

CALL FOR PROPOSALS

RFP # 2014 – 0001, Baseline Water Quality Research on New Brunswick Streams

Deadline for Proposal Submission: 20 June 2014

Background on New Brunswick Energy Institute (NBEI)

The New Brunswick Energy Institute (NBEI) is an independent body created to examine the science surrounding energy in our province. The overall aims of the NBEI are to advance research and generate new knowledge related to potential impacts of exploration, development and production of energy resources in New Brunswick, to provide timely information for the public and the government on issues of concern, and to inform decisions related to development of these resources in the province. It is important that New Brunswick-based research be conducted to ensure that all development is conducted in a safe manner that protects the people of New Brunswick and their environment.

Currently, there is considerable discussion and concern about the possible impacts of shale gas development in New Brunswick. As part of the NBEI's activities, several research objectives have been identified related to the potential impacts of unconventional gas development on surface waters in the province. The NBEI has prioritized a need for research to develop new methods to assess environmental conditions of streams and, as a result, allow specific baseline conditions to be established prior to any resource extraction. Results of this research would complement the data already available from NB's Department of Environment and Local Government (DELG), and inform the overall process of environmental assessments. This call for proposals focuses on research needed to further understand chemical, physical and biological conditions in surface waters prior to any development, information that will improve our ability to assess whether changes of concern are occurring during or after development.

Scope of the Call

There is potential for unconventional (shale) gas development in the south-central part of New Brunswick as reflected by the current distribution of oil and gas land holdings in the province (http://www.gnb.ca/0078/minerals/PDF/Oil_NG_Agreements-e.pdf). The target area for this research is streams near Sussex and Elgin, NB, where the potential for natural gas development in the near term is deemed highest. The project duration is expected to be between 12 and 24 months with a potential start date of August 2014.

Given the concerns and potential impacts of this resource extraction on surface water quality, the NBEI wants to support research to enhance our understanding of baseline conditions of streams in an area with the greatest future potential for drilling and hydraulic fracturing using multi-well pads. More specifically the NBEI is interested in supporting research that:

- Characterizes the seasonal variability in water quality parameters;
- Develops (if needed), further identifies and applies methods for assessing groundwater inputs, and the effect of groundwater influx on relevant water-quality parameters;
- Determines natural concentrations and profiles of hydrocarbons (biogenic and thermogenic) gases;
- Considers the potential contribution of water-quality impacts from oil and gas development within the larger scope of cumulative impacts from other land uses;
- Develops a set of recommendations for a long-term monitoring program that can be applied in this and other regions of the province. The main objectives for the monitoring program is to detect any changes in stream water quality that result from local unconventional gas activities and to identify “triggers” that can be used by DELG in their surface water monitoring program;
- Provides value-added information for the methods and data of DELG’s current surface water quality monitoring program. Information on this program can be found at: www.ec.gc.ca/indicateurs-indicators/default.asp?lang=En&n=CB97D13E-1 and <http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/water/content/watersheds.html>; and
- Considers other relevant regional monitoring (e.g. Kennebecasis Watershed Restoration Committee, www.kennebecasisriver.ca) and NB’s Water Classification Regulation.

Proposals should address, but are not limited to:

- Isotopic fingerprinting of a suite of hydrocarbons in surface waters;
- Assessment of groundwater inflows supporting streams;
- Method development (if needed) and subsequent baseline characterization of water-quality, sediment geochemistry and biological (e.g. benthic macroinvertebrate communities) parameters that may serve as indicators of impacts from unconventional gas development;
- Identification of any current impacts, natural or anthropogenic, on the area’s stream water quality, sediment geochemistry, and biota; and
- Development of guidelines for a monitoring program to specifically assess impacts of unconventional gas development.

Proposal Requirements

The proposals shall include the following information:

- A cover page
- Detailed study design (maximum of 7 pages) that includes the following:
 - methods to be used for sample collection and analysis including sample numbers and sampling frequency, locations of sampling, data analysis, details on integration of different methods to meet the objectives, and infrastructure available to support research;
 - quality assurance procedures and method detection limits;
 - project management details;
 - a list and timeline of deliverables;
 - statement of related experience and responsibilities of each person in the research team;
 - details on engagement and/or involvement of First Nations.
- A 12 to 24 month budget (maximum of 3 pages) that includes details on salaries, equipment purchases, materials and supplies, analytical costs, travel and other field expenses, publication costs, etc.;
- References (maximum 2 pages); and
- Maximum 2 page C.V. for each person involved in the project.

Data generated from this study must be included in a database that is publically accessible. The specific database to be used, and access to it, will be determined by the NBEI.

Project Requirements

1. Bi-annual reports and regular updates for the NBEI website
2. Regular meetings with the NBEI
3. Final report
4. Data must be made available in a mutually agreed upon timeframe for inclusion in the database

The project will be reviewed on an annual basis and continued funding will be contingent upon acceptable progress towards identified outcomes.

Submission Process

Proposals must be submitted as PDFs and by email to info@nbenergyinstitute.ca by **11:59 pm Atlantic Standard Time, 20th June 2014**. Confirmation of the receipt of proposals will be sent within 72 hours of the deadline. Questions concerning this call for proposals should be emailed to info@nbenergyinstitute.ca

Evaluation Timeline and Criteria

Proposals will be reviewed after the deadline and all applicants will be notified by email of the final decision within 3 to 5 weeks of the submission deadline.

Proposals will be evaluated using the following criteria (weighting criteria in brackets):

1. Scientific excellence, feasibility (including scope of work and available infrastructure) and overall fit to the scope of the call (30%)
2. Strength and excellence of project team (including project management) (15%)
3. Appropriateness of the budget (20%)
4. Dissemination and impact (including data generation) (5%)
5. Engagement and/or involvement of First Nations (10%)
6. Training of highly qualified personnel (5%)
7. The enhancement of relevant scientific capabilities within New Brunswick (15%)

All evaluation criteria are rated from 1 to 6 (6 = Outstanding, exceptional novelty and innovativeness, 5 = Excellent, extremely good in comparison – no significant elements to be improved, 4 = Very good, contains some elements that could be improved, 3 = Good, contains elements that could be improved, 2 = Unsatisfactory, in need of substantial modification or improvement, 1 = Weak, severe flaws that are intrinsic to the proposed project or the plan.