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## Question and Answer Compilation

### RFP: Direct Use of Heat Geothermal in Nova Scotia

RFP Release Date: May 19, 2021

Proposal Due Date: Friday, June 25, 2021 (5 pm ADT)

Questions Close: Friday, June 18, 2021

Posted June 15, 2021 (vers. 3)

*Q1. Section 7.4 states a requirement for a person licensed to practice geoscience in Nova Scotia. To what level of work will a P.Geo. be involved on the project and will they be required to stamp/sign-off on the deliverables? Any insights into the expectations for the P.Geo. role on the project would be appreciated.*

R1. The RFP states “As a minimum, the study team must include a person licensed to practice geoscience in Nova Scotia. Proof of licensing is not needed for the RFP.” OERA’s expectation is that the proponent will comply with the requirements of the Geoscience Profession Act as it relates to the geoscience components of the project. OERA does not require the deliverables to be stamped by a person licenced to practice geoscience in Nova Scotia – but we defer to the proponent’s judgement on this question. No points will be added or subtracted in relation to the stamp/sign off question: as long as you have an Nova Scotia registered geoscientist on the eventual project team, you’ve met OERA’s requirements.

Posted June 11, 2021 (vers. 2)

*Q1. Do you require us to supply external references with regards to previously delivered geothermal feasibility assessments?*

R1. The RFP (Section 7) states: “The proposal should include a description of the Respondent’s organization and its relevant experience with similar projects.” External references (names, contact information) are not required.

*Q2. The RFP refers to “heat for industrial activities” on p. 1, under Objectives. Is there a specific reason that residential and commercial applications have been excluded from the analysis? Would OERA wish to include residential and commercial opportunities as part of the proposed economic analysis?*

R2. The text is not meant to exclude residential and commercial applications. In fact, Case Study 3 described in Section 3.2 (a “proponent-defined scenario that may be economically and technically more viable than greenhouses or aquaculture operations”) may include any opportunity that can “demonstrate a viable project scenario that can be further de-risked through additional data gathering”.



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*Q3. Is there a specific reason that “normal” open loop geothermal systems were excluded in the Phase 1 report, despite their obvious economic advantages relative to BHE and EGS systems? Are “normal” open loop geothermal systems meant to be excluded in the proposed Direct Heat RFP? Would OERA wish to consider including the feasibility of using “normal” open loop geothermal systems as a component of this study?*

R3. Open loop systems were not excluded from Phase 1 or now from Phase 2. Shallow ground-source heat pump systems, open or closed, were excluded from Phase 1 because our assumption in the Phase 1 RFP was that shallow ground-source heat pump systems are well-understood, are economic and are currently being considered in many settings. So no, open loop designs at mid-depth are not meant to be excluded in Phase 2 and yes OERA would like to see the feasibility and costs of open loop designs for mid-depth heat. Also, shallow ground-source heat pump systems could be considered in the comparison piece as a competitive alternative to mid-depth systems.



*Q4. Does OERA have a reason for preferring a “geo-economic” model, which drives off of geologic factors (as enumerated in the RFP: geothermal gradient, porosity, permeability etc.) versus a conventional economic model, which evaluates the various specific geothermal applications in given subsurface contexts?*

R4. To inform Nova Scotian policymakers, OERA requires project outcomes to be based on local geological conditions as they are currently understood and summarized in the Phase I report.

*Q5. Are the case studies meant to include the economic factors related to the application (e.g., non-geothermal Capex, non-energy Opex of a greenhouse) or are they solely restricted to the geothermal facilities required to deliver heat up to the specific application, which would allow a “plant gate” comparison of geothermal direct heat, versus other energy forms, on a \$/GJ delivered basis? Further, if it is the latter, can you confirm that this should be inclusive of any specific customer equipment, to allow a true ‘apples to apples’ comparison?*

R5. Yes, the case studies should include the economic factors related to the application. The province wishes to understand the overall, order of magnitude costs of “typical direct use of heat geothermal projects that could be constructed in the province” and so the proponent will be expected to contact greenhouse and aquaculture equipment suppliers and others who can provide information regarding system design and estimated costs. This means that non-geothermal Capex and non-energy Opex should be included.

*Q6. Can OERA provide direction on which fuels should be substituted by geothermal direct heat, to allow for computation of the GHG reductions? (p. 3 item #6 (at top). Further, Does OERA have a preference on forward pricing of GHG credits, as these levels are critical in driving substitution of energy forms? Or is the respondent meant to assume this and provide some sensitivity analysis around this?*

R6a. All fuels typically used by the greenhouses, aquaculture operations and proponent-chosen project types should be assessed in terms of replacement by geothermal heat.

R6b. OERA does not have a preference on forward pricing of GHG credits – the proponent can explain the source of his/her pricing assumptions and provide an anticipated sensitivity of this parameter.

Posted June 1, 2021 (vers 1)

*Q1: What is the duration of the project implementation after being accepted? Do you mean the "Draft Final Report" is the end of the project implementation?*

R1: The project duration should be established by the proponent in the proposal. The RFP provides some guidance: we are expecting a Draft Final Report no later than 1 Oct 2021 but this may vary depending on the project start date and the proponent’s proposed timetable. The Draft Final Report is not quite the end of the project. Once the draft report is submitted, it will be reviewed by the management committee and comments, if any, will be transmitted to the proponent for inclusion in the final report, which represents project closure. This last step may take two-three weeks.

END