Request for Proposals for Solar Array Design/Construction Documents and Request for Cost Estimate of Solar Array, Battery System and Transmission Line

The Quinault Indian Nation (QIN) is pleased to present a Request for Proposal (RFP) to perform an analysis of the solar integration potential in Taholah and Queets, Washington and engineering services for the design of three solar arrays. These arrays include a 1 MW AC solar array located at the planned Energy Park in the upper village of Taholah, and two total 100 kW AC arrays sited at the new Generations Building in Taholah and the new Head Start building in Queets.

Goals:

- Resilience
- Reduced energy costs of the Nation
- Designs to allow for future expansion

This RFP presents our evaluation criteria and scoring for each. Per QIN policy, preference is given to bidders that are Indian-owned (See QIN Indian Preference Policy, attached).

Request for Proposals

Introduction

The QIN is seeking a proposal for a report assessing the solar integration potential in Taholah and Queets and the techno-economic feasibility of a neighborhood microgrid of up to 1MW AC solar (5-6 acres) and storage and analysis of how to connect the microgrid to the utility system. Advice on sizing the array will also be part of the report. The second task of the project will be the design and preparation of construction documents for two ground-mounted solar arrays with a battery storage system in Taholah and Queets, as well as a cost proposals for implementing the projects.

Services

There are three distinct services associated with this RFP. The first product will be a report that assesses the integration of a microgrid in the upper village. The second will examine financial strategies and determining how or if to connect an array to the public utility district infrastructure or to construct a standalone microgrid. The third includes engineering services including, but not limited to, mechanical, electrical, civil and structural to design and prepare construction documents for solar arrays located in the villages of Taholah and Queets.

Project Overview

Planning

The Quinault Indian Nation (QIN) seeks to implement a solar array and biomass facility as pilot projects to produce renewable energy on the reservation. Future expansion is planned to cover 100% of the tribe's energy needs via renewable sources. The tribe currently lacks the experience and expertise to cover all aspects of planning, design and implementation; because of this, the QIN seeks consultation on a few inquiries regarding solar energy. We will require a report that answers the question outlined in the next two sections. This report will inform the project designs. The following planning inquiries fall into three categories, financial, technical, and engineering.

Financial

In order for a solar installation to be economically sustainable, it must produce revenue and/or savings. For an estimate on savings the tribe must know how much energy it consumes, or what is the maximum load that the tribe consumes? This electrical load is currently assumed to be similar to a representative summer season electrical load, plus the energy required to run a biomass facility, since electrical usage involved in heating buildings will be replaced with biomass heating. This knowledge can also inform the tribe as to how much energy it must produce to be self-sustainable, and how much more energy it must produce to create revenue. The QIN is currently aware of revenue sources such as production incentives, grants, net metering and tax credits. Additional knowledge of other sources of revenue during operation, and any knowledge of funding sources for implementation, would suffice for the rest of QIN's financial inquiries on solar development. Provided below is a more quantitative list of tasks and questions.

- Determine electrical load consumed by community (including future relocation village)
- Can this solar installation produce revenue for the tribe?
- What is the economically optimized amount of storage required for a two day outage? Two weeks? Two months? Two years?
- How does the cost effectiveness of a neighborhood microgrid compare to the possibility of building sited solar plus storage?
- Identify opportunities and programs that can be accessed to finance the project(e.g., incentives, grants, tax equity fund)

Technical

The long term goal of energy facility implementations is 100% resiliency, or the ability to form a microgrid. The QIN currently wishes to know if a microgrid is possible, and if not,

how can our systems best benefit us during a power outage emergency? Grays Harbor PUD(GH-PUD) has warned the tribe of a possible two year power outage in the case of a tsunami off of the Pacific coast; energy resiliency is of utmost importance for the wellbeing of our tribe. Another technical question regarding the implementation is whether our current connection to GH-PUD requires an upgrade. We wish to know what kind of load our current connection can carry, so that we may design our systems for optimal revenue. Provided below is a more quantitative list of tasks and questions.

- Identify how this system can best serve the community during an emergency
- Determine whether the PUD infrastructure will require upgrade for connection
- Is a microgrid serving the village separate from the PUD an option?

Array Design

The microgrid design shall be a single, or a multi-site solar array based on your knowledge of the current electrical grid serving the village of Taholah. The design should be made to optimize net metering revenue through Grays Harbor PUD, and to benefit government and business buildings during power outages to minimize operational shutdown. If possible, the design shall be inclusive of supporting a biomass facility that will supply the nation's heat demand, as well as be adaptable and ready for future expansion into QIN's relocation efforts. Specifics of the design shall include solar panel, battery and inverter type; necessary connections to the existing electrical grid; and structural engineering for any supports of the panels. The panels should meet the 130 MPH wind load requirements of the International Building Code. The QIN also requests a cost estimate for construction costs for the solar array and battery system, as well any transmission lines necessary for the arrays or grid connection.

This solar array is part of a pilot project that will pave a path towards complete energy self-sufficiency with 100% renewable energy. The 5-acre design will be located at a plot of land designated as the tribal 'Energy Park' on allotment 162 of the Quinault Reservation, included in the QIN relocation master plan adjacent to the biomass facility. The smaller facilities will be adjacent to the respective buildings.

Additional design drawings for two 100kW AC solar plus storage arrays shall be provided for the Generations Building and the Queets Head Start.

Key Project Deliverables

This project has been prioritized by the Quinault Indian Nation to increase energy resiliency and tribal sovereignty. The project should produce:

- Model electrical and thermal demands for planned neighborhoods in Upper Village
- Microgrid design, up to 1 MW AC of solar capacity, battery storage, with budget, including any utility system upgrades if necessary
- Construction drawings for two total 100kW AC projects and associated budgets for the Generations Building and Queets Head Start, including electrical and structural engineering
- Interconnection requests for each project, if applicable
- Identify funding sources available, with associate timing, to facilitate project development for any and all projects
- Alternative options to consider that support the QIN goals
- Scope of work with itemized costs for said work

The goal of this project is for the tribe to have self-sufficient, reliable and clean energy.

Project Budget

Not to exceed $85,000.

Proposals shall itemize the costs by task and deliverable.

Design and Construction Document Timeline

It is anticipated that the consultant selection process and contract negotiation will be completed by the end of October 2018. We anticipate the design and construction document preparation to be completed by the end of March 2019.

Proposal Submittal

Firms are solely responsible for all costs incurred in the preparation and submittal of the RFP. Submittal becomes the property of the QIN and will not be returned. Proposals will be evaluated based on the firms experience with solar PV systems, backup storage, electrical grids, microgrids, financing, and experience in relations with utility companies such as the PUD, as well as the experience of the assigned project manager and team. Respondents shall submit six (6) copies of their response to this RFP by October 1, 2018. Send your submittals to:

Charles Warsinske
Community Development and Planning Manager
Quinault Indian Nation
PO Box 189

Taholah, WA 98587

Proposals shall demonstrate that the firm has the professional capability and availability to complete all the tasks (economic feasibility, design, preparation of construction documents, quote of construction cost) in a timely and satisfactorily manner. Responses shall include:

1. The firm's legal name, address, telephone number and principal contact email address;
2. The principal assigned to this project and a brief description of their qualifications (experience, professional registration, education) and list of projects and date of completion for projects similar in scope to the proposed solar array, and experience working with tribes;
3. The proposed work plan and schedule for activities to be performed;
4. Bid proposal based on the proposed scope of work, work plan and schedule, hourly rates by design team members, anticipated hours by team member and anticipated reimbursable costs;
5. Necessary or planned subcontractors
6. Describe how you established the estimated cost of construction;
7. A minimum of three references that are knowledgeable regarding the firm's performance on projects. The references shall be for projects on which the Project Manager has performed.

Evaluation Criteria and the Selection Process

The basis of the award will be to the respondent receiving the most points based on the following criteria:

- Project Understanding, scope of work, work plan and schedule (30 points)
- Qualifications/Experience of Project Manager (25 points)
- Past performance/references (15 points)
- Bid for Services (30 points)

Preference will be given to qualified Indian-owned Firms per the QIN's Indian Preference Policy. Respondents must not have been suspended or debarred by the federal government.

Selection of the successful proposal shall, in part, be based upon the completeness of the submittal, the quality and price of the services, the reputation of the respondent, and the ability of the respondent to meet all deadlines for delivery of the item(s).

The successful bidder will sign the attached Standard Independent Contractor Agreement with the QIN.

The QIN reserves the right to accept or reject all or part of the proposal/bid, and to negotiate with the respondents to ensure that the QIN receives appropriate deliverables within the required timeframe.