

Request for Information (RFI)

Nevis Geothermal Energy Project

Date: 7-September-2022

Nevis Electricity Company Limited (NEVLEC) is seeking to identify prospective bidders for a geothermal drilling campaign in Nevis Island, part of the Federation of St Kitts and Nevis in the Caribbean, by way of this Request for Information (RFI). NEVLEC is the sole provider of electricity on the island of Nevis and is fully owned by the Nevis Island Administration (NIA).

Technical support for the project is being financed by the Caribbean Development Bank (CDB) and the Inter-American Development Bank (IDB). It is intended that financing for the implementation of the project will be provided under the Sustainable Energy Facility (SEF) Programme of the CDB's GeoSmart Initiative with resources from the CDB and the IDB.

The purpose of this RFI is to identify interested bidders, and to assist in developing the tendering strategy for the supply of **the Services**, as described in the Packages 1 through 4 below, to achieve a rapid and successful tendering process. We would like to get an indication of interest from prospective bidders for this project. Your response to this RFI does not require you to commit to bidding on the tender when released.

This **is not** a prequalification or shortlisting exercise, and the eventual procurement process shall be an open, competitive process, which will be open to all eligible bidders. Procurement shall be undertaken in accordance with the Procurement Policy for Projects Financed by CDB and the Procurement Procedures for Projects Financed by CDB¹. The responses to this RFI will also inform decisions regarding country eligibility of prospective bidders.

The competitive tendering process is scheduled to start on October 3, 2022, with the release of tender documents, and conclude by the second week of December 2022, with the selection of the contractor(s). The drilling of the first well is anticipated to commence June 2023.

The Phase 1 (10 MWe) drilling campaign will include drilling five (5) geothermal wells (1 vertical and 4 directional) to approximately 4,500 — 5,000 feet measured depth (equivalent to 4,000 — 4,500 feet vertical depth), with a 13-3/8" OD production casing and 9-5/8" OD perforated liner in the 12-1/4" production sections. Indicative designs for the wells are shown in the Appendix.

The highest formation temperature is estimated to be 290°C. It is envisioned that the project will be drilled by a rotary drilling rig. The 13-3/8" OD production casing is programmed to be run and set at 2,500 feet vertical depth (2,800 feet measured depth). All casing strings will be cemented back to surface.

¹ The policy and procedures can be view at: <https://www.caribank.org/work-with-us/procurement/resources>

Preliminary calculations indicate that a rig with minimum pullback of 300,000 lbs. and minimum drawworks of 550 horsepower (hp) would be required. The first phase wells will be drilled on two pads (3 wells on one pad and 2 wells on the other pad), approximately 500 m apart, as the crow flies. Well pad sizes are expected to be in the order of 90 m x 60 m.

A second phase (Phase 2) project (expansion to 30 MWe) is anticipated to require four (4) additional wells, planned to be spudded shortly after Phase 1, depending on the drilling and well test results of the Phase-1 wells.

Package 1: Drilling Rig and Associated Services

The supply of drilling rig and associated services to be tendered will include the following:

- a) Drilling Rig and Ancillary Equipment, including the basecamp (this might be provided by NEVLEC, to be determined) and the minicamp*
- b) Rig Crew*
- c) Top Drive*
- d) Blowout Preventer Equipment (BOPE) and Choke Manifold System (high-temperature and H₂S rated)*
- e) Digital Drilling Monitoring and Recording System*
- f) Drilling String and Repair/Replace and Inspection and Maintenance (high-temperature and H₂S rated w/ "casing-friendly" hard-banded drill pipe)*
- g) Multi-shot directional survey tool with heat shield*
- h) Slick line system with depth counter and tension indicator*
- i) Fishing Equipment for Rig's downhole drilling tools*
- j) Casing running and handling tools (power tong)*
- k) Drilling Fluid Circulation Tanks and Mixing Equipment (large volume / high flow rate)*
- l) Drilling Fluid Solids Control Equipment and Degasser (high flow rate)*
- m) Drilling Fluid Cooling Tower (high flow rate)*
- n) Drilling Water Storage and Site Distribution System*
- o) H₂S Detection Equipment and Services*

- p) *Welding Services (excluding specialized wellhead welding)*
- q) *Rig Fuel and Lubricants for Rig and surface equipment*
- r) *Cellar Pumps and Jet*
- s) *Crane, Forklift, Trucks, and Crew Transport Vehicles*
- t) *Waste Management*
- u) *Fire-fighting pumps and equipment*
- v) *VSAT, CCTV, and Internal Communication System*

Package 2: Integrated Drilling Services (IDS)

The supply of integrated drilling services (IDS) to be tendered will include the following:

- a) ***IDS Project Manager****
- b) ***Cementing****
- c) ***Directional Drilling including rental of other BHA tools (stabilizers, reamers, jars, accelerators, shock subs, etc.) ****
- d) ***Drilling Fluids****
- e) ***Mud Logging****
- f) ***Wireline Logging Unit, including high temperature (HT) Pressure – Temperature – Spinner (PTS) survey tools and Free Point and Back-off / Pipe Cutting****
- g) ***Casing Accessories (including stab-in, latch-in type equipment and liner adapters and running tools)*****
- h) ***Roller Cone (milled tooth and insert) Bits and PDC Bits*****
- i) ***Air Drilling*****
- j) ***Specialized Fishing Tools and Service*****
- k) ***Specialized Welding (wellhead welding to L-80 grade casing with pre/post weld heat treatment) *****

Notes:

**** These are the core IDS services that must be included in the IDS contract package for it to be a complete and acceptable bid. IDS contractor is strongly encouraged to provide incremental discounts for bundling more services together in one contract. Each of these services may or may not be included in the final IDS contract. NEVLEC retains the right, at its sole discretion, to use other single service providers for each service, and change out any one during the contract, should the service performance does not meet requirements or expectations.***

***These are supplemental services or specialty items that may be sole sourced directly by NEVLEC outside the IDS contract, but the IDS contractor is strongly encouraged to provide all services under their umbrella.*

Package 3: Wellhead Equipment

The supply of wellhead and valves to be tendered will include various sizes of API or ANSI class master expanding gate valve, casing head flange with side outlets, side outlet valves, companion flange, studs and nuts, ring gaskets, and other associated equipment. Bidders are encouraged to also bid for specialized welding services for the welding of the casing head flanges.

Package 4: Casing and Liner Pipes

The supply of casing and liner pipes to be tendered will include various sizes and grades of API casing and pre-perforated liner with Buttress Threaded Connection (BTC) and weld-end (WE) API line pipe.

Interested parties are asked to review all Packages included in this notice, noting that the final bidding document may bundle the above-mentioned requirements set out in some or all of these Packages. There are no restrictions on interested parties responding to more than one of the Packages. Each of these Packages may or may not be included in the final drilling services contract. NEVLEC retains the right, at its sole discretion, to use other single service providers for each service, and change out any one during the contract, should the service performance not meet requirements or expectations.

Responses to this RFI should be sent to geothermal@nevlec.com on or before 16:00 Nevis local time September 20, 2022 and at the same time the submission should be sent to CDB for information at seu@caribank.org. The emails containing the applications should use the email subject line stating RFI – Nevis Geothermal Energy Project and the body of the email must contain contact information for the interested party, including name of a contact person and a telephone number.

Responses should include the following, as applicable:

- Confirmation of your company's potential interest in the opportunities;
- Company background and general experience;
- Details of relevant experience with drilling conventional (hydrothermal) geothermal wells in high temperature volcanic fields, and recent successful implementation of drilling rig and associated service contracts in accordance with Package 1;
- Details of relevant experience in the provision of Integrated Drilling Services (IDS) in accordance with Package 2;

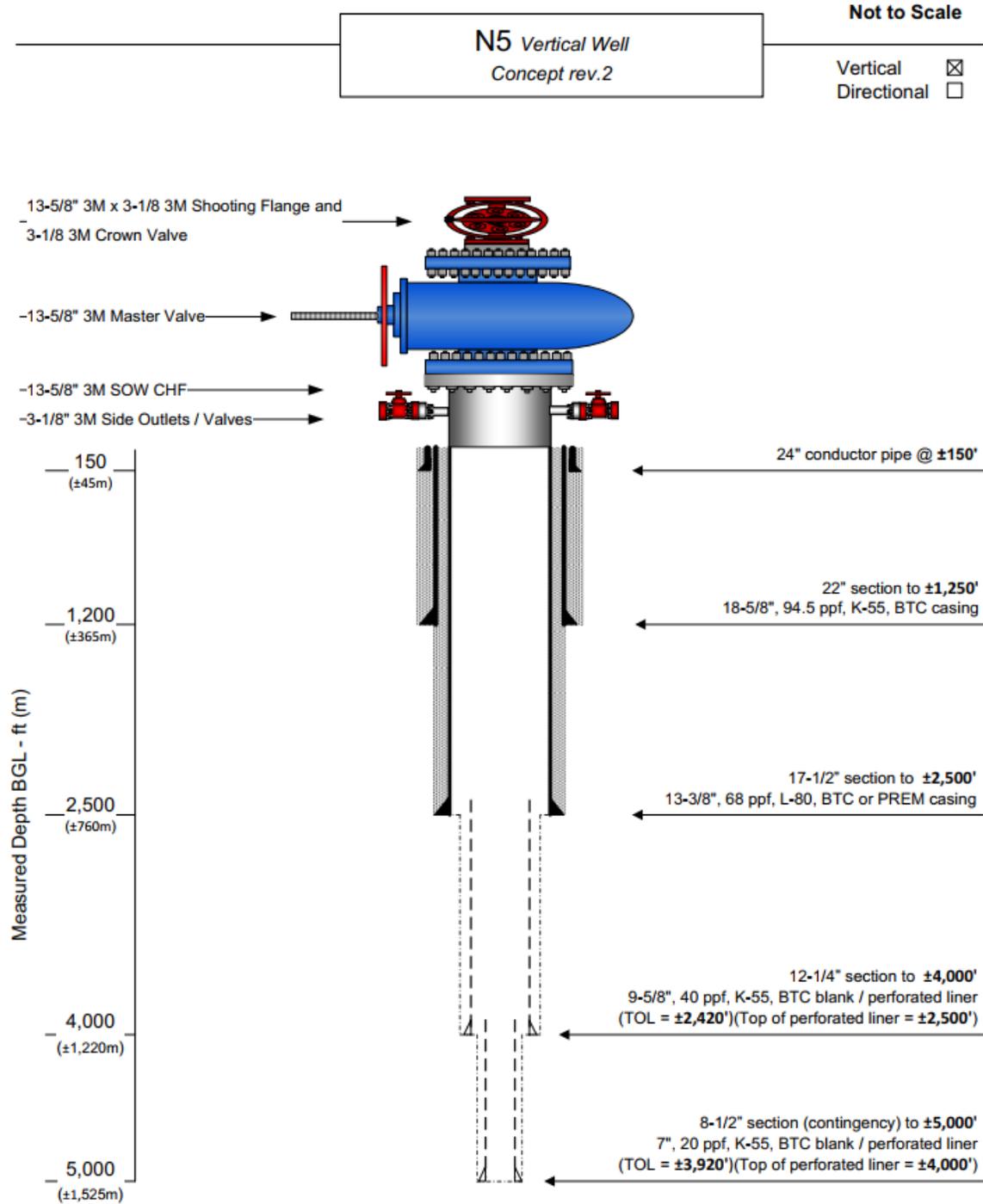
- Details of relevant experience in the supply of wellhead equipment and related specialized welding services in accordance with Package 3;
- Details of relevant experience in the supply of casing and liner pipes in accordance with Package 4.
- Details of the ability to provide suitable experts to plan and manage such undertakings; and
- Any comments or feedback on the requirements set out in this RFI.

All information provided will be held confidentially by the Project Manager, NEVLEC and CDB.

If you have any questions or require clarifications, please do not hesitate to submit these to geothermal@nevlec.com, copied to seu@caribank.org.

APPENDIX

Vertical Well Schematic



Directional Well Schematic

N6-N7-N8-N9 Directional Wells
 Concept rev.2

Not to Scale

Vertical
 Directional

Directional Plan (tentative):
 KOP: 250 ft
 DLS 3° /100ft
 EOB: 1,250 ft MD
 Final Inclination: 30°

