SOUTHEAST ALASKA POWER AGENCY
(‘SEAPA’)

REQUEST FOR PROPOSALS

Bell Island Geothermal Evaluation

Request for Surface Investigation and Preliminary Planning Services

February 2015
THE SOUTHEAST ALASKA POWER AGENCY (SEAPA)

Request for Proposals (RFP)
for
Bell Island Hot Springs
Surface Investigation and Preliminary Planning Services

Solicitation
The Southeast Alaska Power Agency is soliciting proposals from firms interested in providing initial planning guidance, surface investigation, surface sampling, geochemical analysis of surface waters and materials, and preliminary geothermal conceptual modeling of Bell Island Hot Springs. Proposals are due March 6, 2015 at 4:00 p.m. AKST. The project is expected to commence in March 2015 with a completion date of June 19, 2015.

GENERAL PROJECT INFORMATION

Owner: Southeast Alaska Power Agency (SEAPA)
1900 First Avenue, Suite 318
Ketchikan, Alaska 99901
Phone 907.228.2281
Fax 907.225.2287

Subject Line: Bell Island Hot Springs – Preliminary Geothermal Evaluation

Submittals: The bid submittal package shall include the following items:

➢ three (3) hard copies of the proposal, and
➢ one (1) CD or USB flash drive containing all proposal documents in .pdf format

Submit to: Sharon E. Thompson, Executive Assistant
Southeast Alaska Power Agency
1900 First Avenue, Suite 318
Ketchikan, Alaska 99901
sthompson@seapahydro.org

Confirmation of receipt by Owner is the responsibility of the Bidder. SEAPA is not responsible for late delivery. Proposals received after the deadline will not be considered.

Deadline for Submittals: Friday, March 6, 2015 at 4:00 p.m. AKST

For the purposes of this solicitation, the terms proposer, respondent, offerer, bidder and contractor/consultant/vendor are used interchangeably and mean a person(s) or firm(s) submitting a response to this solicitation. All responses to this solicitation shall be in strict accordance with the requirements set forth in this Request for Proposals and the ensuing contract documents.

(See additional information regarding submittals in Section 4.2 labeled Proposal Requirements. All costs and expenses in preparation of the Bid will be the responsibility of the Bidder.)
Section 1
Purpose for Request

The Southeast Alaska Power Agency (‘SEAPA’ or ‘Agency’) is a joint action agency organized and existing pursuant to the laws of the State of Alaska. The members of the Agency are the City of Ketchikan, the City and Borough of Wrangell, and the Petersburg Borough. Prior to restructuring of the Agency in 2009, the name of the joint action agency was the Four Dam Pool Power Agency. SEAPA’s member utilities (Ketchikan, Wrangell, and Petersburg) purchase power generated and dispatched from Agency facilities at a wholesale power rate determined by the SEAPA Board of Directors. The electrical system, as shown in Section 2.1 is islanded meaning there are no connections to external loads or resources, and this control area and the member utilities are exempt from Regulatory Commission of Alaska oversight.

Agency facilities are principally comprised of the Swan Lake and Tyee Lake hydroelectric projects in southern southeast Alaska and approximately 175 miles of transmission lines connecting Ketchikan to Wrangell, to Petersburg, Alaska. Power and energy from the Agency’s hydroelectric projects are dedicated to Ketchikan, Wrangell, and Petersburg pursuant to conditions of a Long-Term Power Sales Agreement, which was executed in February 2009 as part of the restructuring transaction. The Agency’s office is located in Ketchikan, Alaska.

SEAPA participated in the 2011 Southeast Alaska Integrated Resource Plan1 (SEIRP) along with other Southeast utilities and the Alaska Energy Authority. One of the key findings of this study was the suggestion to pursue a more balanced and diversified portfolio of resources (other than hydroelectric for SEAPA) when the next increment of new generation is considered. Pursuant to that key finding, and consistent with the SEAPA mission to provide future renewable energy resources, the Agency has signed a Right of Access and a Right of First Refusal agreement with Northwest Discovery Joint Venture, owner of Bell Island Hot Springs2.

Preliminary geotechnical and geochemical analysis were conducted for the Bell Island Hot Springs site in 19803 and preliminary estimates of reservoir temperature and reservoir volume were documented. Since 1980, the science of geothermal investigation has progressed and advancements in binary geothermal generation have changed our classification of generation sites that were previously considered unviable. The purpose for this request for proposals is to gain an updated, preliminary estimate of the potential for geothermal sourced generation at Bell Island based on a due diligence geochemical and geotechnical site investigation.

---

1 The Southeast Alaska Integrated Resource Plan (SEIRP) is available from the Alaska Energy Authority at: http://www.akenergyauthority.org/Policy/RegionalPlanning

2 The following link provides a historical background on Bell Island Hot Springs: http://www.sitnews.us/Kiffer/BellIsland/060910_Bell_Island.html

Section 2
Bell Island Hot Springs Information

2.1 Region Map
2.2 Logistical Considerations

Bell Island Hot Springs is located approximately 43 miles north of Ketchikan, Alaska (55° 50.0' N 131° 33.4' W, USGS Ketchikan D-5 quadrangle). Access to Bell Island is limited to charter float plane, boat, or helicopter from Wrangell or Ketchikan, Alaska. There are daily Alaska Airlines flights (one each) to and from Wrangell, Alaska (WRG); and several daily flights to and from Ketchikan, Alaska (KTN).

2.3 Private Ownership of Hot Springs area within Tongass National Forest

Bell Island Hot Springs is owned by Northwest Discovery Joint Venture. The principal of the Joint Venture is Beverly Jean Wilson, Trustee of the Jean Wilson Trust. The land parcel is approximately 10 acres and as shown above, is within the Tongass National Forest except for the tide waters. The Alaska Department of Natural Resources holds an easement\(^4\) across the

---

docks for recreation purposes; however, the walkways presently pose a danger to public health and safety and, as a result, they may be closed by the State notwithstanding the public’s right, as easement holders, to otherwise access those walkways. The docks are in a dilapidated condition. SEAPA will coordinate access to the property by boat, plane, or helicopter. See the R&M Engineering Report, Bell Island ENV1 included as an attachment to this RFP for a better understanding of the present day condition of the Hot Springs area.

2.4 Permitting
Future exploration activities on Tongass National Forest (TNF) lands adjacent to Joint Venture lands is governed by the Tongass National Forest (TNF) special use permit process and the geothermal lease EIS. The majority of work of this RFP will take place on the privately held Hot Springs, but non-intrusive sampling and geotechnical mapping can take place on the TNF lands of Bell Island. The TNF issued a five-year subsurface permit in 2012 to the existing owners for exploratory work; this permit is governed by the TNF Supplemental EIS of 2012 and does not allow for development and is an exploration-only permit. Future development would require a multi-year licensing and permitting effort.

2.5 Previous Geothermal Investigations
The most comprehensive study of the geothermal potential of Bell Island was conducted by Alaska’s Department of Natural Resources, Division of Geological and Geophysical Surveys (DGGS) from 1979 through the mid-1980s; the principal authors, Motyka, Moorman, and Reeder, listed the following site observations:

- The original survey (Waring, 1917) reported the springs issue from a narrow fissure of biotite granite
- The hot springs lay on a prominent lineament that bisects Bell Island from Hassler Pass to Anchor pass (seaways)
- The DGGS report listed an estimate for subsurface temperatures between 115 °C and 144°C with 142 °C most likely
- Water mineral content was classified as sodium chloride-sulphate
- The geothermal reservoir volume was estimated as 3.3 km^3
- Some of the ascending thermal water may be undetected and discharging beneath the surface of nearby lakes or under the ocean
Figure 2 - Section of USGS geological map of SE Alaska, Bell Island

[remainder of page intentionally left blank]
Section 3  
Scope of Work

The intent of the preliminary evaluation is to verify or expand on the previous geochemical and geotechnical analysis and to document any changes to the geochemistry since 1979. Additionally, improvements in a first-phase modeling of the geothermal resource require a more thorough site evaluation. A planning and preliminary evaluation document is the deliverable including estimates of thermal reservoir temperature, depth, and volume. The deliverable shall include the following:

1. Conduct a project planning telephone conference after review of background information and reports.

2. Write an overview draft planning document that describes the schedule and process of geothermal development specific to Bell Island considering that the first-phase geochemical and geotechnical analysis will be complete by June 2015.

3. Travel to Bell Island during late March or early April of 2015 and conduct a site investigation:
   a. From the air note the lineament and any additional geological features which would give insight to the geologic characteristics of the geothermal system (sources of meteoric water, etc.)
   b. Map the location of geothermal seeps and springs; note distressed vegetation, iron staining, alkali soils, minor or hidden fumaroles, or additional seeps and springs previously missed by the original survey
   c. Map the geologic features of the area such as rock type, faults, folds, fissures, fractures, etc. such that vertical permeability can be estimated; also, any surface features that would allow speculation as to subsurface permeability relative to meteoric water mixing with geothermal water, convective paths, etc.
   d. Measure hot spring temperatures, flow rates and obtain water samples; perform any on-site chemical analysis of water and soils; measure soil surface temperatures as appropriate
   e. Measure nearby cold water spring temperatures and obtain water samples of these streams upstream and downstream relative to hot spring locations
   f. Make observations relative to low and high tide to understand the impact of tidal water on the hot springs area
   g. Photo document the site survey, and record locations of all samples
   h. Walk the entire private parcel of land identified as owned by Northwest Discovery Joint Venture, including the areas to the northeast along the lineament to the edge of the second lake upstream of the hot springs and obtain water samples, temperatures, and note the local geologic features surrounding
both upstream lakes. A helicopter may be used to identify other areas of interest further away from the site towards the transmission line.

4. Conduct the geochemical analysis and email the preliminary findings to SEAPA.

5. Write a preliminary summary of the geochemical and geotechnical survey such that a geothermal model (drawing) of the major components of the hot springs area can be understood.

6. Write a draft summary report for review by SEAPA staff. The report would summarize the findings and compare these findings with the previous DGGS report. The report will also include an example of a previous geochemical analysis and resource estimate for a site that ultimately was developed for generation. The report should identify the risks and costs of further exploratory investigations such as additional surface investigations, costs and schedule of exploratory wells, and theorize as to the number of production and reinjection wells.

7. Finalize the summary report after SEAPA review of the draft document.

Section 4

4.1 Schedule
The following schedule is SEAPA’s best estimate of the RFP process that will be followed:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue RFP</td>
<td>February 2015</td>
</tr>
<tr>
<td>Last date for Proposal submittal</td>
<td>March 6, 2015 at 4:00 p.m. AKST</td>
</tr>
<tr>
<td>Notice of Award</td>
<td>March 13, 2015</td>
</tr>
<tr>
<td>Teleconference Planning Meeting</td>
<td>March 20, 2015</td>
</tr>
<tr>
<td>Bell Island Site Visit</td>
<td>April 1-3, 2015</td>
</tr>
<tr>
<td>Geochemistry Results</td>
<td>April 22, 2015</td>
</tr>
<tr>
<td>Geochemistry Results Teleconference</td>
<td>April 24, 2015</td>
</tr>
<tr>
<td>Geothermal Model &amp; Conclusions (Draft)</td>
<td>May 15, 2015</td>
</tr>
<tr>
<td>Geothermal Model &amp; Conclusions (Final)</td>
<td>June 19, 2015</td>
</tr>
</tbody>
</table>

4.2 Proposal Requirements

1. Provide a letter of transmittal identifying the company name, name of individual(s) authorized to legally bind the respondent in any and all negotiations and/or contractual matters relating to this RFP, name of project manager, and address (street and post office box, if applicable) office telephone number, cell number, fax number, and email address for each individual identified.

2. Review the above scope of work and schedule, and revise this schedule and scope as needed consistent with practices normal to preliminary geochemical and geotechnical analysis.
3. State specifically how temperatures, chemical composition, and flow rates will be measured and the instrument uncertainty in these measurements.

4. Acknowledge the above schedule; state specifically who will perform the work, and include the resumes of these technicians/consultants.

5. Provide examples or similar work specific to the geothermal generation industry and list these references.

6. Provide an itemized cost by scope work task, and estimate the total cost, in U.S. Dollars, which shall include all costs for labor, materials, supplies, tools, equipment, manufactured articles, transportation, and services, for the work stated in Section 3 herein. Charter flight and/or boat costs and scheduling for transportation from Wrangell or Ketchikan, Alaska, to Bell Island Hot Springs, will be provided by SEAPA.

7. This work and all subsequent work will be subject to a future non-disclosure agreement. This requirement must be acknowledged in bidder’s proposal.

8. The proposal submittal shall include any assumptions, clarifications, and exceptions made in the development of the proposal.

9. Proposers shall submit a list of subcontractors who will be used on the project on the form titled “List of Subcontractors” attached to this RFP. All subcontractors doing work on the project are subject to SEAPA approval and insurance requirements.

10. Provide an acknowledgment of addenda, if any issue.

11. Review these general terms and conditions, including the insurance requirements, and acknowledge these requirements in the proposal; note any deviations required by the bidder.

12. Bidders must clearly identify all confidential information in their bids. However, bidders should take care to designate as confidential only those portions of their bids that genuinely warrant confidential treatment. SEAPA discourages the practice of marking each and every page of a bid as “confidential”. SEAPA will make reasonable efforts to protect any such confidential information that is clearly marked as confidential.

4.3 Proposal Evaluation

Proposals will be evaluated on:

- clarity of plan
- thoroughness of response
- schedule of services, and
- cost

In the event two proposals are judged equal, the lowest priced proposal will prevail.
Please note the proposal requirements noted in this Section 4 as a formatting guideline.

4.4 RFP Response Protocol

Inquiries during the preparation of proposals are welcome and shall be submitted in writing by email to sthompson@seapahydro.org.

Section 5
General Terms and Conditions

5.1 Addendums

SEAPA may modify this RFP prior to the proposal due date, by issuing addenda to the RFP. Bidder is responsible for ensuring that its proposal reflects any addenda that may issue prior to the proposal due date regardless of when the proposal is submitted. SEAPA recommends Bidders consult with SEAPA prior to the proposal due date to assure that all addenda have been received. Bidder must acknowledge their receipt of any addenda that may issue. If any addenda issue and Bidder fails to acknowledge their receipt, the failure to acknowledge may render their proposal non-responsive.

5.2 Term of Proposal

Submission of a proposal signifies that the quoted services and prices are valid for one hundred twenty (120) calendar days from the proposal due date.

5.3 Insurance

The successful proposer and its subcontractors, if any, will be required under a Contract to be negotiated with SEAPA to carry professional liability (E&O) insurance, workers’ compensation, and commercial general liability/employer’s liability insurance.

5.4 Requirements of Laws, Regulations, Licenses, Permits, and Taxes

It is the Bidder’s responsibility to be familiar with all Federal, State, Borough and City laws, ordinances, statutes, and regulations, which in any manner may affect the work, and they will be deemed to be included in the bid documents the same as though herein written out in full. The Bidder shall not be excused in the performance of the work or any part thereof because of the Bidder’s misunderstanding or lack of familiarity with such laws.

All required Federal, State, and local sales and use taxes shall be paid by the Bidder as required by the laws and statutes of the State and of any of its political subdivisions, and shall be included in the prices quoted in the bid. It is the Bidder’s responsibility to obtain and pay for all of the required permits, applications, variances, approvals, and other documents, if applicable.

5.5 Right of Acceptance

SEAPA reserves the right to accept other than the apparent lowest-priced proposal, and to reject any proposal in whole or in part, or to reject all proposals, with or without notice or reasons, waive any informalities, and if no proposal is accepted, to abandon the work or to have the work performed in such other manner as SEAPA may elect.
5.6 No Public Statements

Recipients of and bidders to this RFP shall not issue any public statement or news release pertaining to this RFP without the prior written consent of SEAPA.

Attachments:

(1) R&M Engineering ENV1 Report
(2) Tongass National Forest EIS
(3) List of Subcontractors Form