



26-WIPC-RFP-05

EVIDENCE-BASED ASSESSMENT OF FREEBOARD REQUIREMENTS FOR  
WIND-WAVE EFFECTS IN IN-GROUND WATER STORAGE

BUDGET: \$100,000 PUBLICATION

DATE: JUNE 4, 2026

**PROPOSAL SUBMISSION DEADLINE: JULY 10, 2026, BY 5:00 pm**

[www.ptac.org](http://www.ptac.org)  
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## 1. Background & Rationale

Alberta's upstream oil and gas producers regularly construct in-ground water storage facilities - such as lined earthen excavations and engineered containment ponds - to support drilling, completions, and water-recycling operations. A recurring approval bottleneck is the technical basis for freeboard - how wind-generated waves, wave runup, and wind setup are predicted and translated into crest elevation and operating limits.

Current practice varies across the province (e.g., differing wind datasets, fetch treatments, and allowances), which can lead to inconsistent submissions, over- or under-design, and rework during regulator review. This RFP will deliver an Alberta-specific, evidence-based procedure and tool to standardize, improve, and defend freeboard determinations for in-ground storage under current regulatory expectations.

The research will review the status quo, test higher-fidelity alternatives (e.g., restricted-fetch and spectral wave models) against recognized baseline methods, and produce a standardized calculation workflow, data inputs, and submission templates suitable for regulatory approval packages. The end goal is a practical, defensible process that reduces rework, improves safety, and optimizes freeboard where justified.

## 2. Benefits to Producers

Faster, more predictable approvals via consistent, regulator-aligned submissions.

Right-sized freeboard: reduce unnecessary conservatism while maintaining safety and compliance; where appropriate, enable applications to reduce freeboard with a documented basis.

Clear regulatory alignment with Alberta's storage and dam-safety expectations and integration with emergency planning triggers.

Reusable wind/fetch libraries and a common calculator that reduce engineering effort and submission variability across projects and operators.

## 3. Research Objectives

- Document and critique current Alberta practice for determining freeboard in in-ground storage—covering wind selection/adjustment, fetch methods, depth/operating levels, wind setup, wave runup, and allowances—versus authoritative guidance.
- Evaluate improved methods/models (e.g., restricted-fetch computations and third-generation spectral models) against baseline fetch-limited methods for

Alberta-relevant geometries and depth states; quantify accuracy, precision, and uncertainty.

- Develop a standardized Alberta procedure—including decision logic and uncertainty treatment—to derive required freeboard from predicted waves, setup, runup, and allowances, aligned to current regulatory requirements.
- Produce a submission-ready toolkit (calculator workbook + GIS scripts + documentation) and templates that match regulator reviewer expectations for in-ground storage.
- Provide optional Alberta exposure benchmarks (pilot) that translate provincial wind climatology and standardized effective fetch into look-up values for preliminary design.
- Offer operational guidance that links calculated margins to operating envelopes and emergency response triggers.

#### 4. In Scope

- Regulatory and literature review:
  - Current Alberta requirements, expectations for storage and (where applicable) dam-safety contexts.
  - Authoritative design references for waves, setup, and runup in reservoirs and ponds.
- Data assembly:
  - Representative Alberta wind statistics converted to 10 m over-water conditions by sector.
  - Geometry/depth libraries for typical in-ground ponds (rectangular basins, coves, embankment slopes).
  - GIS methods for effective/restricted fetch by wind sector.
- Method testing and validation:
  - Baseline fetch-/duration-limited wave prediction; wind setup calculations; runup estimation for embankment and wall configurations.
  - Restricted-fetch versus straight-line fetch analysis; sensitivity to wind directionality and water depth.
  - Spectral wave modeling (fit-for-purpose mini-grids) for complex shapes; comparison and uncertainty quantification.
- Uncertainty analysis:
  - Consistent return-period treatment of winds, setup, and runup; exceedance metrics; decision rules for ‘sufficient / too much / not enough’.
- Tooling and templates:
  - Excel/CSV calculator implementing the standardized procedure.
  - GIS scripts for effective fetch.
  - Submission templates aligned to regulator expectations for freeboard justification.

- Operational integration:
  - Guidance on translating calculated margins into operating envelopes and triggers for heightened monitoring, drawdown, or suspension under emergency preparedness frameworks.

## 5. Out of Scope

- Regulatory reform or changes to existing directives or policies.
- Detailed engineering design or construction packages for specific facilities; dam consequence classifications; spillway sizing.
- Deployment of new long-term meteorological networks (beyond limited pilot instrumentation if proposed).
- Jurisdictions outside Alberta (except for literature/validation comparisons).

## 6. Specific Deliverables

- Inception Report: final workplan, data plan, QA/QC protocol, and regulator-engagement plan.
- Regulatory & Technical Review: synthesis of current requirements and authoritative design methods; gap analysis versus current Alberta practice.
- Alberta Wind & Fetch Data Pack: curated 10 m over-water wind statistics, effective fetch GIS layers and scripts, and depth/geometry libraries.
- Methods & Validation Report: side-by-side comparisons of baseline versus improved methods, quantified error/bias/uncertainty, and recommended parameters/safety factors.
- In-Ground Freeboard Calculator (Workbook): complete workflow (wind adjustment → waves → setup → runup → allowances → required freeboard), uncertainty treatment, and submission summary pages.
- Submission Templates: regulator-aligned documentation and figures for freeboard basis, including an annex for cases where dam-safety expectations apply.
- Exposure Benchmark (Pilot): optional look-up charts/maps of Hs/runup bands by wind sector for typical basin sizes and depths for preliminary scoping.
- Operational Integration Note: mapping calculated margins to operating envelopes and emergency triggers.
- Training Package: half-day webinar, slide deck, and quick-reference guide demonstrating the calculator and templates with Alberta case studies.
- Final Report: consolidated technical basis, validation results, tool documentation, maintenance recommendations, and industry implementation roadmap.

## 7. Success Criteria

- Technical defensibility: procedure agrees with authoritative methods; demonstrates improved accuracy/precision with quantified uncertainty bounds for Alberta-relevant cases.
- Regulatory usability: calculator and templates enable complete, consistent submissions and meet reviewer expectations for freeboard basis in in-ground storage.
- Risk-alignment: guidance connects calculated margins to operations/emergency planning triggers, reducing ambiguity during wind events.
- Adoption & efficiency: producer case studies show reduced rework and schedule improvement; where justified, the tool supports optimized freeboard while maintaining safety.



AUPRF 2026

Request for Proposals

**INSTRUCTIONS FOR PROPOSAL SUBMISSIONS**

JUNE 2026

[www.ptac.org](http://www.ptac.org)  
Suite 1550,  
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Calgary, AB. T2P 3R7

# Instructions for Proposal Submissions

## AUPRF 2026 RFPs

### 1 Purpose & Scope

These instructions apply to all competitive solicitations funded by the Alberta Upstream Petroleum Research Fund (AUPRF) and administered by PTAC Petroleum Technology Alliance Canada. They define how Proponents must prepare and submit proposals, how proposals are evaluated, the timelines for decisions and notifications, and key commercial and legal terms applicable to AUPRF-funded projects.

### 2 Submission – Content Requirements

#### 2.1 Proponent & Company Information

- Legal name and address
- Primary contact name, title, email, and phone
- Brief company overview and relevant services

#### 2.2 Technical Proposal

- Understanding of the problem statement and scope
- Proposed methodology and approach
- Work plan, milestones, and schedule
- Team composition; max 2-page bios/CVs with roles and expertise

#### 2.3 Financial Proposal

- Itemized cost breakdown (e.g., labour categories and rates, materials, travel, subcontractors)
- Proposed milestone-based payment schedule (payments tied to deliverables)
- Leveraged funding

#### 2.4 Formatting and Page Limits

Unless otherwise specified in a particular RFP, no strict page limits apply; include the content necessary to enable a thorough assessment.

### 3 Submission — Method & Logistics

Submit by email to [info@ptac.org](mailto:info@ptac.org) with subject line: *AUPRF – RFP ID – Proponent Company Name*.

- **Deadline:** Proposals must be received on or before the RFP deadline indicated in each RFP document; late submissions will not be considered.
- **File format:** A single combined PDF is preferred, plus any required spreadsheets or forms specified in the RFP.
- **Validity:** Proposals must remain irrevocable and open for acceptance for 90 days from the submission deadline.
- **Questions & FAQs:** Refer to the AUPRF call for proposals landing page and any RFP-specific instructions for updates and clarifications.

#### 4 Eligibility, Legal & Commercial Terms

- PTAC reserves the right to accept or reject any Proposal, in whole or in part, and to cancel or amend an RFP without liability.
- Proponents are responsible for all costs associated with preparing and submitting their Proposals.
- Confidentiality applies to information provided by PTAC; Proponents may be required to sign a non-disclosure agreement. Proposals will be kept confidential and will be accessed only by evaluators.
- Intellectual property (IP) arising from AUPRF projects may be owned by AUPRF funders, or AUPRF funders receive a royalty-free operational use right. No other IP ownership or sharing options (if IP is being generated) are acceptable.
- **Minimum insurance:** Commercial General Liability (CGL) of \$5,000,000 and Professional Liability of \$2,000,000.
- Disclosure of intent to subcontract and any actual or potential conflicts of interest is required.
- **Governing law:** Province of Alberta, Canada.

#### 5 Evaluation Criteria & Process

##### 5.1 Scored Criteria and Weights

<i>Criterion</i>	<i>Weight</i>
Technical Approach	30%
Relevant Experience	30%
Cost	25%
Leveraged Funds from Other funders	5%
Team Qualifications	10%

## 5.2 Screening & Completeness

Proposals are first screened for completeness and compliance (deadline, required sections, and required disclosures). Incomplete or non-compliant Proposals may be removed from further consideration at PTAC's discretion.

## 5.3 Committee Review, Scoring & Deliberation

The relevant AUPRF technical committee reviews Eligible Proposals. Committee members score Proposals using the standardized scoring sheet before a deliberation meeting, where compiled results are discussed, and recommendations are confirmed.

PTAC may request clarifications, additional information, or presentations from Proponents to support evaluation before final ranking.

## 6 AUPRF Review & Communication Timelines

Step	Date
1. RFP Release	June 4, 2026
2. Submission of Questions	June 22, 2026
3. Answers to Questions Posted	June 29, 2026
4. Proposal Submission	July 10, 2026
5. Decision Notification	July 30, 2026
6. Target Project Start	August 17, 2026

## 7 Communication

- All communications by the proponent to PTAC should be directed to [info@ptac.org](mailto:info@ptac.org) and AUPRF2026 RFPs should be included in the subject line.
- PTAC will notify the Proposal's primary contact by email of the outcome (award or non-award).
- Unsuccessful Proponents may request high-level feedback on strengths and areas for improvement.
- Public Communications: PTAC/AUPRF may publish award highlights after contract execution.

## 8 Contracting, Payments & Reporting

- A standard AUPRF Funding Agreement will be issued to successful Proponents for review and execution.
- Payments are quarterly milestone-based and tied to accepted deliverables, as specified in the Funding Agreement.
- Executed agreements are retained in the AUPRF contracts repository managed by PTAC.

## 9 Compliance & Reserved Rights

PTAC may amend or cancel an AUPRF RFP at any time; any changes will be communicated to all prospective Proponents. Proponents must comply with all instructions, including confidentiality, insurance, subcontracting disclosures, and conflict-of-interest requirements.

## 10 Proponent Checklist

- Company information (legal name, address, contacts, overview)
- Technical proposal (approach, work plan, schedule, team bios/CVs)
- Financials (itemized costs; milestone-based payment plan, leveraged funding)
- Disclosures (subcontracting intent; conflicts of interest)
- Insurance confirmation (CGL \$5M; Professional Liability \$2M)
- Submission format (single PDF + required forms); deadline; 90-day validity

## 11 Legal Conditions

### 11.1 Non-Binding Solicitation; No Obligation to Award

This Request for Proposals (RFP) is not an offer to contract. No contractual, quasi-contractual, fiduciary, or other legal obligations of any kind are created by this RFP or by any submission, communication, or conduct of PTAC unless and until a written Funding Agreement is executed by duly authorized representatives of PTAC and the successful Proponent. PTAC may cancel, amend, or suspend this RFP at any time without liability.

### 11.2 PTAC's Reserved Rights

Without limiting any other rights, PTAC may, in its sole discretion and without liability: (a) accept or reject any or all Proposals; (b) accept a Proposal in whole or in part; (c) waive non-material irregularities; (d) seek clarifications; (e) negotiate changes to scope, schedule, and pricing with one or more Proponents; and (f) cancel this RFP at any time. The lowest-priced Proposal will not necessarily be selected.

### 11.3 No Claim for Compensation; Bid Costs

Each Proponent is solely responsible for all costs associated with preparing and submitting its Proposal, as well as any related activities. PTAC shall not be liable for any such costs or damages, whether or not the Proponent is selected for award.

### 11.4 Limitation of Liability

To the maximum extent permitted by law, PTAC shall not be liable to any Proponent for indirect, incidental, consequential, special, punitive, or exemplary damages, loss of profit, loss of

opportunity, or loss of reputation arising out of or related to this RFP, the evaluation process, or any decision to award or not award funding, even if advised of the possibility of such damages. Any direct liability of PTAC to a Proponent is strictly limited to the reasonable, proven out-of-pocket costs of preparing the Proposal, which the parties agree is disclaimed by Section 4.

#### 11.5 Verification and Clarifications

PTAC may request clarifications, additional information, or presentations from any Proponent and may verify any information contained in a Proposal through interviews, reference checks, third-party sources, or site visits. Failure to respond promptly may result in disqualification.

#### 11.6 Grounds for Disqualification

PTAC may, at any time, disqualify a Proposal or rescind a selection if: (a) the Proposal is late, incomplete, or non-compliant; (b) the Proponent fails to disclose or address an actual or potential conflict of interest; (c) the Proposal contains misrepresentations or misleading information; (d) the Proponent engages in collusion, unfair competition, improper influence, lobbying outside the authorized contact, or attempts to obtain confidential information not publicly available; or (e) adverse information materially affecting the Proponent's qualifications comes to PTAC's attention.

#### 11.7 Proponent Representations & Warranties

By submitting a Proposal, the Proponent represents and warrants that: (a) the Proposal is accurate, complete, and not misleading; (b) all proposed work product will not infringe intellectual property or other rights of third parties; (c) the Proponent and proposed subcontractors are duly qualified and in good standing; and (d) it will maintain the insurance required by the RFP and Funding Agreement.

#### 11.8 Confidentiality; Use and Disclosure

Information provided by PTAC in connection with this RFP is confidential and may be used solely for Proposal preparation and evaluation. Proponents must not disclose such information to any third party except their team members, advisors, or subcontractors who have a need to know and are bound by confidentiality obligations no less protective. PTAC may disclose Proposals to its funders, technical committees, advisors, and partners for evaluation and administration and may make disclosures as required by law or court/government order.

#### 11.9 Intellectual Property & License to Use

Subject to the Funding Agreement, IP arising from the Project may be owned by AUPRF funders, or funders will receive a perpetual, royalty-free right to use the IP in their operations without additional compensation. Proponents must ensure they have all the rights necessary to grant such ownership or licenses. If IP is generated by the proposal/project, no other IP ownership or sharing options are acceptable. If IP is not generated by this project, this provision is unnecessary.

#### 11.10 Subcontracting

The Proponent must disclose its intent to subcontract any portion of the work. PTAC reserves the right to approve or reject proposed subcontractors. The Proponent remains fully responsible for all subcontracted work.

#### 11.11 Order of Precedence; Entire Agreement

In case of conflict, the following order of precedence applies: (1) the executed Funding Agreement (including schedules), (2) the specific RFP (including addenda), (3) these Proponent Instructions, and (4) the Proposal. The executed Funding Agreement constitutes the entire agreement for project performance.

#### 11.12 Governing Law and Forum

This RFP and any related dispute are governed by the laws of the Province of Alberta and the federal laws of Canada applicable therein, without regard to conflict-of-laws rules. The parties attorn to the exclusive jurisdiction of the courts of Alberta, sitting in Calgary.

#### 11.13 Insurance & Indemnities

At a minimum, the Proponent shall maintain CGL of \$5,000,000 and Professional Liability of \$2,000,000, as well as any other insurance required by the Funding Agreement. Proponents will indemnify and hold harmless PTAC, its officers, directors, employees, and agents from third-party claims arising out of the Proponent's acts or omissions in connection with the Proposal or the Project, subject to the Funding Agreement.