Grant PUD is providing what the tools that we believe would be best for evaluating the expected output from the PRP project in future years. Historical Generation has severe limitations due to rapid and radical changes in operations (spill requirements and upstream regulation primarily) as well as the effects of hourly coordination. For that reason, modeled output is the best tool for approximating the ability of project participants to extract value from the Priest Rapids Projects.

We have provided two tools that are based on the methodology that Grant PUD uses internally for our future position analyses. Those tools are described below.

Generation Tables

This document has two tables: "Rereg Flows" and "Final Gen". The "Rereg Flows" data set is output from a USACOE model designed to route historical hydrology based on current river conditions, constraints, regulations, requirements etc. It is designed to answer the question, "If the water we received in 19xx arrived today, how would it show up at the Priest Rapids Projects?" That model is currently configured to run with 1928/29-1997/98 hydrology. They are in the process of updating that model to include an additional 10 years of data, but that work is not completed yet. But again, there is little linkage between these flows and the historical flows expect for overall volumes. The second table in this file is "Final Gen." This data set contains expected output (MWh) from the Priest Rapids Project for each of the corresponding monthly flows in the "Rereg Flows" table. The generation numbers come from an internal model that takes into account the expected project configuration and operational constraints and requirements. The generation numbers are all NET of Canadian Entitlement and Encroachment; however, they do not include any maintenance (forced or scheduled). Users of this data should make their own adjustments based on their own view of the maintenance impacts (minimal for average energy except in high flow periods).

The Generation Tables file is designed to provide a tool for estimating project generation given any monthly or annual flow condition. If you expect a certain flow in a given month or year, you can simply "look up" a comparable period and see the expected average generation.

FAQ

"When can we get the values for post-1998?" – As was touched upon on previously , we do not have "Re-regulated" flows for the period after 1998. Of course we have historical numbers, but for a number of reasons historical values are not terribly applicable or indicative of future operations. The way these tables are designed to be used, additional data (even if it is recent) is really not providing any more useful information than that already provided. You may want to (and probably do) use recent hydrology to inform about future expected hydrology, but again, whatever view you take on future hydrology can be "processed" through the lookup tables provided to give the resulting expected generation.

Gen Splits

This file is intended to provide a tool for estimating the ability of the Priest Rapids Project to load factor; i.e. utilize the storage and capacity to capture the value of the heavy load time periods vs. the light load. There are two sheets in this file: “GenSplitSummary” and “Requirements”. The “GenSplitSummary” sheet is designed to show the extent to which PRP can shape the generation into the higher value HLH period given its constraints and operational requirements. Based on an internally developed model, the Heavy/Light splits were calculated at a variety of flow levels (different exceedances) for each period, showing the overall capability of the project under all the possible conditions. The table is based on the flows provided in the ReReg data set in the Generation Tables file described above. Additionally, an estimate of likely maintenance (basically scheduled maintenance) was utilized in modeling the splits, as the overall plant capability is a crucial component in the calculation. All generation reported is NET of Canadian Entitlement and Encroachment. The second sheet lists the assumptions for operational constraints and requirements utilized in the model. They are the same assumptions used while preparing the Generation Tables above.

FAQ

“How should we use these two files?” – Grant County PUD staff believes that these two files provide the best tools for estimating PRP capabilities in the future. Once an entity has a view of the hydrologic conditions possible in the future, these two files enable the conversion of those flows into an expected generation profile; the “Generation Tables” is best for converting into an expected flat generation output over a certain period, and the “Gen Splits” is the best tool for refining that estimate into its shaped profile.