

Appendix E – Planning Evaluation of PAT Routes S13, S6, S25 and C13

Idaho Power performed a qualitative risk analysis of four routes submitted for the Boardman to Hemingway Transmission Line: S13, S6, S25 and C13. The analysis used previous technical studies to determine if building certain facilities earlier than planned would be an acceptable risk to the project.

About the Treasure Valley Electrical Plan

Routes S13, S6, S25 and C13 were, in part, proposed because they support the 500 kV transmission loop around the Treasure Valley as designated in the Treasure Valley Electrical Plan (TVEP). The plan identifies the 500 kV and 230 kV transmission and substation facilities needed to serve the Treasure Valley far into the future when the population has reached saturation. According to the plan (see map):

- The Hemingway Substation will tap into the PacifiCorp 500 kV transmission line that runs through the southern Treasure Valley. This project is the first stage of the 500 kV loop.
- The triggering event for the second 500 to 230 kV substation is when the peak load can no longer be served due to an outage of the Hemingway transformer. This is estimated to occur in about 25 years.
- Idaho Power's present plan is to build the South Ada Substation and associated 230 kV transmission into the valley at that time.
- The northern portion of the Gateway West Transmission Project will form the southern leg of the Treasure Valley 500 kV loop.

The timing of these additions is affected by both the load growth and the location of energy resources (whether they are developed in the valley or transmitted from outside).

Results of the Analysis

Routes S13, S6, S25 and C13 would have built the southern leg of the Treasure Valley 500 kV loop. As mentioned above, this leg is a portion of the northern Gateway West Transmission Project, which has a draft Environmental Impact Statement under development by the Bureau of Land Management. Adding this section to the Boardman to Hemingway project would join the two projects. The Gateway West project already involves over 1,500 miles of transmission line, and the in-service date of the segments is dependent on the permitting process and Wyoming energy resource development. Additionally, the Boardman to Hemingway project is identified in the 2008 Integrated Resource Plan Update as a needed resource in the next 10 years while the Gateway West project is not included in that plan. **Joining the two projects increases the risk of both projects failing to meet the in-service dates and places peak load service at risk.**

In addition, these routes would significantly add to the scope of the Boardman to Hemingway project. Currently, 500 kV transmission for the eastern leg of the Treasure Valley loop is expected to be installed in existing 230 kV transmission rights-of-way. Specifically, from Pearl Source Substation to east Boise, the 500 kV transmission line would replace two existing

transmission lines (2 – 230 kV circuits strung on the same towers). These two existing transmission lines run from Brownlee Power Plant to the Boise Bench Substation. As planned in the TVEP, the 500 kV transmission line would not feed into Boise Bench Substation because of space and right-of-way limitations. A significant amount of the power currently feeding into Boise Bench would have to be replaced and injected elsewhere into the valley. To construct this leg now, Idaho Power would need to build both Pearl and South Ada substations and install 230 kV transmission into the valley from both substations. As previously mentioned, the 230 kV lines from the South Ada Substation are not forecasted to be needed for 25 years and the lines from the Pearl Substation are not forecasted for at least 50 years. **Both of these substations and 230 kV transmission lines increase the scope of the Boardman to Hemingway project.**

Conclusion

Idaho Power is not willing to risk future peak load service capability due to the expansion of the Boardman to Hemingway project scope to include the Gateway West project, Southeast Ada Substation, Pearl Substation, and several Treasure Valley 230 kV transmission lines.

