

Questions and Answers Posted July 23, 2020 – containing all previous Q&As.

Request for Proposals

Paleogeography-to-Petroleum Systems: Research Innovations for Offshore Nova Scotia (PaGeo2)

RFP issued May 21, 2020; Proposals due August 28, 2020

QUESTION PERIOD CLOSES FRIDAY AUGUST 14, 2020

Q1) Could you tell me please whether OERA has a policy on funding projects with regard to university overhead charges? The (institute name redacted to preserve confidentiality) has instituted a policy of 30% overhead on funded research "unless the sponsor has more restrictive, publicized terms or policies regarding indirect costs". I don't see any statement in the RFP with regard to overhead, but perhaps such a policy exists at OERA.

A1) We don't have an overhead policy such as you describe although we have negotiated reduced OH rates with different universities in the past, on a case-by-case basis. We recognize that universities may charge OH but please note you will be competing with others that may waive that requirement, as well as the private sector that uses a different charge-out model.

We will naturally seek projects that combine the best value for money with the most technically appealing objectives, methods and outcomes. Given this you may (or may not) wish to propose reduced OH rates for this work.

Q2) ...due to the nature of this technique and the uncertainty involved in working with data which we have not seen, we would like to suggest a staged approach to our proposal. The workflow provides that the initial modelling stages will form the basis for further analysis in the later stages, but without knowing the results of the modelling we are unable to define exactly what that analysis would incorporate.

We therefore suggest that, to ensure the best result for OERA, we provide our proposal based on fixed initial modelling stages, but then offering a level of optionality in the analysis stages. The options selected at the analysis stage would be dependent on the results of the modelling and will be determined based on recommendations for us and in discussion with OERA.

Would that model be acceptable as part of this RFP?

A2) that sounds like a very sensible approach. We recognize there will be uncertainty and welcome any effort to explain and accommodate how it will impact the project.

Questions and Answers Posted July 20, 2020.

Q1) We are setting up a proposal that will work on three of the research topics in an integrated manner. In these cases does the \$250k limit apply or does it become flexible as it will address more than one topic? Similarly, for the proposal document addressing three topics, are you flexible on the 20 page maximum?

A1) I will refer you back to the RFP, which states: “OERA will consider projects *at all price points* but is generally interested in projects the require funding between \$75,000 and \$250,000 each.” and “Maximum 20 pages excluding appendices”.

We expect a considerable number of applications and all will be competing for limited funding. Given this, we cannot make exceptions to the page limit nor provide advice regarding the cost components of individual proposals.

Q2) If additional work (e.g. well sample analyses) would enhance but not be essential to the completion of a project then could this work be proposed as an optional extra?

A2) Yes- that would be a good approach.

Q3) Is there somewhere to find which intervals in which offshore Nova Scotia wells have been cored, and the position of any petrographic analyses? Would successful applicants for the PaGeo2 call have access to cores, logs, core analysis and petrography?

A3) Below is the link to the list of conventional core available for viewing and sampling from the CNSOPB’s Geological Research Centre (GRC):

https://www.cnsopb.ns.ca/sites/default/files/resource/grc_core_2017.pdf

Petrographic analyses are for certain wells are also available at the GRC.

In addition, this CNSOPB Data Management Centre (DMC) summary could be very useful:

<https://cnsopbdigitaldata.ca/dmc-summary/>

Q4) In the 2011 Play Fairway Atlas, the introduction PI 1 lists key seismic interpretation products, including “10 sequences mapped on a regional scale...” and “Isopach maps in both interval time and thickness”. Are these interpreted surfaces (or more recent ones) available to successful applicants? The published maps in the 2011 PFA Atlas, Chapter 6, Fig. 1-4 are starting to go in the right direction but are not suitable for detailed analysis.

A4) The interpreted surfaces are available at <https://energy.novascotia.ca/oil-and-gas/offshore/play-fairway-analysis/analysis> under geophysical data. A merge of all of the “10 sequences mapped on a regional scale” will be provided to successful applicants.

Questions and Answers Posted July 13, 2020.

Q1) We are putting together a proposal covering (redacted to preserve confidentiality). However in order to be able to have an idea of effort and therefore price this element, we could really do with knowing how much data you are likely to be able to provide access to for this study.

Are you able to provide a rough guesstimate?

A1) Internal guidance indicates that access to the following data sets could be facilitated under appropriate confidentiality terms, as necessary, for a (redacted) project:

- **Penobscot 2D**
- **Penobscot 3D**
- **Barrington 3D**
- **George's Bank JEBCO 2D**
- **Banquereau Bank JEBCO 2D**
- **TGS Central Scotian Slope select 2D lines.**

Note that not all of these data sets cover areas with corresponding well penetrations, which may require consideration in the design of a (redacted) workflow and use of neighbouring seismic (e.g., Barrington 3D); also, some of these data sets may have already had (redacted) workflows attempted (e.g., Penobscot) so new value would need to be emphasized in a proposal. Note as well that NS is attempting to facilitate access to further data sets, but nothing that can be confirmed at this time.

Please advise if additional details regarding the location, size, and processing status of these data sets is required in the development of a proposal.

Q2) (Regarding the response above), I have a couple of additional questions from the team:

- What is the volume of data available for the listed surveys?
- Is the following available?
 - pre-stack data for released 3D surveys (PSTM or PSDM)
 - pre-stack data for released 2D surveys (PSTM or PSDM)
 - Processing reports?
 - Angle Stacks?

- RMS velocity
- Can OERA provide a list of wells with released log data?
- Do they know which wells have a complete log set? & Checkshots
- Is log data in .las format?
- Does interpretation of key horizons exist?
- There is a list of 'released' data on the DMC website – is this data which may be made available as part of the project?

A2) For various reasons, we are challenged to quickly provide compiled meta-data that is fit-for-purpose to directly address all of your questions for bidding a (redacted) project. In order to aid your proposal, we cordially submit the following for your consideration.

In the attached maps, you will see a presentation of the seismic data deemed to be available for such a project as well as all regional wells. The recommended initial source for information on all seismic and well data available is the CNSOPB's DMC found [here](#).

Documents available on CNSOPB's DMC should clarify the "size" of relevant seismic data sets in line or square kilometers, and provide well reports that clarify what logs were taken for each well. Briefly, *Approximate sizes of these surveys are as follows:*

Penobscot 3D → ~82 Km²

Penobscot 2D Lines → 66 lines @ ~1895 Km

TGS 2D → 28 lines @ ~ 3000

Barrington 3D → ~1800 Km²

George's Bank JEBSCO 2D → 113 lines @ ~6500 Km

Regarding seismic specifically, internal guidance indicates that every recommended data set has a PSTM vintage, whereas Barrington 3D at least will also have PSDM. Other processing steps including field data, angle stacks, etc. may also be available and this is especially true for the recommended data sets. It would be helpful if you could provide a priority list for seismic in order to focus our efforts on compiling available processing steps.

Regarding well data specifically, DMC-accessible well reports should illustrate what logs are available for each well. Once you have determined which wells and logs are of priority interest, please send us this priority list and we can confirm if the actual LAS files exist in NS databases to support your project if successful. In the meantime, we are also working with leadership to learn if we can disclose directly which logs are available on a per well basis and will provide you with this information if this permission is obtained.

Please advise if this is a useful response to assist your proposal for now and do consider providing us with priority seismic and well confirmations when ready.

Questions and Answers Posted July 7, 2020.

Note: “contractor” means any individual or group respondent to the RFP.

Q1) An IODP proposal is mentioned in the PaGeo2 proposal. Are the location and aim of this IODP proposal already defined? If yes, is it possible to have more information about it to properly focus the project?

A1) The purpose of mentioning an IODP proposal is to indicate Nova Scotia’s interest in supporting fundamental research questions using the conjugate Nova Scotia-Morocco margins (and along-strike neighbors) as a natural laboratory. Because PaGeo2 addresses a fundamental relook at the conjugate Nova Scotia-Morocco evolution, admittedly with a focus on petroleum systems and potential during PaGeo2, it is expected that research projects undertaken under PaGeo2 could expose critical uncertainties in basic science that could best be addressed as part of a new IODP proposal to be developed and proposed starting 2-3 years from now. Thus, it is a value add if PaGeo2 projects can describe how PaGeo2 might set up and prepare for the justifications required in a future IODP proposal. Note, that no planning has been undertaken and no locations have been defined for the contemplated IODP program; it is hoped that PaGeo2 project results can help to identify and provide the justification for exactly these kind of details. As noted in the RFP, proponents are asked to describe in a general way how their projects might contribute to an eventual IODP program, and in particular, how outstanding questions associated with their proposal might be addressed in an IODP application.

Q2) Is it possible to propose a project, which covers different themes (e.g. crustal architecture and deformable plate model?).

A2) Yes. A project can cover different themes provided objectives, workflow and outcomes are clearly defined and evidently achievable within proposed timelines.

Q3) If interactions are already identified with another proposal, should we mention it already?

A3) Yes, the reviewers would appreciate any information that clarifies or illustrates the proposed work and identifies synergies or overlaps.

Q4) Are the seismic data accessible through the CNSOPB?

A4) Seismic data accessible through the CNSOPB can be assessed via the CNSOPB’s Data Management Center (DMC). However, as a general comment, such data access does not typically extend to SEG Y data (only images or paper is generally available). However, for the purposes of PaGeo2 projects, Nova Scotia via the Department of Energy and Mines and the OERA can facilitate access to SEG Y data for successful proponents with the understanding that required confidentiality agreements or terms will need to be signed by successful proponents as necessary. Note that, in general, SEG Y seismic data is limited to specific vintages submitted to the regulatory board as part of normal reporting requirements. Note further, however, that Nova Scotia and the OERA have obtained the possibility to work with field data and all processing steps for select 3D survey(s) from the

offshore, again with the proviso that necessary confidentiality terms or agreements are required. Please consider inquiring ahead of a proposal submission what specific seismic data and in what vintage may be required for a given proposal.

Q5) It is suggested in the proposal to include the conjugate Moroccan margin to provide an integrated study. (Should we) have contacts in the ONHYM company enabling access to the west Moroccan seismic data, (would) such an interaction (be) in agreement with the policy of the proposal?

A5) On a general level, yes this is in agreement with the proposal although a certain degree of caution is strongly advised. NSDEM and OERA have a long-established collaborative relationship with ONHYM and we hope to engage them in PaGeo2 projects. Given the value and sensitivity of this relationship, we caution against direct outreach to ONHYM at this stage of the process (although we cannot prevent this if you feel your existing relationship would permit such discussions). Proponents are instead advised to describe their intentions with respect to ONHYM and their data in the proposal, describe any possible limitations to this collaboration (e.g., data confidentiality), and outline any potential impacts to project workflow and timing.

Questions and Answers Posted June 3, 2020.

Q1) Re section 2.1: New controlled source refraction seismic line acquisitions for basic crustal and upper mantle calibration

Will the contractor be required to perform this acquisition or will this data be supplied? The timing and budget of this project would make this acquisition very difficult.

A1) The budget and timelines for this RFP are admittedly a poor fit for new controlled source reference seismic line acquisitions. Contractor response on this topic may benefit from the following guidance. At least two types of proposals appear possible and would be considered.

First, a synthesis project to assemble a whole margin summary of crustal and upper mantle calibration offshore Nova Scotia (and/or Morocco) from existing refraction and related data would be valuable. This could support a goal of identifying new margin formation insights and/or areas to target for future new data acquisition expeditions in the future.

Second, if a contractor is able to justify and schedule a new data acquisition expedition between 2020-2022 followed by data processing and analysis in subsequent years then an acquisition proposal would be considered very seriously due to the high value of adding to the offshore database. However, such a new data acquisition program could not be funded through the PaGeo2 program (since PaGeo2 projects must end by June 2023). Given this, we recommend the proponent discusses such projects with OERA after the RFP closes.

Q2) Re section 2.5: Source-to-sink studies for offshore Nova Scotia; Study of hinterland uplift using thermochronometry

Will this be required to be done from scratch or from pre-existing data? As above, the timing and funds for this type of studies may be difficult to fit in this RFP.

A2) Similar to Q1 and A1, at least two types of proposals appear possible.

First, one response to this RFP are proposals that focus on pre-existing databases to develop regional syntheses of the source-to-sink and hinterland uplift constraints (or, perhaps, targeted studies of particular geographic systems or processes, if value of targeted studies can be shown). Also, syntheses of pre-existing databases could be used to identify gaps and opportunities where new data acquisition could be constructively supported in future funded programs.

Second, acquisition of new data to support these topics could be targeted directly in a PaGeo2 proposal either as a full new program or to supplement the existing database in a targeted way.

As noted in the question, the value of new data would need to be balanced against the pressures to turn around the data and analysis under PaGeo2 timelines. Ideally, the PaGeo2 evaluation committee would be looking for projects that could collect, process, and report on new data within PaGeo2 timelines. Accommodation for reasonable delays on the public release of data and interpretations beyond PaGeo2 timelines would count against a proposal but perhaps not fatally.

Alternatively, contractors interested in such acquisition proposals, but certain that PaGeo2 funds and timelines remain awkward, are requested to discuss such projects with OERA after the RFP closes.

Q3) Re section 5.5: Approximately one half of the funding will be Canadian-weighted while one half will be unweighted with respect to Canadian content.

Can you clarify this statement? The respondents are required to be Canadian or have a Canadian partner in order to apply to more than 50% of the funding?

A3) We don't expect any one respondent to apply for more than half the funding. As noted in the RFP, OERA is targeting projects the require funding between \$75,000 and \$250,000 each (i.e., 3-10 projects are targeted for support depending on the total value of each). Respondents are not required to have a Canadian partner in order to apply. Approximately one half of the total funding (\$850,000) will be Canadian-weighted. To be clear, for the evaluation of \$425,000 of funding (1/2 total), all proposals will be evaluated equally, using only technical criteria, with no preference to proposals with a Canadian partner. For the other \$425,000 of funding (1/2 total), proposals with a Canadian partner will be scored higher and, assuming they are competitive on technical grounds, supported ahead of comparable proposals without a Canadian partner.

Q4) Will the funds only be delivered at the end of the project or during? For academic institutions and small enterprises monthly or quarterly transfers would be preferable.

A4) OERA will negotiate acceptable contracting terms on a project-by-project basis. Initial 'kickoff' payments, milestone payments, quarterly payments etc. will be considered at the contracting stage. OERA is familiar with academic and SME funding necessities.

Q5) The RFP states that single respondents or teams may consider proposing projects which know about one another and which would benefit from mutual funding and an advance integration plan. Does that collaborative spirit extend to allowing one individual to be formally involved with more than one project proposal? I have been approached to participate in two separate project proposals with different research goals. I just want to make sure that if I decide to participate in both, I won't ultimately condemn both of the projects to failure due to violation of the rules. Can you provide some guidance on my situation?

A5) It is perfectly acceptable for an individual person or team to participate in multiple proposals. This will not affect the technical evaluation of competing proposals. Note, however, that reviewers will consider whether project participants seem 'over committed'. Because this could affect project scheduling or deliverable quality, persons or teams involved in multiple proposals should indicate for each submitted proposal how much time and effort their contributions are expected to consume and their capacity to deliver on their contributions.

END