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September 7, 2016

MEMORANDUM

TO: Power Committee

FROM: Ben Kujala

SUBJECT: GENESYS Redevelopment Update

BACKGROUND:

Presenter: Ben Kujala

Summary Staff are currently finalizing the functional requirements for the

redevelopment of GENESYS. Having a comprehensive understanding of what we would like to have included when the model is redeveloped, staff is now moving on to exploring options for proceeding with updating the

GENESYS model.

Relevance GENESYS is used to assess adequacy for the power plan and annual

adequacy assessment.

Workplan: A.5.1 Complete Redevelopment of GENESYS

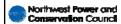
Background: The redevelopment of GENESYS is covered in items ANLYS-22 and

ANLYS-23 in the action plan of the Seventh Plan. The Council worked this fiscal year with contractors to develop functional requirements for the

redevelopment effort.

More Info: N/A

GENESYS Redevelopment Update



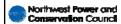
Redevelopment thus far:

- Documented the existing use and function of GENESYS
- Proposed expanded functionality and reviewed with public
- Developed requirements for redevelopment based on proposal and feedback
- Reviewed detailed requirements with public
- Developed final requirements for redevelopment



The key improvements we have proposed:

- Time-dependent nature of the hourly hydro capability – model cascading of multiple dams as part of the system dispatch
- Interaction between assignment of reserves and system capacity – incorporate reserves into an optimized dispatch
- Trade-off between decisions for economics and adequacy – improved market representation
- Representation of limitations on operators in dispatching the system – add fuel accounting and forecast error



How to proceed with redevelopment:

- RFP main challenge is in getting sufficient response, likely results in additional software licensing
- In-house requires finding contractors for redevelopment and managing project
- National labs requires a lab interested in working with us and could expand timeline
- Other?



- GENESYS should continue to be a collaborative effort between Bonneville and the Council
- Methodology and results will be transparent and understandable
- GENESYS will ideally continue to serve adequacy assessment needs in other regional organizations

