



19-001
REQUEST FOR QUALIFICATIONS
HYDRAULIC PERFORMANCE INDEX TESTING AND EFFICIENCY MODELING
PEND OREILLE PUBLIC UTILITY DISTRICT

Public Utility District No. 1 of Pend Oreille County (the District), is issuing a Request for Qualifications (RFQ) for a qualified engineering consultant or firm to perform unit index testing and efficiency modeling of the District's Box Canyon turbine/generators. Index testing will validate the design criteria of the installed turbine/generators. Efficiency modeling will result in an economic dispatching program that is compatible with the Box Canyon Supervisory Control and Data Acquisition (SCADA) system.

RFQ Requirements

At a minimum, the response must include the following:

- Submittals must include a completed Cover Sheet as the first document of the qualifications package.
- Submittals must include a safety statement letter reflecting their firm's commitment to safety. Submittal can include firm safety handbook, philosophy, records and/or procedures.
- All submittals must be responsive to all listed items included in Section: 1 Qualifications and Section 2: Scope of Work. Incomplete submittals will not be considered.
- Submittals are due no later than **03/04/2019 by 5:00 pm Pacific Standard Time**. Submittals received after the above date and time for any reason will not be considered. The District is under no obligation to return submittals.
- Submittals must be mailed or hand delivered to the District administrative offices located at P.O. Box 190/130 N. Washington, Newport, WA 99156. The package must read RFQ No. 19-001.
- Hard copy submittals must include one original and four (4) copies to the attention of Kenna Tornow, Communications and Public Contracts Manager.
- Questions related to this submittal should be sent by email to Kenna Tornow (Ktornow@popud.org). Responses to these questions will be made available to all via District Website (<https://preview.popud.org/top-links/about-your-pud/contracting-opportunities/>).
- Questions must be received by **5:00 p.m. Pacific Standard Time on 02/13/2019**.
- **The District reserves the right to cancel this RFQ at any time, or issue amendments or corrections. The District reserves the right to award this contract, or to not award this contract.**

SECTION 1: QUALIFICATIONS

1. A short introduction and summary of your company's overall qualifications for this project.
2. Provide the following organizational information about your company:
 - a. Name of organization
 - b. Address
 - c. Telephone & Fax Numbers
 - d. Primary Contact Name, Telephone, and Email
 - e. Affiliates and Parent Company
3. Brief History of the Firm:
 - a. Size of Firm/Staff
 - b. Years in Business
 - c. Experience for this type of project
 - d. Organization chart of Firm
4. Brief Statement of the Key Individuals of this Project and their Availability to Undertake the Proposed Project.
5. Key Project Team Background:
 - a. Designation of responsibilities as Applicable
 - i. Principal in Charge
 - ii. Project Manager
 - iii. Project Engineer(s)
 - b. Resumes of Each Team Member and/or subcontractor
 - i. Name
 - ii. Office Location
 - iii. Phone Number
 - iv. Years of Service with Firm
 - v. Education
 - vi. Professional Experience
 - vii. Pertinent Experience
 - c. Subcontractors
 - i. If Subcontracting all or Part of this Project Explain What Specific Support will be Provided by the Subcontractor.
 - d. Rate sheet
6. Representative Projects—List a minimum of five (5) projects completed by your firm/design team that best represents a similar scope, program, and complexity. For each project, please include:
 - a. Completion Date
 - b. Organization and Location

c. Description of Project

7. Please provide a minimum of three references to contact, Including:

- a. Company
- b. Contact Name
- c. Phone
- d. E-mail
- e. Brief Description of Work Performed

8. Unique Qualifications – Please state why your company should be selected for this project.

9. Insurance—Describe your current professional insurance status.

SECTION 2: SCOPE OF WORK

Background: Box Canyon Hydroelectric Project is located on the Pend Oreille River in the Selkirk Mountain Range in the northeast corner of Washington State. Box Canyon operates as a “run-of-the-river” facility by Pend Oreille Public Utility District. Construction of the project began in 1952 and was completed in 1956. The District completed a Turbine/Generator upgrade in 2015.

Project Description:

Location: Pend Oreille County, WA
Dam Location: River Mile 34.41
Number of Turbines: 4
Control System: Rockwell SCADA
Per Unit Nameplate Rating: 25MVA
Expected Production: 60 MW avg.

Height of Dam: 62.4 Feet to top of gates
Max Head: 46 Feet
Type of Turbines: 5 Blade Kaplan
Turbine/Generator Mfg: Andritz Hydro
Plant Capacity: 90 MW

Project Description:

This project is separated into three phases.

Phase 1

The District completed its turbine upgrades in 2015 at Box Canyon Dam in Ione, Washington. The turbine/generators require index testing. Phase 1 of the project requires the review and analysis of historic operation and production of the units, and dynamic operations testing and data collection to validate the performance of the units against their design specifications.

Phase 1 deliverables include:

1. A final performance report of the Box Canyon Turbines performance in comparison to the designed specifications.
2. Concerns identified during the testing
3. Recommendations for improvement

Phase 2

The contractor shall prepare a test plan to evaluate the efficiency and recommend improvements to each of the District's four Box Canyon turbines. This includes testing of the units for losses and efficiency at various heads and river flows, including variable for multiple units operation. When approved, the contractor will conduct unit tests in accordance to the test plan within a mutually agreed timeline.

Phase 2 deliverables include:

1. A test plan acceptable to the District to include dates for performance testing
2. A completed performance test consistent with the test plan
3. A final report on the economic operation for each of the turbines, including concerns and recommendations.

Phase 3

An efficiency model will be developed and integrated into the Box Canyon's Rockwell SCADA system. This model will allow economic dispatching to be implemented through the District's marketing strategies. Efficiency modeling will consider start-up and shutdown costs; upstream and downstream operational encroachment; and operating within the FERC Box Canyon licensing agreement.

Models will be used for the economic dispatch of the units, and establish the most efficient positioning of the wicket gates for each unit at various river conditions. The evaluation will provide the most efficient operation for the plant for any given forebay level, inlet flow rate and net head level. The ability to "spill" through the turbine should be considered. Automatic control of the sluice gates should be incorporated into the program logic. The new model should provide the unit operation sequence and wicket gate opening set points to the existing plant controller.

Phase 3 deliverables:

1. Delivery of an economic dispatch model compatible with the District's Box Canyon Rockwell SCADA System.
2. An operating guide to implement economic dispatch model to take best advantage of the unit operations

Evaluation of the RFQ

The District will evaluate each submitted submittal for completeness to the RFQ. Submittals that do not meet the minimum requirements will not be considered. The District reserves the right to reject all submittals, and modify or withdraw the RFQ. The District will engage the respondent with the highest scoring response to discuss a service agreement. Should the District fail to secure an agreement with the selected entity, the District may elect to pursue an agreement with the next highest scoring entity.

The criteria for bid selection is based on:

Demonstrated experience in project scope, Qualifications of project team, Availability of project team	20%
Completeness of project submittal, Demonstrated understanding of project scope	20%
Proposed project approach, methodology and schedule	40%
Cost of submittals	20%

Submittals must be received no later than 5:00 p.m., March 4, 2019.

Women’s, minority, and small business enterprises are encouraged to apply. The District is an equal opportunity employer.