



26-ARPC-RFP-01

Alternative Engine Emissions Testing Methodologies For Regulatory Compliance

APRIL 22, 2026

BUDGET: \$100,000

PROPOSAL SUBMISSION DEADLINE: JUNE 12, 2026 BY 5 P.M.

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1. Background & Rationale

Since the introduction of the Multi-Sector Air Pollutants Regulations (MSAPR), operators have accumulated substantial implementation experience and test data, and technology options have continued to evolve. Producers guiding the Alberta Upstream Petroleum Research Fund (AUPRF) see a timely opportunity to evaluate whether commercially available, lower-cost measurement approaches can provide compliance-relevant NO_x data while maintaining the quality and defensibility required for compliance assurance.

This project will examine practical, lower-cost alternatives to current NO_x testing/measurement practices for stationary spark-ignition gaseous-fuel engines. The intent is not to reduce environmental performance expectations; rather, it is to identify approaches that can reduce cost and operational disruption while sustaining regulator-relevant evidence quality.

The work will build on existing MSAPR implementation learnings and, where available, leverage recently collected MSAPR test datasets to (i) focus the evaluation on the highest-impact use cases and (ii) strengthen the defensibility of recommendations.

Producer Benefits:

- Reduce annual MSAPR engine compliance costs by identifying validated, commercially available lower-cost measurement approaches that can be procured and deployed at scale.
- Increase operational flexibility by evaluating fixed and mobile approaches suited to varied upstream operating conditions and remote-field realities.
- Improve program efficiency and planning by clarifying where lower-cost tools can support screening, tuning verification, and readiness checks—reducing avoidable re-tests and unplanned downtime.
- Support stronger, evidence-based engagement with regulators by producing a defensible comparison of alternatives, including QA/QC expectations and practical validation steps.
- Enable better decision-making via a structured, transparent comparison of alternatives across cost, accuracy, catalyst/combustion verification capability, ease of use, and regulatory integration potential.

2. Research Objectives

- Identify and characterize lower-cost alternative NO_x measurement and compliance-support methodologies relevant to MSAPR stationary engine compliance.
- Assess data quality and compliance usefulness, including accuracy, repeatability, drift, cross-sensitivities, and the practicality of QA/QC in field conditions.
- Assess whether and how candidate approaches can support verification of catalyst effectiveness and overall combustion performance (where applicable).

- Assess operational feasibility at scale, including deployment practicality (fixed vs mobile), calibration/verification needs, maintenance burden, and usability.
- Compare alternatives to current MSAPR compliance practices using a structured evaluation framework (cost, data quality, catalyst/combustion verification capability, usability, regulatory integration potential).
- Perform a cost–benefit analysis versus current MSAPR compliance costs using transparent and defensible assumptions, including sensitivity analysis.
- Leverage existing MSAPR test data and implementation learnings (where available) to inform evaluation priorities and strengthen defensibility of conclusions and recommended pathways.

3. In Scope

In-scope activities include, but are not limited to:

- Evaluation of commercially available low-cost NOx measurement approaches (including single-gas NOx concepts) and their limitations, performance considerations, and QA/QC requirements.
- Evaluation of low-cost O₂ measurement approaches and practical use of existing engine O₂/engine-management instrumentation to support simplified, compliance-relevant measurement workflows (without predictive/AI-based monitoring).
- Assessment of fixed and mobile platform deployment options, including ruggedness, maintenance and calibration practices, and field usability.
- Definition of a practical data quality/defensibility framework (calibration/verification concepts, documentation expectations, traceability, drift management) suitable for audit-ready use.
- Cost–benefit analysis versus current MSAPR compliance costs, including sensitivity analysis and defensible benchmarking.
- Development of a field-ready validation plan for top candidates, including test design, acceptance thresholds, reference comparison strategy, and practical execution guidance.

4. Out of Scope

- Any emissions testing or operational activities that are not permissible under applicable regulatory, permit, or site safety requirements.
- Predictive or AI-based monitoring (e.g., emissions prediction intended to substitute for measurement).
- Early TRL (< 8) technologies that are not fully commercial / not broadly purchasable.
- Any solution whose total cost (capital plus operating and maintenance) is not plausibly lower than current MSAPR compliance program costs for comparable use cases.

5. Specific Deliverables

- Technical review of alternative NO_x/O₂ measurement approaches, including low-cost sensors and simplified measurement methodologies, with clear identification of limitations and required QA/QC.
- Decision-useful evaluation matrix comparing candidate approaches across cost, accuracy/data quality, catalyst/combustion verification capability, ease of use, maintenance/calibration burden, and regulatory integration potential.
- Data Quality & Defensibility Framework (QA/QC package) suitable to support audit-ready implementation, including calibration/verification protocols and documentation expectations.
- Field-ready validation plan for top candidate solutions, including practical guidance on calibration/QA considerations, deployment options (fixed vs mobile), and reference comparison approach.
- Cost–benefit analysis versus current MSAPR compliance costs with transparent assumptions and sensitivity analysis.
- Final report summarizing findings, results, and recommended pathways for producer adoption and regulator-facing discussion.

6. Success Criteria

- A credible, compliance-relevant technical basis for lower-cost, commercially available NO_x measurement approaches suitable for MSAPR-aligned stationary engine contexts.
- A transparent evaluation matrix that supports practical decision-making and highlights trade-offs in cost, data quality/defensibility, and operational burden.
- A practical, field-oriented QA/QC and defensibility framework that enables consistent, verifiable measurements.
- A field-ready validation plan that is realistic to execute and designed to produce regulator-relevant evidence.
- A cost–benefit analysis with defensible assumptions relative to current MSAPR compliance program benchmarks.
- A final synthesis that clearly communicates recommended pathways in a form usable by producers and suitable to support informed discussions with regulators.



AUPRF 2026 Request for Proposals

INSTRUCTIONS FOR PROPOSAL SUBMISSIONS

APRIL 2026

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 with subject line: *AUPRF – RFP ID – Proponent Company Name*.

Proposals submitted by other means will not be accepted.

- **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 Timelines¹

The following applies to AUPRF RFPs for **Air Research Planning Committee (ARPC)**, unless a specific RFP states a different schedule:

<i>Step</i>	<i>Date</i>
1. RFP Release	April 22, 2026
2. Submission of Questions	May 13, 2026
3. Answers to Questions Posted on PTAC Website	May 22, 2026
4. Proposal submission deadline	June 12, 2026 5 pm Mountain Time
5. Decision ratification	June 30, 2026 or sooner
6. Award notifications	July, 2026
7. Target project start	Summer 2026 (unless otherwise specified)

7 Communication

- All communications by the proponent to PTAC should be directed to 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.

¹ AUPRF 2026 RFPs for Well Decommissioning Research (WDRC), Water Innovation Planning (WIPC), Ecological Research Planning Committee (ERPC), and Reclamation Remediation Research (RRRC) **follow a different timeline and deadline.**

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 Proposal Validity

Proposals must remain irrevocable and open for acceptance for 90 days after the submission deadline.

11.12 Acceptance Not a Waiver

PTAC's acceptance of a Proposal, or its failure to identify deficiencies, does not waive any requirement of the RFP or Funding Agreement and does not relieve the Proponent from responsibility for compliance or performance.

11.13 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.

11.14 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.

11.15 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.

11.16 Addenda and Questions

Only written addenda issued by PTAC form part of the RFP. Proponents are responsible for monitoring the RFP communication channel (the PTAC website) and ensuring their Proposal reflects all addenda.