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WNA & EIA 2001 Requirements Forecasts

Both the World Nuclear Association (WNA) and DOE's Energy Information Administration (EIA) provide forecasts of nuclear power generation and associated uranium and enrichment requirements forecasts through 2020. The WNA typically updates it forecasts every two years as part of its Global Nuclear Fuel Market report. The EIA updates its requirements model each year, normally some time during the second quarter. Below is a comparison of both groups' most recent forecasts: WNA - released last week at its annual symposium, and EIA - released in late May of this year.

WNA Forecasts - After falling in each year since 1996 (see WNA comparision charts), WNA requirements forecasts have increased this past year, with overall uranium requirements climbing an average 5.6% per year over the 2000 forecast and the enrichment requirements forecast only increasing an average of 3.3% per year. The main reason for this different rate of escalation between the uranium and enrichment forecasts appears to be that WNA increased its assumed tails assays somewhat, which benefits the uranium requirements forecasts at the expense of SWU requirements. As shown in the charts, the WNA uranium requirements forecast breaks 200 million pounds U3O8 and approaches 45 million SWU by 2020 in the reference case, with a range of 154 to 243 million pounds U3O8 and 34 to 54 million SWU in this same year for the lower and upper cases.

EIA Forecasts - While the WNA forecast had previously fallen prior to this year's forecast, EIA's forecasts have been on the increase since 1998 (see

WNA & EIA Forecast Comparison - Even though the EIA forecasts increased over the past year at a greater rate than did the WNA forecasts, they are still well below the comparable WNA forecasts (see comparision charts). After the year 2007, the EIA high case forecast is essentially equivalent to the WNA reference forecast, and the EIA reference case is quite similar to the WNA lower case over the 2007-2013 period and after that is only about 10 million pounds higher on an annual basis. Generally, this difference is due to different assumptions about future nuclear power growth--with the WNA's forecasts somewhat higher in the upper and reference case (although there is a rather large--55 GWe--difference in the reference cases by the year 2020) and considerably higher in the lower case. As a measure of the variance of the nuclear capacity forecasts considered together, the EIA low case projects only half the level of installed capacity of the WNA upper case by the year 2020.

Nowhere is the difference in capacity forecasts made by the EIA and WNA more evident than when it comes to U.S. capacity. While the forecasts are quite similar through 2008, by the year 2020 there is a wide variation. Again, the EIA low case is only half the WNA upper case. More telling is the fact that by 2020 the EIA high case for U.S. installed nuclear capacity declines and is closer to the WNA lower case than the WNA reference case. For the year 2020, half of the 55 GWe difference between the WNA's and EIA's reference case capacity forecasts and almost 57% of the 33.2 million pound difference in the reference case uranium requirements forecasts is due to differences in the U.S. forecasts.

Clearly the major difference between

EIA comparsion charts). The most recent forecast follows this trend and on average is 8 to 9% higher per year. While the effect of recent power uprates and increases in capacity factors has been included in EIA's forecasts, potential future uprates and capacity factor increases still have not been fully incorporated. The recent adjustments have caused uranium requirements to exhibit more of a sideways pattern in the reference case, whereas previous reference cases showed declining requirements.

On the matter of tails assays, EIA uses a base of 0.30w/o for all years (2000-2010) in the U.S. requirements forecast in its reference case. For both its low and high cases, it uses 0.28w/o for all years past 2000. Similar values are assumed for other regions. The use of lower tails assays in both the low and high cases helps to explain why the reference enrichment forecast is closer to the midpoint of the high and low cases, while the uranium forecast is closer to the high case.

the WNA and EIA forecasts relate to the different views for the future of nuclear power in the United States. While one would hope that the EIA, as a U.S. agency, would have a better handle on U.S. requirements, we do not believe this to be the case. The EIA forecasters seemingly have discounted improvements in as well as improved prospects for nuclear power in the U.S., as evidenced by its lower requirements forecasts for those periods in which its installed capacity forecasts are very similar to WNA's, and the fact that it does not allow for any growth in U.S. nuclear capacity, even in its high case forecast. While the EIA is supposed to be independent of the policy side of the government, this doesn't mean that it should ignore the effect that policy initiatives could have on installed nuclear capacity and requirements in the U.S.

View specific graphs:
WNA 2001 Requirements Forecasts,
Past WNA (UI) Requirements Forecasts,
EIA 2001 Requirements Forecasts,
Past EIA Requirements Forecasts,
Comparison of WNA and EIA Forecasts