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December 19, 2013

MEMORANDUM

TO: Prospective Contractors

FROM: Steve Crow
Executive Director

SUBJECT: Request for Proposals for Regional Portfolio Model Software
Redevelopment

Enclosed is a Request for Proposals (RFP) issued by the Northwest Power and Conservation Council. The Council is an interstate agency established under the Pacific Northwest Electric Power Planning and Conservation Act of 1980, with the responsibility for developing a regional conservation and electric power plan. The enclosed RFP invites proposals for the redevelopment of the Council's Regional Portfolio Model software, for its use to develop the Seventh Northwest Power Plan, which the Council is scheduled to adopt in late 2015.

The RFP consists of five parts:

Part A: General Information
Part B: Proposal Instructions
Part C: Statement of Work
Part D: Proposal Review Process
Part E: Background of Council and Regional Power Plan

Prospective respondents are invited to submit clarification questions about the RFP at the pre-bid teleconference scheduled for 2:00 pm Pacific Standard Time (PST) on Wednesday January 8, 2014.

Proposals must be delivered electronically to the Council no later than 5:00 pm PST on Thursday, February 6, 2014.

Thank you for your interest in the work of the Council.

Part A: General Information

The Northwest Power and Conservation Council is seeking proposals for software redevelopment of the Regional Portfolio Model (RPM). The redeveloped version of the RPM must be completed by February 12, 2015 for use by Council staff to support development of the Seventh Northwest Power Plan.

Contracting Organization

The Northwest Power and Conservation Council (Council) was established by a compact between the states of Idaho, Montana, Oregon and Washington pursuant to the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. §839, et seq. (“Northwest Power Act” or “Act”) passed by Congress in 1980.

The Council consists of eight Council members. The Governors of Idaho, Montana, Oregon and Washington each appoint two persons to serve on the Council.

The Council’s statutory authority and responsibilities in developing a regional power plan are summarized in Part V of this RFP.

Staff members of the Council’s Power Planning Division are the primary direct users of the RPM.

Part B: Proposal Instructions

Due Date for Proposals

For a proposal to be considered, it must be **delivered to the Council electronically to:**

Sharon Ossmann
Administrative Division Director
Northwest Power and Conservation Council
sossmann@nwcouncil.org

Proposals must be received by the Council no later than 5:00 pm Pacific Standard Time (PST) on Thursday, February 6, 2014.

Pre-bid Conference

The Council will hold a pre-bid conference at 2:00 pm PST on Wednesday, January 8, 2014 to hear and respond to questions potential respondents may have concerning the bidding process, the scope of work, etc.

1. Please join my meeting.

<https://www1.gotomeeting.com/join/296167624>

2. Join the conference call:

1.800.786.1922, Code: 53922423

Meeting ID: 296-167-624

No questions or communications, written or oral, relative to the contents of this RFP will be responded to *prior* to the pre-bid teleconference to ensure potential bidders have equal access to information about the bid process. All questions and responses from the pre-bid conference will be summarized and posted on the Council's website for all potential bidders to review.

Proposal Requirements

Each proposal should be sufficiently comprehensive as to not *require* additional meetings or communications in order for the Council to evaluate it against other proposals.

All proposals must be organized according to the following topics and sequence:

- I. Respondent's name, corporate information
- II. Executive Summary of proposal
- III. Respondent's qualifications and experience developing integrated resource planning software for the electric utility industry
- IV. Identification of key personnel, their qualifications and roles under the proposal
- V. Description of software redevelopment implementation approach
- VI. Description of funding approach
- VII. Description of software accessibility approach
- VIII. Description of how the software redevelopment will implement the RPM methodology
- IX. Description of method to be used for data management and integration
- X. Description of user interface functionality
- XI. Project schedule
- XII. Pricing proposal
- XIII. Summary and examples of all past and current work for publicly-owned and investor-owned utilities, Bonneville Power Administration, direct service industries, government agencies (e.g., energy commissions) and other power-related organizations. The nature of the work as well as the initiation and completion dates of that work must be described.
- XIV. References from existing or recent clients

Disclosure Notice

The Council does its work in public as required by the Northwest Power Act. Discussion of the proposals with the Council and with the Council's System Analysis Advisory Committee will take place in regularly-scheduled meetings that are open to the public. With respect to written proposals, the Council will consider requests for non-disclosure of confidential commercial or financial information. Any such information considered by the respondent to constitute confidential commercial or financial information should be clearly marked and separate and distinct from the rest of the proposal. Any such confidential commercial or financial information included in a proposal will not be disclosed to persons outside the Council or Council staff (i.e., will not be discussed at Council meetings open to the public or with the System Analysis Advisory Committee). Please also note that the Council, although not a Federal agency, does comply with the Freedom of Information Act (FOIA). The Council's FOIA policy is available on the Council's website at <http://www.nwcouncil.org/about/policies/freedom-of-information-act/>.

Council Bears No Costs or Obligations

Prospective or actual respondents shall bear any and all costs and risks of participation in this RFP process. The Council shall not be obligated to procure any services resulting from this RFP.

Part C: Statement of Work Regional Portfolio Model Software Redevelopment

The Regional Portfolio Model or RPM is an integrated electric resource planning model used by the Council to identify least-cost adaptive resource strategies for the region. The model was used in developing the Council's Fifth and Sixth Northwest Power Plans. Delivery of the redeveloped RPM by February 2015 is critical to the Council's work on the Seventh Power Plan.

The RPM uses a sophisticated and unique risk analysis methodology which involves simulating numerous candidate resource plans across a broad range of possible futures to identify tradeoffs between expected cost and risk. The RPM, in its current state, is a complex system built on multiple technology platforms (Excel version 2003 driven by Crystal Ball and OptQuest; supported by Access, Windows XP, PowerShell, etc.)

A more comprehensive description of the RPM and its implementation can be found in the following documents:

- "RPM Implementation Review" Final Report by Douglas M. Logan, PhD, PE, December 18, 2013; available at <http://www.nwcouncil.org/media/6911100/RPM-Implementation-Review-131218.pdf>
- "RPM Implementation" Presentation by Douglas M. Logan, PhD, PE, November 14, 2013; available at <http://www.nwcouncil.org/media/6900705/D-Logan-RPM-Implementation-SAAC-Presentation-Read-Only-.pdf>
- "Assessment of the Regional Portfolio Model" RPM Review Panel Report (December 2012); available at <http://www.nwcouncil.org/media/10366/RPMPortfolioModelReview.pdf>
- "The Portfolio Model" Appendix L, Fifth Northwest Power Plan; available at <http://www.nwcouncil.org/media/4401326/Appendix-L-Portfolio-Model-.pdf>
- "The Regional Portfolio Model" Appendix J., Sixth Northwest Power Plan; available at http://www.nwcouncil.org/media/6320/SixthPowerPlan_Appendix_J.pdf

The Council seeks redevelopment of the RPM, in large part because the RPM is cumbersome to use and lacks practical transparency. Running the current model involves numerous manual steps in addition to requiring users have advanced knowledge of subject matter and information technologies. Data preparation and management with the RPM is also cumbersome and time-consuming.

An important additional goal for the RPM redevelopment is to help facilitate the Council in making its analyses open and transparent. One means toward achieving this goal involves making the redeveloped RPM accessible to participants in the Council's power plan process, including publicly-owned and investor-owned utilities, Bonneville Power Administration, energy and environmental organizations, state and other governmental agencies, tribes, and others. Such an outcome is desirable and will assist in making the Council's work more transparent. Given the

tight timeline for delivery of a workable model to the Council for its use in developing the Seventh Power Plan however, such work may be better suited for a later date. Consideration will be given for those proposals that can offer delivery of a product that can provide such access, if not initially, then at some point in the future.

Objectives

In its Northwest Power Plans, the Council is responsible for developing a least cost resource strategy based on an independent analysis of the region's long-term energy needs and the costs and availability of a wide variety of energy efficiency and generating resources.

The redeveloped RPM software is intended to provide the Council with a model that can analyze different electric resource portfolios during the development of the Seventh Northwest Power Plan. Uses of the redeveloped RPM may include strategic risk analysis, including cost and risk tradeoffs of differing resource portfolios. The redeveloped RPM will also be used to test various policy propositions (e.g., identify and evaluate strategies for, and costs of, achieving postulated goals for regional power system greenhouse gas emissions).

The Council intends to use the redeveloped RPM software in addition to other resource planning models and methods to develop the Seventh Northwest Power Plan. Such other model uses may include the Council's GENESYS model to evaluate resource needs and perform adequacy analysis for regional energy and capacity. Similarly, the Council may use a flexibility metric and tools to analyze integration of variable generation from intermittent resources and power system balancing when developing the plan. These models and analyses will be used in addition to and in coordination with the redeveloped RPM.

The Council anticipates there are a range of approaches to redeveloping the RPM that may successfully meet the objectives of this RFP. The Council is not necessarily predisposed toward one approach over another. Instead, each proposal will be evaluated as a complete package using the criteria outlined below.

Following are examples (in no way an exclusive list) of ways respondents may choose to approach meeting the objectives of the RFP.

Software Development Implementation Approach: Respondents may wish to submit proposals that will:

- Implement the RPM methodology in the form of a new, stand-alone software model
- Implement the RPM methodology as an addition or modification to existing integrated resource planning software.

Software Development Funding Approach: Respondents may wish to submit proposals where:

- The Council pays a fee for software development of RPM and Council retains full rights to use and distribute the model to third parties
- Respondent bears some or all costs of software development in return for commercial rights to market the model to third parties. Council retains full rights to use the model.

The Council has finite funds available for the RPM software redevelopment. Respondents are strongly encouraged to construct their proposals to ensure that total costs to the Council for the RPM software redevelopment are less than \$300,000, on an all-inclusive basis.

Software Accessibility Approach: Given the Council's obligation to involve the public in development of its regional power plans, the Council encourages respondents to include in their proposals opportunities to make the new RPM model accessible to participants in the Council's power plan process. Respondents should describe their approach to public accessibility in their proposals.

Specific Tasks Required

1. Deliver to the Council (project manager) no later than February 2015, a redeveloped version of the RPM software for use by Council staff.

Included in the February 2015 software delivery must be: (1) Algorithms and logic that implement the core RPM strategic risk analysis methodology; (2) Data input and output linkages that enable RPM to be integrated with a new power planning data management system; and (3) functional, but not necessarily polished user interface.

Also included in the February 2015 delivery must be: (1) a User's Guide and/or user training sufficient to enable Council staff to operate the model; (2) complete technical documentation of the model algorithms and logic; and (3) the program source code.

2. A rough, functional prototype and demonstration shall be delivered for Council staff to review and test no later than November 1, 2014.
3. Contractor shall be expected to work closely with Council staff and to keep staff apprised of progress on a regular basis. Monthly written progress reports and informal work sessions involving Council staff are anticipated throughout the term of the contract. In addition, it is expected that contractor shall provide ongoing informal communication to staff, particularly on any important technical problems/issues which may arise relative to the specific tasks being performed.

The Council may elect to commission more complete and/or updated implementation of the RPM methodology, improve the user interface, etc. after the above tasks have been timely completed. This follow-on work, if any, will be the subject of a future RFP and thus may or may not involve the same entity that does the initial work. Consideration will be given to proposals that do not require ongoing maintenance or additional work to be performed exclusively by one entity.

Part D: Proposal Review Process

All proposals meeting the requirements set forth in Part B shall be evaluated by a Proposal Review Panel consisting of members of Council staff. The Proposal Review Panel (Review Panel) will evaluate the proposals in accordance with the evaluation criteria set forth below.

Following the due date for proposals, the Review Panel may initiate additional communications and/or meetings with proposers.

Members of the Review Panel may also seek technical advice from members of the Council's System Analysis Advisory Committee or SAAC (see <http://www.nwcouncil.org/energy/saac/home/>) when reviewing proposals.

The Review Panel will make recommendations to the Council. The Council will select the winning bid, if any.

Evaluation Criteria

The Proposal Review Panel shall use a defined, quantitative procedure to evaluate respondents' proposals. Proposals will be assigned point scores (0-100) based on criteria which include the following (not necessarily listed in order of importance).

- Price
- Proposer's capabilities, experience and qualifications, including development of integrated resource planning software for the electric utility industry
- RPM software development implementation approach
- RPM software development funding approach
- RPM software accessibility approach
- Extent and details of RPM methodology implementation
- Demonstrated understanding of the requirements of the RFP and the problems/difficulties involved in accomplishing the objective
- Ability and commitment to complete the project on-time

Selection of winning proposal

The final decision as to which proposal, if any, will be selected is expected to be made by the Council in March 2014 at a regularly-scheduled Council meeting and based on a recommendation from the Review Panel.

The Council reserves the right to reject any or all proposals. This RFP does not give rise to any obligation for the Council to select any proposal or to contract with any respondents.

Part E: Background on the Council and Regional Power Plan

The Council's authority and responsibilities are set forth in the Northwest Power Act.

Congress declared several purposes for the Northwest Power Act including:

- To encourage conservation and efficiency in the use of electric power and the development of renewable resources within the Pacific Northwest;
- To assure the Pacific Northwest of an adequate, efficient, economical, and reliable power supply;
- To protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries; and
- To provide for the participation and consultation of the Pacific Northwest states, local governments, consumers, customers, users of the Columbia River system and the public at large within the region in the development of plans and programs related to energy conservation, renewable resources, other resources, and protecting and enhancing fish and wildlife resources.

The Act authorizes the formation of the Council as an interstate compact agency and charges the Council with three primary responsibilities:

- 1) Developing a regional power plan for meeting the electric energy needs of the Pacific Northwest for the next 20 years and which includes an examination of conservation, renewable, and conventional energy sources available to meet those needs;
- 2) Developing a regional program for the protection, mitigation and enhancement of fish and wildlife affected by the development and operation of hydroelectric facilities in the Columbia River Basin; and
- 3) Involving the public and regional stakeholders in the development of both the power plan and the fish and wildlife program.

Regional Power Plan

The Northwest Power Act directs the Council to develop a “regional conservation and electric power plan” and to review the plan not less than every five years. The Council adopted its first regional power plan in 1983. The most recent plan, the Sixth Power Plan, was adopted in 2010 (<http://www.nwcouncil.org/energy/powerplan/6/plan/>).

The power plan represents the Council’s blueprint for meeting the region’s future electrical energy needs. The plan adopted by the Council, becomes the basis for the Bonneville Power Administration’s actions in meeting the loads of its customers in the Pacific Northwest. Bonneville must acquire conservation and power supply resources consistent with the Council’s plan. Although not legally binding, the plan also influences the actions taken by regional public and private utilities that rely on Bonneville for wholesale power. State utility regulators also review and, in some instances, use the analysis supporting the Council’s power plan in regulatory proceedings.

The Northwest Power Act directs the Council to develop a power plan that gives priority to resources the Council determines to be cost-effective in the following order: first, to conservation; second to renewable resources; third, to generating resources using waste heat or generating resources of high fuel-conversion efficiency; and fourth, to all other resources. The Act requires conservation be provided a 10 percent premium over conventional resources when comparing resource costs. The plan must also set forth a general scheme for implementing conservation measures and developing generating resources with due consideration by the Council for (A) environmental quality; (B) compatibility with the existing regional power system; (C) protection, mitigation, and enhancement of fish and wildlife and related spawning

grounds and habitat, including sufficient quality and quantity of flows for successful migration, survival, and propagation of anadromous fish; and (D) other criteria that may be set forth in the plan.

The Act also requires the plan to include the following elements:

- An energy conservation program, including model conservation standards
- Recommendations for research and development
- A methodology for determining quantifiable environmental costs and benefits
- An electricity demand forecast of at least 20 years
- A forecast of power resources estimated by the Council to meet the obligations of the Bonneville Power Administration and the amounts that can be met by resources in each of the priority categories. The power resource forecast shall (i) include regional reliability and reserve requirements; (ii) take into account the effect, if any, of the requirements of the fish and wildlife program on the availability of resources to Bonneville; and (iii) include the approximate amounts of power the Council recommends Bonneville acquire on a long-term basis and may include, to the extent practicable, an estimate of the types of resources to be acquired
- An analysis of electricity reserve and reliability requirements and cost-effective methods of providing reserves designed to insure adequate electric power at the lowest probable cost
- The fish and wildlife program promulgated earlier by the Council under Section 4(h) of the Act to protect, mitigate, and enhance fish and wildlife and related spawning grounds and habitat affected by the development and operation of any hydroelectric project on the Columbia River and its tributaries

The Power Act also requires public involvement in developing the Regional Power Plan. The Act requires that the public be given opportunities to present information and views to the Council before any major decisions thus the Council develops the plan in a public process over the period of several years to ensure widespread public involvement. Council meetings and Council advisory committee meetings are open to the public, public comment on all aspects of the Council's work is encouraged and received, and the Council regularly reports on its activities on its website and to the U.S. Congress. Pursuant to the Act, the Council also solicits input from Bonneville, utilities, state agencies, regulatory commissions and others on the development of the power plan and holds public hearings in Washington, Oregon, Idaho and Montana before adopting the power plan.

Additional information about the Council and the regional power plan are available on the Council's website at www.nwcouncil.org.