

**Henry Lorenzen**  
Chair  
Oregon

**Bill Bradbury**  
Oregon

**Guy Norman**  
Washington

**Tom Karier**  
Washington



## Northwest Power and Conservation Council

**W. Bill Booth**  
Vice Chair  
Idaho

**James Yost**  
Idaho

**Pat Smith**  
Montana

**Jennifer Anders**  
Montana

12/6/2016

### DECISION MEMORANDUM

**TO:** Council members

**FROM:** Ben Kujala  
Power Planning Director

**SUBJECT:** Authorization to proceed with a Request for Proposal for GENESYS  
Redevelopment

**PROPOSED ACTION:** Council staff recommends authorization to proceed with a request for proposal for the redevelopment of the GENESYS model subject to the functional requirements vetted by staff and stakeholders. The authorization would allow Staff to proceed with a Request for Proposal process, with selection of vendor to be recommended to the Council at a future meeting (likely February 2017).

**SIGNIFICANCE:** The need for a redeveloped GENESYS is covered in ANALYS-22 and ANALYS-23 in the action plan of the Seventh Plan.

### BUDGETARY/ECONOMIC IMPACTS

Request for Proposal will be for a two year redevelopment solution not to exceed \$450,000.

### BACKGROUND

The redevelopment of GENESYS is covered in items ANALYS-22 and ANALYS-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. After exploratory conversations with potential vendors, a national lab, university researchers and

independent contractors, Staff recommends moving forward in January 2017 with a Request for Proposal (RFP) for the GENESYS Redevelopment Project. RFP responses will be evaluated and staff recommendation of vendor selection will be brought to the Council for the February meeting.

## **ANALYSIS**

The GENESYS software is a critical part of the Council's development of the power plan and annual adequacy assessments, and is used extensively not only by the Council, but also by Bonneville and other regional stakeholders to assess resource adequacy and impacts of changes to operations of hydroelectric facilities. Council staff explored a variety of options that could potentially meet the technical specifications. After consideration, staff recommends pursuing an RFP for the GENESYS Redevelopment as the most likely way to bring the software code up to current standards, improve data management and usability, while also improving the simulation of the hydroelectric system and treatment of reserves.

With any of the alternatives considered, Council staff would be required to spend large amounts of time and work on the redevelopment. However, there is the potential of needing less staff time on the redevelopment if an RFP respondent already has significant experience and/or a commercial tool that can be modified to meet the technical specifications.

## **ALTERNATIVES**

One alternative is to have Council staff conduct the redevelopment project of the model themselves. It is likely that staff would also need to contract with a team of outside experts and coders with staff carrying a significant portion of the load. The primary concern with this option is that it relies heavily on staff time and may cause a delay in the annual adequacy assessments, the development of wholesale electricity price forecasts, any mid-term assessment modeling and it would cut into Council staff time to work on implementation of the Seventh Power Plan.

A second alternative is to work with the national labs or a university to redevelop the model. This option would also require a considerable amount of staff time and could cause similar delays as option one above. In addition, this approach would likely require more time to have this project approved and would likely require securing additional funds or grants to perform the redevelopment, since the proposed funding level would likely not be sufficient for a project run by one of these types of organizations. Regardless of the chosen approach, staff intends to coordinate work with these organizations and continue to leverage their expertise. This decision is solely related to how the Council can allocate its limited funding for these efforts.

## **ATTACHMENTS**

GENESYS background: <http://www.nwcouncil.org/energy/saac/GENESYS>