

# Environmental Technology Verification (ETV) Program



## Formal Application

The information you supplied in your Pre-Screening Application was used to determine if your technology is eligible to apply to the Environmental Technology Verification (ETV) Program. The purpose of this Formal Application is to request additional information about your technology and performance claim(s) in order to proceed with the verification.

**Please note: No proprietary information should be submitted until a Non-disclosure and Confidentiality Agreement has been signed with both ETV Canada and the Verification Entity selected to carry out the assessment.**

### 1. Company Information

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Contact: \_\_\_\_\_ Title: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_ Web Site: \_\_\_\_\_

### 2. Agreement

- I hereby certify that all information provided in this application is true and correct.
- I have enclosed a cheque for \$1500.00 + GST made payable to OCETA. I understand that the \$1,500 is non-refundable.
- I understand that an additional fee will be assessed for verifying my claim if this application is accepted. This verification fee covers ETV Canada's administration and management of the application process, the assessment of claim(s) by an independent Verification Entity, and the provision of a Final Verification Report and, assuming a successful outcome, a Certificate of Verification and a Technology Fact Sheet. The fee will be paid in three installments, the first installment comprised of 25% of ETV Canada administration fee (\$7,500) and 100% of the estimated verification entity fee due upon signing the verification contract, interim billing will be due upon receipt of the Final Report, and the balance upon completion of the verification process.

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Name(print or type): \_\_\_\_\_

Date: \_\_\_\_\_

### 3. ETV Canada Contacts

Please identify any staff of ETV Canada or its agents, including the Canadian Environmental Technology Advancement Centres (CETAC-West, OCETA & Enviro-Access), with whom you have discussed the preparation of this formal application:

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### 4. Performance Claim and Method of Verification Desired

Describe the claim that you want verified on a copy of the 'Claim to be Verified' form that is included as Appendix I to this application. Indicate whether the claim should be verified by:

**Method 1:** Using existing analytical data and other available information. The supporting documentation must be of peer-review quality and meet the data quality requirements specified in Appendix II.

**OR**

**Method 2:** The generation of additional quality data through tests conducted by an accredited testing facility, followed by an independent verification.

Information on the 'Claim to be Verified' form (Appendix I) must accompany this Application.

### 5. Technology Description

Attach a brief description of your technology, including a description of the operating conditions under which the performance claim(s) are valid, noting the ranges of all acceptable operating conditions for the technology that satisfy the performance claim(s).

### 6. Proof of Ownership

The applicant will be required, as of the date of formal application to ETV Canada, to provide an original signed letter attesting to their ownership of the intellectual property of the technology proposed to be verified, or if in their capacity as an authorized user, manufacturer or distributor ('rights-holder'), an original letter from the owner attesting to the existence of a licensing or similar agreement, in force as of the date of formal application. Notwithstanding this, ETV Canada reserves the right to accept or reject documentation and/or verify true ownership prior to the initiation of a verification project, which may also result in a decision not to proceed with verification.

## 7. Soundness of Underlying Scientific and Engineering Principles

Claims for a technology cannot be verified unless it is clearly established that the technology is based on sound scientific and engineering principles. This determination will be based on an evaluation by technical experts, a review of evidence in peer-reviewed literature, and an examination of other supporting information as necessary.

- a) Yes No Are peer-reviewed articles available that support the underlying scientific and engineering principles?  
If **YES**, please attach a list of literature citations and copies of key articles.
- b) Yes No Are the principles described in textbooks, technical handbooks, journal articles, or other references accepted by the professional community?  
If **YES**, please attach a list of citations.
- c) Yes No Is the technology patented or patent pending?  
If **YES**, please attach a copy of the Patents.
- d) Attach a list of independent experts, their background, affiliations, addresses and telephone numbers, whom you feel are qualified to discuss the scientific and engineering principles upon which the technology is based.

## 8. Technology Operations

- a) Attach a process flow diagram and a brief description of this diagram, design drawings, equipment specification sheets and other information that identify the unit processes or specific steps by which the technology operates.
- b) Which of the following documents do you have which describe specific methods for using the technology?
- Standard Operating Procedures
  - User Manual(s)
  - Operation & Maintenance Manual(s)
  - Quality Assurance Procedures
  - Other (specify): \_\_\_\_\_

## 9. Health and Safety

- a) Attach a brief summary of any key health and safety issues associated with the use of the technology.
- b) Which of the following documents do you have available which address worker health and safety issues and requirements related to the use of the technology?

- Material Safety Data Sheets
- Health and Safety Plans
- Other (specify): \_\_\_\_\_

## 10. Training

Attach a brief summary of training requirements necessary to safely and effectively operate the technology, and list the documents which you have available that describe these requirements.

## 11. Declaration of Codes and Standards

Please complete the attached Declaration Regarding Codes and Standards (Appendix IV).

## Checklist of Materials to be Submitted

**Before submitting your application, please ensure that the following attachments are included:**

- A copy of “Claim to be Verified” (Appendix I) for each performance claim to be verified.
- A proof of ownership as described in section 6.0 above.
- A description of the operating conditions under which the performance claim(s) is (are) valid.
- A list of literature citations and copies of key articles that support the underlying scientific and engineering principles of your technology (if available).
- A list of textbooks, technical books, etc. that describe the underlying scientific and engineering principles of your technology (if available).
- A copy of the patent(s) or patent application(s) for your technology (if available).
- A list of independent experts, their background, affiliation, addresses and telephone numbers, whom you feel are qualified to discuss the scientific and engineering principles upon which the technology is based.
- A process flow diagram and a brief description of this diagram, design drawings, equipment specification sheets and other information that identify the unit processes or specific steps by which the technology operates.
- A brief summary of the key health and safety issues associated with the use of the technology.
- A brief summary of training requirements needed to safely and effectively operate the technology, and a list of the documents which you have available that describe these requirements.
- Other technical and promotional material as appropriate.
- A completed Declaration Regarding Codes and Standards (Appendix IV).

# APPENDIX I

## PERFORMANCE CLAIM TO BE VERIFIED

*Complete one copy of this form for every technology performance claim you wish verified.*

**Claim to be Verified** (the claim must meet the criteria specified in Appendix III):

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**Method of Verification** (Select one method):

- Method 1.* Peer review of existing analytical data and other available information.  
The supporting documentation must be of *peer-review* quality and meet the data quality requirements specified in Appendix II.

Briefly describe the data you have available, the quality of the data, and how the data support this claim.

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(If necessary, continue on an attached page \_\_\_\_\_)

- Method 2.* The generation of additional quality data through tests conducted by an accredited testing agency, followed by an independent verification.

Briefly describe the testing plan, protocols and resulting data that will be generated to support the performance claim(s). Identify the proposed testing agency, if known.

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(If necessary, continue on an attached page \_\_\_\_\_)

## APPENDIX II

### Data Quality Requirements

This appendix addresses the quality requirements for analytical data and other information that will be provided by the applicant to support the technology performance claim(s).

The evaluation of analytical data involves more than a review of summary results from analytical tests. The verification entity will assess *suitability* of the data using the following criteria:

1. Data suitable for testing the performance claim.
2. Samples representative of process characteristics at specified locations.
3. Samples representative of testing conditions.
4. Samples representative of appropriate operating conditions.
5. Sample numbers adequate.
6. Samples and data prepared or provided by a third party independent auditor.

The *quality* of the analytical data provided will be assessed using the following criteria:

1. Appropriate sample collection methods.
2. Apparatus and/or facilities for the test adequate for the generation of data.
3. Operating conditions during test adequately monitored and documented.
4. Operating conditions and measuring equipment measured/calibrated at sufficient frequency.
5. Acceptable QA/QC procedures followed during sample collection.
6. Chain-of-custody methodology was used for sample handling and analysis.

## APPENDIX III

### PERFORMANCE CLAIM CRITERIA

A performance claim should, first and foremost, be meaningful to your customers. It should also be clear and concise.

To be verifiable a performance claim must: **be measurable** using accepted scientific and engineering test procedures/methods; **specify the operating conditions** under which the claim is applicable; **meet minimum Canadian standards/guidelines** for the release of environmental contaminants (where a federal standard is not available, the least stringent provincial standard shall apply); **specify the minimum performance that is achievable** with the technology, rather than the maximum performance (e.g., an *unacceptable* claim would state that a technology reduces emissions of a contaminant by *up to* x%, whereas an acceptable claim would state that a technology reduces emissions of a contaminant by *at least* y%).

**Caution:** Comparative terms or expressions in a claim such as “better than” or “superior to” would require the applicant to provide quality data for their technology **and** for each of their competitors’ technologies. Similarly, terms such as “the best” or “the only one in the world” require the applicant to provide quality data on all comparable technologies. Such claims must be considered as not economically verifiable. The expression “improves” would be acceptable if it is used to describe an advancement of the applicant’s own technology and if the applicant has suitable data for both the baseline conditions (prior to the improvement) and for the improved version.

In general, and without meaning to restrict creativity beyond the four criteria above, a performance claim should have the following format and elements:

“**The technology** [name], **as applied to** [effluent, emission, chemical sample, ...], **under operating conditions** [volume flow, temperature, input concentrations, ...], **will produce** [reductions, readings ...] **of** [at least, a minimum of , accuracy criteria, ...].”

## Examples Of Claims That Could Be Verified:

- **contaminant removal/recovery:** a claim specifies that a technology removes/recovers at least 95% of specified contaminants in specified matrices (air, liquid, solid) with specified initial (feed) concentrations. This claim could be verified by providing data on the amount of the contaminants removed/recovered by the technology to the total amount of contaminant treated by the technology. The amount of contaminant could be measured on a mass basis or a concentration basis, and could be expressed per process unit or per unit of time.
- **contaminant destruction (conversion):** a claim specifies that a technology destroys cyanide in a cyanide-bearing solution to a maximum effluent concentration of 0.01 mg/L, under specified operating conditions. This claim could be verified by providing data on cyanide concentrations in the solution and the effluent.
- **mass conversion:** a claim specifies that a technology converts a specific quantity (on a mass basis) of a material from a contaminated matrix (such as soil, air, water) to another matrix. *The conversion process must not yield extraneous contaminants or by-products which may be deemed contaminants.*
- **effluent/emission characteristics:** a claim specifies that an air pollution control device has an efficiency of 99% in reducing the emissions of particulate matter from a process, under specified operating conditions. This claim could be verified by providing data on the total mass of particulate matter at the inlet and outlet of the control device over a period of time, to allow a mass balance for the system to be calculated.
- **product/process characteristics:** a claim specifies that a product or process has certain performance attributes. .
- **resource utilization requirements:** a claim specifies that a product or technology uses a specified level of resources to accomplish the environmental performance.
- **testing/monitoring equipment:** a claim specifies that testing/monitoring equipment can provide quantifiable measurements with a specified accuracy and/or precision and/or efficiency.
- **instrumentation:** a claim specifies that an instrument can provide measurements and/or control of environmental measurements with a specified accuracy and/or precision and/or efficiency.

# Appendix IV

## Declaration Regarding Codes & Standards

I, \_\_\_\_\_ a duly authorized officer of \_\_\_\_\_  
(Name) (Name of firm)

make the following declaration with respect to the operation and performance of

\_\_\_\_\_  
(Name of the Technology)

1) \_\_\_\_\_ is in compliance with the latest version of Canadian Labour  
(Name of Technology)  
Code Regulations, and the following federal and/or provincial health and safety codes, standards  
and guidelines, when installed and operated in accordance with our specifications:

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(Attach and reference additional information as appropriate)

2) \_\_\_\_\_ meets the requirements of other applicable codes (eg. building  
(Name of Technology)  
codes), standards and guidelines (eg. industry standards):

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(Attach and reference additional information as appropriate)

3) (Check one or the other as appropriate)

Regarding the New Substance Notification Regulations, \_\_\_\_\_  
(Name of Technology)  
does not contain or produce a substance or substances other than those on the Domestic Substances List issued under the Canadian Environmental Protection Act, or other than those exempt under these Regulations.

**OR**

Regarding the New Substance Notification Regulations, \_\_\_\_\_  
(Name of Technology)  
contains, uses or produces the following new substance(s) as defined by the Regulations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Attach and reference additional information as appropriate)

This (These) substance(s) has (have) been declared to, and evaluated by Environment Canada as required by these Regulations. The application of \_\_\_\_\_  
(Name of Technology)  
is in compliance with the specifications, limitations and requirements issued by Environment Canada with respect to this (these) new substance(s)

Per:

Witness:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)