: Fuel Price and Electricity Demand Forecast Revisions

At the meeting on April 8, I will brief the Power Committee on changes to the draft forecasts of fuel prices and electricity demand. The changes have been made in response to public comments and updated data and information received since the draft forecasts were issued in three separate papers during the last half of 2002. This memorandum describes the major changes very briefly.

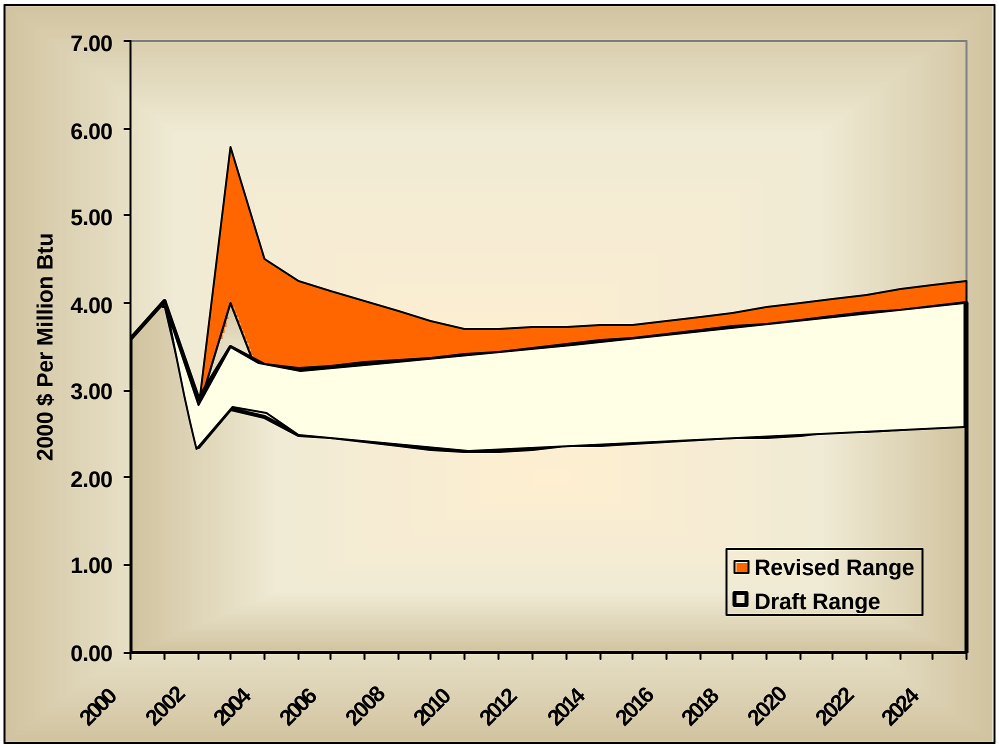
Fuel Price Forecasts

Natural gas markets have been displaying greatly increased volatility in the last few years. That alone would lead to expected higher average prices if it continues in the future. But, in addition, natural gas supplies have not expanded as expected in response to high prices in 2001, leading to concerns about declining conventional natural gas supplies. Many forecasters have been raising their outlook for future natural gas prices, especially for the next 3 or 4 years.

I have raised the near-term outlook for natural gas prices for 2003 and 2004 to reflect recent experience and current short-term outlooks. In addition, I have increased the long-term forecast by roughly $.25 to $.30 per million Btu in 2000 dollars. After a period of high near-term prices ($5 in 2003 and $4 in 2004) the medium forecast assumes prices on average will increase from $3.25 in 2005 to $3.60 by 2025. It is important to remember that these are long-term averages, and that the Council's plan also will address the volatility around these averages in its power plan. I have not changed the forecasts for oil or coal prices from the draft.

The graph below compares the draft and revised natural gas prices. It is best viewed on your computer screen. The revised forecast range is the dark orange area, the draft range is a yellow area but it is semitransparent so the orange shows through where the ranges overlap. This gives a good view of both the short-term and long-term changes.

Draft and Revised Natural Gas Price Forecast Ranges



Electricity Demand

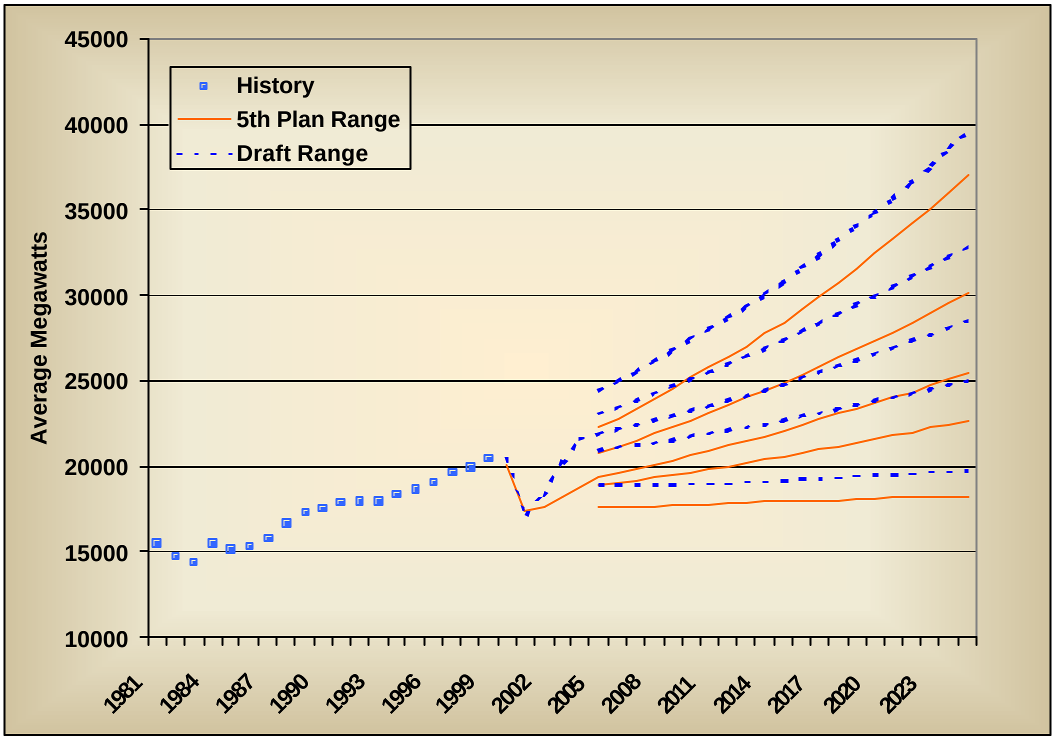
The most significant change to the electricity demand forecast is a new forecast of aluminum plant electricity demand. In the draft forecast, we had not yet developed a range of aluminum demand forecasts. Since then, the staff has done a detailed analysis of the aluminum industry with the help of its Demand Forecasting Advisory Committee and comments received in response to the issue paper on "Forecasting Electricity Demand of the Region's Aluminum Plants". It has become clear that the region's aluminum plants are in difficult straits. Our analysis, combined with current expectations of future electricity prices in the region and world aluminum prices, led us to a forecast that at most 4 of the region's remaining 8 plants being able to operate on a sustained basis in the future. It appears more likely that only one or two will remain in operation. With only two plants assumed to operate, the medium case forecast is reduced by nearly 1,700 average megawatts from the amount shown in the draft forecast.

Due to the uncertainty of aluminum plant loads, and their extreme sensitivity to electricity and aluminum prices, the staff has decided to model the potential variability of their electricity demands within the portfolio risk model. Nevertheless, the official demand forecast range reflects much lower expected demand for electricity by the region's aluminum smelters.

I have made other adjustments to the demand forecasts based on recent data, the nature of forecast errors in the 4th plan forecasts, the estimated effects of the recent electricity crisis, and the expectation of higher electricity prices in the future compared to the 4th plan forecasts. These include significantly lower industrial demand, slightly lower residential demand, and small increases in commercial sector demand.

In total, the demand forecast in 2025 is 3,000 average megawatts lower than the draft forecast released last summer. That is about a 10 percent reduction in 2025 demand. The average growth rate from 2000 to 2025 is reduced from 1.3 percent in the draft to 1.0 percent. A large amount of the change is due to the aluminum forecasts, but the non-aluminum forecast is also lowered from a 1.5 percent annual growth to 1.3 percent. The figure below shows the draft (dashed lines) compared to the revised (solid lines) demand forecast ranges.

Comparison of Draft and Revised Total Electricity Demand Forecasts



This demand forecast is intended to reflect what electricity use would be without additional programmatic conservation. Increased energy prices will also have the effect of increasing the amount of cost-effective conservation program savings in the 5th power plan and also consumer participation in such programs. Tom Eckman will be briefing the Power Committee on conservation assessment at the April 8 meeting.