RECONDUCTORING / UPRATING OF EXISTING WAPA TRANSMISSION

WAPA evaluated both reconductoring (changing out wires on existing structures) and uprating (changing the structures and the wires to allow for operating the facilities at increased voltages in the future, generally increasing the voltage from 115-kV to 230-kV) on 31 line segments. We wouldn't need significant additional right-of-way or environmental work for either reconductoring or uprating these lines. To the extent these projects are not included in our existing construction plans, WAPA would need new legislative authority to recover these costs in separate rates, and use revenue generated from use of the new capacity to repay these costs. Taxpayers would ultimately repay any portion of the costs for facilities that do not generate sufficient additional revenue to accomplish repayment. This additional authority would be required to keep this work from impacting the rates of our existing customers, who would otherwise oppose this effort.

1. What is the average age of WAPA lines?

The average age of all WAPA lines is 44 years.

2. What is the maximum number of miles WAPA could reconductor or uprate over the next two to three years if funding were not a constraint and what is the funding level this would entail?

WAPA could reconductor or uprate 31 line segments for a total of 2,500 miles of line over the next 2-3 years.

The total cost of reconductoring would be approximately $1 billion.

The total cost of uprating would be approximately $1.25 billion.

3. What percentage of total WAPA lines is this?

These line segments represent about 15% of total WAPA line-miles.

4. What share of all government and all lines is this?

WAPA is one of the largest transmission owners in the country. WAPA owns about 34.5% of all government lines and less than 1% of all lines in the U.S. The work on these line segments would represent about 5% of all government lines.

5. What is the average loss on current lines?

The average loss on WAPA lines is currently about 4%.

6. What do we expect the average loss to be with reconductored or uprated lines?

Reconductoring will not significantly reduce losses. Operating uprated lines at increased voltages would reduce losses. In the near term (5-10 years), WAPA would not generally be able to operate uprated lines at the higher voltages due to the lag time in ordering the required new transformers, complying with regional planning process requirements, and coordinating required upgrades on other utilities' systems.

7. How much electricity is saved annually as a result?

There would be negligible savings in losses (see the answer to #6).

8. How many megawatts of wind and other renewables could gain access to the grid with WAPA reconductoring or uprating as anticipated above?

Reconductoring could double the capacity of a given line segment. This translates into an additional 125 MW on a 115-kV line segment. Uprating from 115-kV to 230-kV could increase capacity by 300 MW on a given line segment. Note that this only applies to the line segment that has been reconductored or uprated. Other system upgrades may be required to move a generation source to load.

9. How many jobs would the reconductoring/uprating create?

We anticipate reconductoring the 31 line segments would create approximately 670 direct domestic jobs.

We anticipate uprating the 31 line segments would create approximately 1,290 direct domestic jobs.

These numbers do not including any increases in jobs due to manufacturing the materials or any other indirect jobs. We don't have a good way of estimating such impacts.

10. "Fun" Facts:

Reconductoring the lines could double the capacity on these line segments.

Uprating the lines could triple the capacity on these line segments.

Some of WAPA's lines that would be uprated are over 70 years old.

NEW TRANSMISSION

The following transmission projects are a sample of projects that we are aware of that are not related to the reconductoring or uprating of the line segments discussed above. These projects represent the tip of the iceberg of projects WAPA could participate in to enhance the nation's transmission infrastructure if we had additional funding and/or legislative authority such as the draft Reid legislation. These projects would depend on third party participation and resources and would be completed beyond the 2011 timeframe.

1. California Zeta Line (500 kV): Raven to Round Mountain to Olinda to Tracy
   Estimated cost: $800 million
   Estimated transmission line mileage: 490 miles

2. California Alpha Line (230-kV): Tracy to Modesto Irrigation District to Turlock Irrigation District
   Estimated cost: $200 million
   Estimated transmission line mileage: 125 miles

3. California Delta Lind (230-kV): Tracy to Livermore to Santa Clara
   Estimated cost: $300 million
   Estimated transmission line mileage: 185 miles