

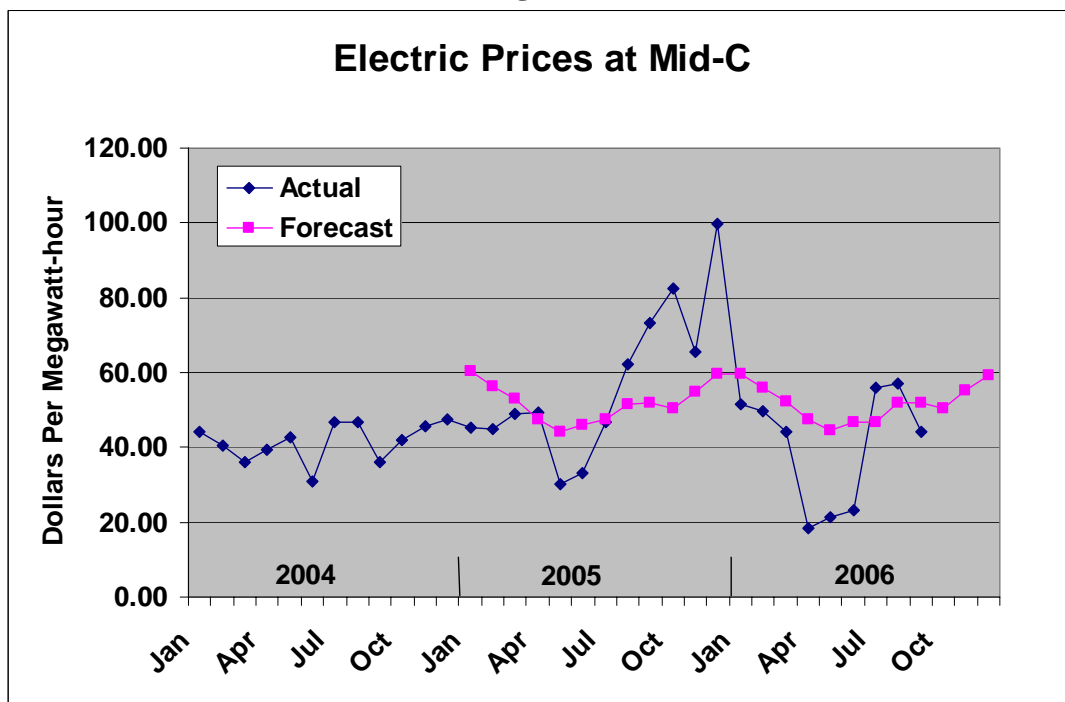
Biennial Review of the Fifth Power Plan

Interim Review of Electric Price Forecasts

Electricity prices in the Council's Power Plan are forecast using the AURORA™ Electricity Market Model of the entire Western Electricity Coordinating Council (WECC) area interconnection. The forecast includes electricity prices at several pricing points in the West, four of which are in the Pacific Northwest. The one most easily compared to the Pacific Northwest is the eastern Washington and Oregon price, which is taken to represent the Mid-Columbia trading point.

Figure 1 compares the Plan forecast of Mid-Columbia electric prices in 2005 and 2006 to actual prices observed between January 2004 and September 2006. During 2005 and 2006 actual electric prices have been more volatile than the Aurora forecast. This is expected because the Aurora forecast was based on medium trend natural gas prices and average water conditions. The spike in electric prices during the fall and winter of 2005 are due to high natural gas prices following hurricanes Katrina and Rita in the summer of 2005. Natural gas prices and electric prices are strongly related because natural gas fired electric generating plants are on the margin much of the time in Western markets.

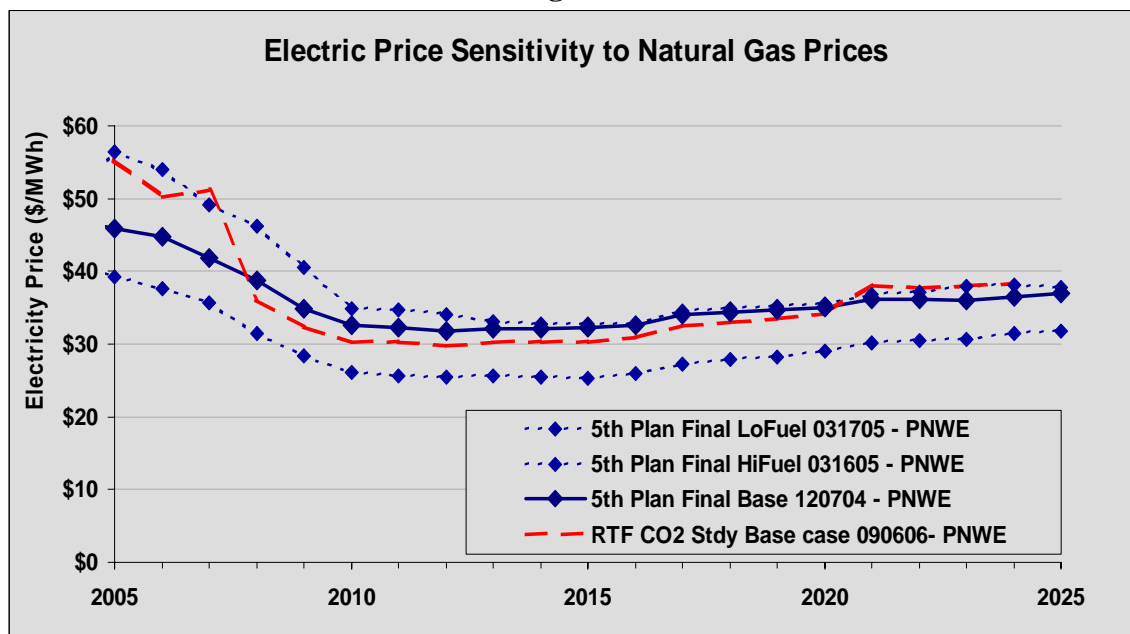
Figure 1



Mid-Columbia electric prices dropped during April, May, and June 2006 reflecting good hydroelectric conditions and an early runoff of snow stored in the mountains. On average, for 2005 and 2006 through September, forecast prices are very close to actual prices. Actual prices averaged \$50.14 per megawatt-hour compared to forecast prices of \$51.37.

Because of the close relationship between natural gas prices and electric prices, errors in the natural gas price forecast would tend to translate into errors in the electric price forecast. The effects of different natural gas price assumptions are illustrated in Figure 2. The solid line with diamonds is the Plan base forecast. The dashed lines with diamonds are low and high natural gas prices sensitivity studies. The dashed line without diamonds is a special sensitivity based on short term forecasts made during a high natural gas price period but merged into the Council's medium forecast after 2010. The sensitivities show how electric price forecasts are related to natural gas price assumptions. There appears to be more sensitivity in the short term than in the long term for higher natural gas prices. The high natural gas price case is not much different than the medium case after about 2012. This is because high natural gas prices result in a shift to wind and coal generation.

Figure 2



The role of the AURORA™ Electricity Market Model electricity price forecasts in the power plan is indirect. An illustrative supply curve for conservation is based on the AURORA™ electric price forecast as an estimate of avoided electricity costs. However, the conservation role in the Power Plan is based on Portfolio Model simulations that include many different future electric prices that are also volatile over time. The base price forecast serves only as a central tendency for volatile electric price futures in the Portfolio Model.

There is no evidence currently that the electric price forecast is too low. As discussed in the fuel price assessment, there is some inconclusive evidence that fuel price forecasts might be too low. What would a higher forecast of fuel prices, which would translate into higher electric prices, do to the Power Plan? Figure 2 showed that higher fuel prices may increase electric prices in the short term, but would have little effect in the longer term as the resource mix shifts away from natural gas. Additional conservation development in response to higher electricity prices is considered unlikely in the Power Plan. In the short term, the amount of conservation included in

the Plan is constrained by upper limits on what the Council considered feasible to develop on an annual basis.

Higher electric prices would tend to make wind more cost-effective also, but in the short term, wind actions in the Plan relate to confirmation activities rather than a need for additional electric generation. Therefore, higher fuel prices in the short term would have little effect on the action plan recommendations.

The other possible effect of higher near-term electric prices would be to reduce the demand for electricity, further delaying the recovery of demand from the 2000-01 electricity crisis. This would have the effect of prolonging the existing surplus of generating capability and delaying the need for significant new generating investments, which is already beyond the 5-year action plan.