

REQUEST FOR INNOVATIVE IDEAS
PMC Buried Piping Innovation Initiative

April 15, 2020

RFII – PMC Buried Piping Innovation Initiative

1.0 Background

- 1.1 Having achieved Bruce Power’s goal of eight units of operation and having achieved a long-term deal with the Independent Electricity System Operator (“**IESO**”) through 2064, Bruce Power has now turned to securing the long-term future of the Bruce Site. Our focus now, which is aligned with Ontario’s long-term energy plan, is to successfully execute an asset management campaign on a range of nuclear and non-nuclear systems. The focus of this RFII is on buried piping systems that are reaching end of life.
- 1.2 Fundamental to achieving our asset management goals are our key suppliers; who directly contribute to the execution of Bruce Power’s operational plans. Bruce Power believes that innovation is essential in order to achieve project success. To that end, we invite you to share your innovative ideas for the inspection, protection, rehabilitation, or replacement of buried piping, supported by a business case. Should one or several of your ideas be selected, Bruce Power’s team will explore whether such ideas qualify for innovation funding in the next phase of the project.
- 1.3 Bruce Power invites your company to participate in supporting Bruce Power by submitting your innovative ideas in response to this RFII for our consideration.

2.0 Purpose

- 2.1 Bruce Power issues this request for innovative ideas (the “**RFII**”) in order to solicit information (“**Information**”) from entities (“**Potential Innovation Collaborators**”) interested in working with Bruce Power to develop and operationalize innovative ideas and approaches that support Bruce Power’s priority area (the “**Activities**”). This priority area is more fully described in Section 3.0.
- 2.2 Potential Innovation Collaborators in receipt of this RFII are invited to submit a response to this RFII, in the format prescribed in Section **Error! Reference source not found.** (the “**Response**”).
- 2.3 This RFII (including its Schedules) are collectively referred to as the “**RFII Documents**”.

3.0 Priority Area

- 3.1 Bruce Power is seeking Potential Innovation Collaborators that are interested in working with Bruce Power to develop and operationalize innovative ideas and approaches that support the following priority area:

Buried Piping Project innovations for the Common Service Water (CSW), Low Pressure Service Water (LPSW) and Emergency Water Supply (EWS) Systems (including schedule, cost and scope reductions)

- 3.2 Further information regarding the business need, expectations and anticipated outcomes with respect to this priority area can be found in Schedule B to this RFII.

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4.0 RFII Process

- 4.1 Bruce Power has engaged Nuclear Promise X Inc. (“**NPX**”), to assist with the management and execution of the activities described in this RFII.
- 4.2 This RFII sets out the process (the “**RFII Process**”) which Bruce Power, on its own behalf, will use to evaluate the Information submitted, as described in Section 12.0.
- 4.3 Interested Potential Innovation Collaborators must return a Response. The Response forms part of this RFII and must be completed and submitted to Bruce Power by 3:00 p.m. (Toronto time) (“**Closing Time**”) on the RFII Closing Date specified in Section 5.1.
- 4.4 Failure to respond by such specified time and date may, in the discretion of Bruce Power, disqualify the Potential Innovation Collaborator from this RFII process.

5.0 RFII Schedule

- 5.1 The following targeted schedule dates for this RFII are subject to change at the discretion of Bruce Power, without liability to Bruce Power:

- | | | |
|-----|-------------|---|
| (a) | 15 APR 2020 | RFII Issue Date |
| (b) | 21 APR 2020 | Inquiry Deadline |
| (c) | 23 APR 2020 | Inquiry Responses Available for Review Deadline (If applicable) |
| (d) | 08 MAY 2020 | RFII Closing Date |
| (e) | 22 MAY 2020 | Bruce Power to consider Responses submitted |

- 5.2 Bruce Power has set an ambitious schedule for the completion of this RFII Process. Potential Innovation Collaborators are encouraged to provide responses that are digestible, concise, and persuasive in order to facilitate Bruce Power’s comprehensive consideration of each Response in a timely and efficient fashion.

6.0 Site Meeting

- 6.1 A site meeting (or joint proponent’s meeting) is not planned as part of this RFII.
- 6.2 However, Bruce Power will provide an opportunity for 1-on-1 clarification meetings with interested Potential Innovation Collaborators. This will allow parties to ask questions and align their responses with the objectives of this RFII. 1-on-1 meetings will be supported by the NPX team, who will reach out to Bruce Power staff as needed for inquiries.

7.0 Inquiries

- 7.1 All inquiries and other communications from the Potential Innovation Collaborators

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regarding this RFII must be submitted in accordance with the RFII Schedule in Section 5.0 and shall be directed to the Bruce Power Representative as follows:

Attention: [William Buckland]

E-Mail: [William.buckland@brucepower.com]

(the “**Bruce Power Representative**”)

7.2 All inquiries or communications regarding this RFII, at Bruce Power’s sole discretion, may be circulated to all Potential Innovative Collaborators.

7.3 Potential Innovation Collaborators are encouraged to review the set of expected FAQs prepared by Bruce Power with respect to this Bruce Power Strategic Innovation Initiative found in Schedule “D” to this RFII.

8.0 Response Completion

8.1 It is the sole responsibility of each Potential Innovation Collaborator to carefully review this RFII (including its Schedules) in order to gain a thorough understanding of the instructions and requirements specified herein.

8.2 If the Potential Innovation Collaborator is a joint venture or consortium, an authorized representative of each participating entity must submit the Response. The Response must provide details of the nature of such joint venture or consortium.

8.3 By submitting a Response to this RFII, the Potential Innovation Collaborator confirms agreement with the terms of this RFII.

9.0 Release and Discharge

9.1 Upon submitting their Response(s) to Bruce Power, the Potential Innovation Collaborators fully and forever release and discharge Bruce Power (and its respective owners, shareholders, general partners and limited partners, and their respective officers, directors, shareholders, consultants, representatives and agents, collectively the “**Bruce Power Parties**”) of any and all liability or obligation to the Potential Innovation Collaborators in respect of this RFII or the RFII Process.

10.0 Response Ownership

10.1 In consideration of Bruce Power evaluating a Response, all submitted Responses and support documentation provided by the Potential Innovation Collaborators become the property of Bruce Power and will not be returned. Responses are not confidential information and may be used by Bruce Power without restriction of any kind.

11.0 Compliance

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11.1 Potential Innovation Collaborators shall comply with all Applicable Laws, rules and regulations, including without limitation, Canadian export laws and regulations and shall obtain and comply with all necessary permits, licences and approvals, such as Canadian licences to import or export a controlled nuclear substance, controlled nuclear equipment or controlled nuclear information.

12.0 Evaluation

12.1 Subject to this RFII, it is Bruce Power's intention to select those innovative ideas and approaches that, in Bruce Power's sole determination, have the potential to be developed into products, strategies or services that will or may create the greatest value to Bruce Power.

13.0 Invitation to Participate in a Subsequent RFP Process

13.1 Upon completion of its evaluation of the submitted Responses, Bruce Power may issue a letter to one or more Potential Innovation Collaborators advising such Potential Innovation Collaborator that, Bruce Power intends to invite such Potential Innovation Collaborator to either:

- (a) participate in an RFP process with respect to the Activities;
- (b) submit a proposal with respect to the Activities; or
- (c) negotiate a contract with Bruce Power for the Activities.

13.2 The selection of a Potential Innovation Collaborator to participate in an RFP process, submit a formal proposal, or negotiate a contract with respect to the Activities does not impose any binding obligation on Bruce Power.

13.3 Bruce Power is not bound to explain any decision made by it to all or any Potential Innovation Collaborator.

13.4 Bruce Power reserves the right to accept any Response in whole or in part, or to discuss with any Potential Innovation Provider different or additional terms to those envisaged in this RFII or in such Potential Innovation Provider's Response. Bruce Power has the right to:

- (a) not invite any Potential Innovation Provider to participate in the subsequent RFP process, submit a formal proposal, or negotiate a contract;
- (b) alter the RFII Process, the procedures or objective of the Bruce Power Strategic Innovation Initiative, or any other aspect of this RFII, as Bruce Power may determine in its sole and unrestricted discretion;
- (c) cancel this RFII at any time without any obligation or any reimbursement to any Potential Innovation Collaborator; and

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- (d) issue a new RFII or other procurement process which may or may not be extended to one or more of the Potential Innovation Collaborators to this RFII.

14.0 Not an Offer

- 14.1 This RFII does not constitute an offer of any nature or kind whatsoever by Bruce Power to any or all of the Potential Innovation Collaborators nor does it constitute any basis of any contract. Contractual obligations between Bruce Power and a the Potential Innovation Collaborator will arise only when an agreement is executed between Bruce Power and the Potential Innovation Collaborator and will be limited to and by the terms and conditions as set out in such agreement.
- 14.2 Each Potential Innovation Collaborator acknowledges and agrees that by submitting a Response none of Bruce Power and the Bruce Power Parties will have any liability or obligation to any Potential Innovation Collaborator. Upon submitting its Response, a Potential Innovation Collaborator thereby fully and forever releases and discharges each and every one of the Bruce Power Parties of all liability and obligations whatsoever or howsoever arising in connection with this RFII.

15.0 Potential Innovation Collaborator Disclaimer and Rights

- 15.1 **Costs.** Bruce Power shall not be liable for any damages or to provide any compensation for reimbursement of any costs, whatsoever or howsoever incurred by the Potential Innovation Collaborators resulting directly or indirectly from this RFII and the RFII Process.
- 15.2 **No Warranty.** Bruce Power does not warrant the accuracy of and is in no way bound by the information supplied to Potential Innovation Collaborators during the RFII Process by any official, employee, consultant or agent of Bruce Power, unless such information is specifically set forth in the RFII Documents or provided in writing through an addendum to this RFII issued by Bruce Power.
- 15.3 **Verification & Clarification.** Bruce Power has the right to verify or clarify any information submitted in a Response with the Potential Innovation Collaborator or with third parties and to request supplementary information from any Potential Innovation Collaborator during the RFII Process. The Potential Innovation Collaborator shall assist Bruce Power in this regard by making itself, its employees, and its facilities and all reasonably requested information available to Bruce Power upon request. Additional information obtained by Bruce Power through these means shall, in Bruce Power's sole and unrestricted discretion, be determined to constitute part of the Response. Bruce Power may, in its sole and unrestricted discretion, waive any requirement of the Response or request amendment or revision thereto.

16.0 Miscellaneous

- 16.1 Potential Innovation Collaborators may not assign any interest they have in the

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RFII in whole or in part.

- 16.2 Headings and any table of contents included in this RFII are included for convenience of reference and shall not be used to interpret any provision of this RFII.
- 16.3 In this RFII, unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders.
- 16.4 This RFII shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.
- 16.5 All of the provisions of this RFII or the Response that are intended or purport to limit the liability of Bruce Power or the Bruce Power Parties shall survive indefinitely.

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Schedule “A” Definitions

“**Activities**” has the meaning set forth in Section 2.1 of this RFII.

“**Applicable Law**” means all Laws in respect of which a Party has a legal obligation relating to the Activities or its obligations under the RFII.

“**Bruce Power Representative**” has the meaning set forth in Section 7.1 of this RFII

“**Bruce Power**” means Bruce Power L.P.

“**Bruce Power Parties**” has the meaning set forth in Section 9.1 of this RFII.

“**Bruce Site**” means the Bruce Nuclear Power Generating Station located near Tiverton, Ontario.

“**Closing Time**” has the meaning set forth in Section 4.3 of this RFII.

“**Form of Response**” means the form of response attached as Schedule C to this RFII.

“**Governmental Authority**” means any federal, provincial or municipal government, parliament or legislature (and, with respect to matters relating to Taxes, any foreign government, parliament or legislature), or any regulatory authority, agency, tribunal, commission, board or department of any such government, parliament or legislature, or any court or other law, regulation or rule-making entity (including, without limitation, a stock exchange), each having jurisdiction in the relevant circumstances, including, for greater certainty, any Person acting under the authority of any Governmental Authority.

“**IESO**” has the meaning set out in Section 1.1 of this RFII.

“**Laws**” means all:

- (a) federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, regulations or statutes;
- (b) orders, decisions, judgments, injunctions, decrees, awards, directives, rulings or writs of any court, tribunal, arbitrator, Governmental Authority or other Person having jurisdiction;
- (c) rulings and conditions of any licence, permit, certificate, registration, authorization, consent or approval issued by a Governmental Authority;
- (d) legally enforceable policies and guidelines of any Governmental Authority; and
- (e) any requirements under or prescribed by applicable common law.

“**NPX**” has the meaning set forth in Section 4.1 of this RFII.

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“Parties” means Bruce Power and the Potential Innovation Collaborator and **“Party”** means either of them.

“Person” means any individual, partnership, limited partnership, joint venture, syndicate, company or corporation with or without share capital, trust, trustee, executor, administrator or other legal personal representative, Governmental Authority or entity however designated or constituted.

“Potential Innovation Collaborators” has the meaning set forth in Section 2.1 of this RFII, and **“Potential Innovation Collaborator”** has a corresponding singular meaning.

“Response” has the meaning set forth in Section 2.2 of this RFII, and **“Responses”** has a corresponding plural meaning.

“RFII” has the meaning set forth in Section 2.1 of this RFII.

“RFII Documents” has the meaning set forth in Section 2.3 of this RFII.

“RFII Process” has the meaning set forth in Section 4.2 of this RFII.

“RFP” means Request for Proposal.

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Schedule “B”

Priority Area Further Information

The need:

The Bruce Power Unit 3 Life Cycle Asset Management Plan requires the inspection and rehabilitation of several areas of piping that is currently buried underground. The following systems have piping that are > 35 years old and are the subject of this RFII:

1. Common Service Water (CSW) System – Bruce A and B
2. Low Pressure Service Water (LPSW) System – Bruce A and B
3. Emergency Water Supply (EWS) – Bruce B

The underground piping is expected to be in an aged, degraded state and the current strategy for each of these systems involves inspection and potential replacement of several lengths of pipe. The piping is expected to be degraded via Galvanic Corrosion (GC) and Microbiological Corrosion (MIC).

Success criteria:

The success criteria for this innovation initiative is to identify ideas or opportunities that will contribute to the following areas:

- System safety or reliability improvements over the extended life of the pipe
- Reduced project scope via inspection or analysis techniques
- Improved certainty on outage maintenance and schedule performance
- Improved certainty on asset life extension via protection, analysis, or other means
- Reduced impact to station operations supporting running units and the outage unit(s)
- Reduced project risk through collection of relevant data / metrics on pipe integrity

Scope of innovation ideas:

This initiative invites ideas for all aspects of buried piping in order to meet the success criteria identified above. We are looking for innovation ideas in areas including but not limited to engineering, scoping and planning, construction, technology integration, inspection or pipe rehabilitation tooling, piping protection, outage execution strategies, process optimization, and data collection and analysis.

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Schedule “C”

Form of Response

RESPONSES ARE REQUIRED BY BRUCE POWER NO LATER THAN 5PM TORONTO TIME ON 08 MAY 2020.

The Potential Innovation Collaborator will indicate its interest in this RFII by submitting a complete Response online at:

<https://www.brucepower.com/become-a-supplier/buried-piping-innovation-initiative/>

or via the following QR Code:



Entering information online will allow Bruce Power to review the Responses in an expeditious manner and evaluate cost-benefit aspects thoroughly. By submitting a Response to this RFII, the Potential Innovation Collaborator confirms agreement with the terms of this RFII, and fully and forever releases and discharges Bruce Power and the Bruce Power Parties of all liability and obligations whatsoever or howsoever arising in connection with or arising out of this RFII.

The webpage provided above will require the following information to be entered:

General Information:

- Innovation Title
- Company Name
- Contact Name
- Telephone No.
- Email Address
- Further questions associated with the technology or solution being offered

Consortium, Team or Joint Venture information (if applicable):

If entity is a consortium or a joint venture, provide the following information for each member:

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- member name;
- contact name; and
- role/contribution.

Overview of Proposed Innovative Idea or Approach:

- detailed description of innovation idea or approach;
- description of the technology or product available
- description of the cost to deploy the technology or product

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Schedule “D”

FAQs

1. *Is Bruce Power only looking for big ideas that save millions?*
 - No, quick and easily implementable solutions to buried piping challenges are also sought after and encouraged. Each idea will be evaluated based on the value it adds, and the cost-benefit assessment associated with it.
2. *What type of organizations can be included as part of a Potential Innovation Collaborator’s consortium or joint venture?*
 - Consortiums or joint ventures can be made up of a variety of organizations, including but not limited to:
 - current Bruce Power suppliers;
 - service providers other than current Bruce Power suppliers;
 - colleges and universities; and
 - research institutions.
3. *Can organizations located outside of Canada be included as part of a Potential Innovation Collaborator’s consortium or joint venture?*
 - Yes, but, as stated in Section 11.1, the Potential Innovation Collaborator must abide by all Canadian export laws and regulations.
 - If a Potential Innovation Collaborator includes an organization located outside of Canada, Bruce Power recommends that the Potential Innovation Collaborator explain in its Response to this RFII how the Potential Innovation Collaborator intends to abide by the Canadian export laws and regulations referenced in Section 11.1 of the RFII.
4. *Will Bruce Power contribute to the funding of the selected innovative ideas and approaches?*
 - Yes. It is Bruce Power’s intention to contribute to those innovative ideas and approaches that are selected through the next stage.
5. *Should an innovative idea or approach be selected and developed through the Buried Piping Innovation Initiative, does Bruce Power guarantee exclusivity to all future work resulting from the implementation of this innovation?*
 - No. Although it will likely be most efficient for Bruce Power to work with the Potential Innovation Collaborator that developed the innovative idea or approach that may not always be the case and, as a result, Bruce Power

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reserves the right to utilize other vendors in implementing the innovative idea or approach.

6. *Will Bruce Power take our innovative idea or approach and implement itself or via another supplier?*
 - Possibly. Bruce Power is anticipating responses from several sources, both internal and external to Bruce Power. As a result, some ideas may be similar or even identical. Bruce Power's intent is to work with the organizations best suited for the development and implementation of those innovative ideas based on best overall value.
 - We expect that the responses submitted to this RFII will also demonstrate the value proposition of the Potential Innovation Collaborator, as to why their organization is the most appropriate organization to work with Bruce Power to develop and operationalize the innovative idea and approach.

7. *Who will own the Intellectual Property rights in the Innovation?*
 - Ownership of Intellectual Property rights in the developed innovative idea or approach will be negotiated by Bruce Power and the Potential Innovation Collaborator through the negotiations occurring after the next stage. It is Bruce Power's expectation that, at a minimum, Bruce Power will retain a world-wide, fully paid up, irrevocable license to all IP in the developed innovative idea or approach for use in at the Bruce Power facility for all future need.