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Environmental Technology Verification (ETV) Program

Information and Guidance for Vendors

Drinking Water Systems (DWS) Center

Prepared by



NSF International

Under a Cooperative Agreement with
 U.S. Environmental Protection Agency

ETV ✓ ETV ✓ ETV ✓

**The U.S. ENVIRONMENTAL PROTECTION AGENCY,
ENVIRONMENTAL TECHNOLOGY VERIFICATION (ETV)
DRINKING WATER SYSTEMS (DWS) CENTER**

Information and Guidance for Vendors

Table of Contents

***Introduction*.....1**

***The Verification Process*.....1**

Application.....1

Selection of a Field Testing Organization2

Field Test Site Selection4

Product Specific Test Plan and Statement of Performance Capabilities4

Testing.....5

Withdrawal from ETV Testing5

Report Preparation6

Use of the EPA and NSF Names During Verification.....7

***FTO Qualifications*.....7**

Qualifications for an FTO7

Required Qualifications for a Chemistry or Microbiology Laboratory8

Secondary Qualifications for a Chemistry or Microbiology Laboratory.....8

***Frequently Asked Questions and Definitions*8**

List of Figures

Figure 1: Verification Testing Timeline3

List of Appendices

Appendix A: Overview of the EPA ETV Program..... A-1

Appendix B: Check List of Consideration of Protocol/Technology Specific Test Plan
DevelopmentB-1

Appendix C: Existing Data Policies (Under Revision)..... C-1

Appendix D: NSF and EPA Policies on Use of Names and Logos D-1

Appendix E: Contract for Drinking Water Technology VendorsE-1

Appendix F: Frequently Asked QuestionsF-1

Appendix G: Definitions G-1

**THE U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL TECHNOLOGY VERIFICATION (ETV)
DRINKING WATER SYSTEMS (DWS) CENTER**

Information and Guidance for Vendors

Introduction

NSF International (NSF) and the U.S. Environmental Protection Agency (EPA) jointly manage the Environmental Technology Verification (ETV) Drinking Water Systems (DWS) Center. The purpose of the DWS Center is to offer independent evaluations of products designed to treat drinking water for small communities, as well as point-of-use (POU) and point-of-entry (POE) devices for Homeland Security applications. Evaluations are completed using protocols developed with broad stakeholder involvement. Evaluation reports are expected to accelerate commercialization of new drinking water technologies by providing consumers with verified results of product evaluations.

The DWS Center is one of six EPA ETV Centers created to produce product performance data of high quality and integrity. Other ETV areas include advanced monitoring systems, air pollution control, greenhouse gas prevention, water protection, and pollution prevention. For more general information about the ETV Program, please see Appendix A.

The Verification Process

Application

The first step for a vendor to participate in ETV testing is to contact NSF and discuss the verification process with the ETV DWS Center staff. Next, NSF staff will review the technology to assure that there is an appropriate ETV protocol and technology specific test plan (TSTP) to evaluate the product. The DWS Center will then request an application package from the vendor to assess the product for the level of commercial readiness. The application package should include: (1) documentation indicating that there is a patent on the product (or have applied for a patent), (2) a system specific Operation and Maintenance (O&M) manual for the product, (3) field studies or previous test performance data related to drinking water studies and/or certification from an independent source, and (4) a statement of performance capabilities. If the

product is not covered within the scope of an existing ETV protocol or TSTP, the next step will be to develop a test plan. Please see Appendix B “Check List for Consideration of Protocol/Technology Specific Test Plan Development” for requirements to develop a new test plan. If the product is covered under the scope of an existing ETV protocol and TSTP and is commercially ready, the next step in the ETV DWS Center verification process is to develop a Product Specific Test Plan (PSTP) and to test the product. Please see Figure 1 that illustrates the timeline of testing events involved in verification testing.

Selection of a Field Testing Organization

ETV protocols and TSTPs can require laboratory and/or field testing. When field testing is required, an NSF-qualified field testing organization (FTO) may be selected to develop the PSTP and perform the field test. The following guidance is provided to assist the vendor select an FTO. Selection of the FTO can occur after it is determined that the vendor’s product is covered under the scope of an existing ETV protocol and TSTP. The DWS Center will assist the vendor in selecting an FTO if they have not already done so. The FTO must be fully or conditionally qualified by the ETV DWS Center. The list of FTOs is updated regularly and is found on the NSF ETV DWS Center web site: http://www.nsf.org/etv/dws/dws_ftos.html.

The vendor may select an FTO without NSF’s assistance, if the chosen FTO has been fully or conditionally qualified by the ETV DWS Center. If the vendor selects a conditionally qualified FTO, the DWS Center will require the FTO to satisfy special conditions, such as undergoing training specific to the ETV testing or quality assurance process. In some cases, use of a conditionally qualified FTO in which the special conditions were not satisfied could result in the limitation of funding for testing, etc. Please see the section on FTO qualifications for more details or contact the DWS Center for more information.

The vendor may select an organization to conduct testing that is not presently fully or conditionally qualified to do so. NSF will send an application to that organization to apply to be an FTO. Any newly qualified FTO is initially conditionally qualified and must undergo training specific to ETV testing and the quality assurance process.

If this is the first time for a vendor to be involved with the ETV DWS Center for verification testing, the DWS Center requires the vendor to participate in a kick off meeting to outline responsibilities and to have questions about verification testing answered.

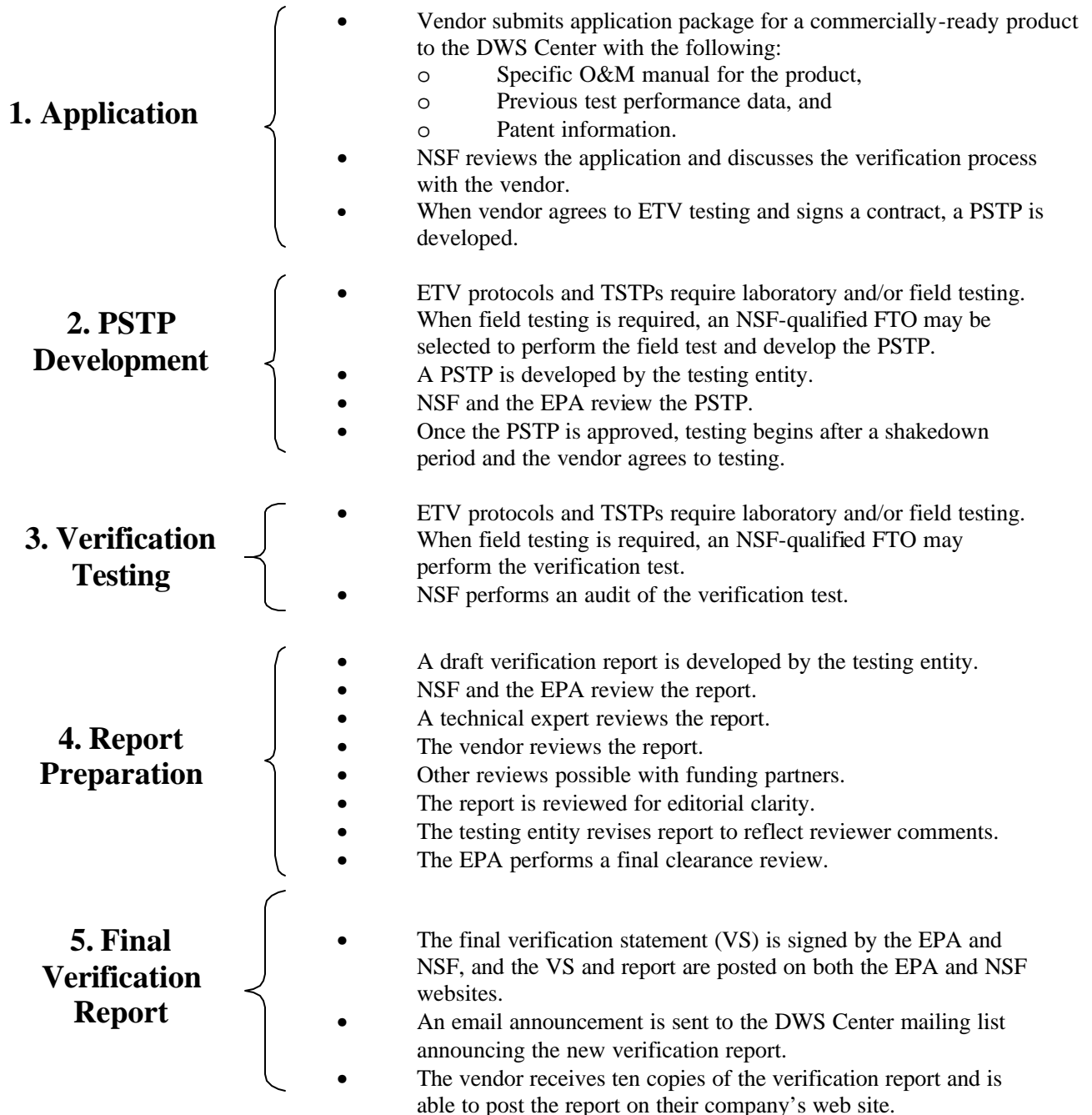


Figure 1: Verification Testing Timeline

Field Test Site Selection

ETV protocols and TSTPs can require laboratory and/or field testing. In a case where an ETV protocol requires field testing, a test site will need to be identified. The vendor should recommend a test site with sufficiently challenging water quality to demonstrate the product's performance and O&M. NSF and/or its designee (the FTO) can assist with test site selection. The test site should also consider the vendor's stated performance capabilities for the product. Regardless of the site water quality, the final ETV report can only state how the product performed at the specific site and not speculate how it could perform at other sites. NSF recommends that a product be tested at more than one site or during more than one season, whenever possible. Also useful in selecting an appropriate test site is the incorporation of existing data from prior testing of the product at other sites – please see Appendix C for more detail. The ETV Program's policy outlining the use of existing data to supplement verification reports is currently under review. For more information, please contact NSF.

Product Specific Test Plan and Statement of Performance Capabilities

Development of an approved PSTP is necessary before testing begins. NSF is responsible for preparation and/or oversight of the preparation of the PSTP. The vendor shall provide two critical pieces of information to include in the PSTP: 1) the product's performance capabilities and 2) a complete description of the product including the processes and principles of operation.

A critical step in the preparation of the PSTP is the vendor's statement of performance capabilities. The vendor's statement of performance capabilities is used to establish data quality objectives (DQOs), which are then used to develop the experimental design of the verification test. The broader the performance capabilities, the more comprehensive the PSTP must be to achieve the DQOs. To test the product based on the performance capabilities, the PSTP will be tailored according to the specific historical water quality at the chosen site, the target performance of the product, and the length of the verification test. Since a major portion or even all of the testing costs may be borne by the vendor, the vendor needs to carefully construct its performance capabilities. When an FTO prepares a PSTP, NSF reviews the document to assure that it conforms to the requirements of the ETV protocol, TSTP(s), and established DQOs.

The vendor must provide a detailed description of the product for inclusion in the PSTP and the final report. At no time should the vendor provide information that the public should not see. In general, the vendor should only provide as much information as what a state engineer would review during a permit application of the product. While the draft PSTP and draft reports are in NSF's possession, they are not subject to disclosure under the Freedom of Information Act (FOIA) and will be kept confidential. NSF will also keep confidential any business information identified as such by the vendor upon receipt of a signed non-disclosure agreement available from NSF. However, any document submitted to the EPA or states is potentially subject to disclosure under FOIA.

Testing

Depending on the requirements of the ETV protocol and TSTP, testing may be performed in the field or laboratory. When testing is conducted in the field, it is usually performed by the FTO but may also be performed by a team, such as: consultants, water utility personnel, municipal and state laboratories, and other specialists. The 'team' approach is often used to reduce costs and use the talents of a broad range of specialists. The team approach must be coordinated through NSF.

NSF is responsible for assuring the quality of ETV testing. All ETV testing will be audited by NSF. Most of the costs of audits are incurred by the ETV DWS Center but in some cases the vendor may be asked to pay for audits. NSF will notify the vendor if the vendor must pay for audit costs prior to the start of testing.

Withdrawal from ETV Testing

Shakedown testing is required before commitment to ETV verification testing because once ETV testing begins, a final ETV report will be issued regardless of the test results. Shakedown testing is the last opportunity for the vendor to withdraw from the ETV Program without issuance of a report. NSF *strongly* encourages the vendor and the testing entity to review the shakedown test data and ensure that the results are consistent with the vendor's expected results. Once shakedown testing is completed, the manufacturer must give consent to NSF to begin the actual verification testing. Evidence of this consent must be submitted to NSF and can be in the form of an affidavit signed by the vendor.

Report Preparation

A draft report consisting of the introduction, methods, and product description may be prepared prior to the completion of field sampling and monitoring. A complete draft report with data will be prepared after completion of the field and/or laboratory tests. An ETV report will only provide the results of the test as designed by the specified DQOs. NSF will review the draft report for format, rudimentary science and engineering, and checks on data quality. When field testing is performed, review comments pertaining to the first draft of the report will be provided to the FTO for incorporation.

After the resolution of all of NSF's review comments, including a quality assurance and quality control (QA/QC) review by NSF's QA Officer, the draft report will be submitted for technical review by the EPA and to an expert in the technology area. After the EPA and technical review comments are adequately addressed, the vendor will then have an opportunity to review the draft report, focusing on the product description and the results sections, and provide comments to NSF. The vendor will be given a maximum of ten business days to provide comments on the report. In addition, if the vendor would like to comment on any of the testing results, the vendor may prepare a separate chapter designated as the vendor's response and submit it to NSF for inclusion within the final ETV report. This separate chapter by the vendor will be reviewed by NSF, the FTO (if applicable), and the EPA. Prior to final submittal of the verification statement and report to the EPA, NSF will submit the document to a technical editor, either internally or externally, to review the text. The EPA will then conduct a final review of the document before signing the verification statement. Any draft document, including reports, that are in draft form are confidential and not to be submitted to any other outside party without prior knowledge and approval by NSF.

A verification report and the ETV logo may only be used for a product that was verified and named in the original ETV report. In the event that the manufacturer decides to change the name of the product after verification testing has begun, the onus that the name changed and not the design, parts, or performance of the product is the responsibility of the vendor. For more information about product and/or product name changes, please contact NSF.

Use of the EPA and NSF Names During Verification

The vendor must review the policies for the use of the EPA and NSF names and logos during verification testing and sign a contract with NSF attesting to comply with the EPA and NSF policies. Please see Appendix D for more specific requirements and limitations on the use of the EPA and NSF names and logos. An example “Contract for Drinking Water Technology Vendors” can be found as Appendix E. When describing a vendor’s participation in ETV testing, the vendor may state the facts about ETV participation, which begins no sooner than when the PSTP is approved by the ETV DWS Center. The vendor may not disclose to outside parties that its product is verified until NSF and the EPA issue the final, signed verification statement. The vendor will be notified of the final report issuance and will receive an original signed verification statement.

FTO Qualifications

For an organization to be approved by NSF as an FTO to conduct field testing activities, they must meet the following minimum requirements, with secondary qualifications preferred for chemistry and microbiology laboratories. FTOs may include engineering consulting firms, universities, or other qualified scientific organizations.

Qualifications for an FTO

1. Professional Engineer with experience in conducting a minimum of three drinking water pilot studies will oversee field testing operations.
2. Organization has experience in conducting drinking water pilot studies for an individual state or for an organization conforming to the requirements of the state. The studies must have been satisfactorily performed, as indicated by the governing state agency. Examples of the studies or project's report(s) shall be submitted to demonstrate the organization's capability to prepare acceptable documentation of conducted studies. Organization has experience in preparing and executing a project-specific QA/QC plan [i.e., a Quality Assurance Project Plan (QAPP)] for a package drinking water treatment project or pilot study under the direction of the EPA, AWWARF, EPRI, National Water Research Institute or other relevant organization.
3. Demonstrated timeliness in delivery of documents and testing activities (e.g., minimum amount of delays in the start up of testing, few revisions of a PSTP or verification report).

4. Confirmed responsiveness by addressing and not disregarding review comments or ETV schedules.
5. Proven thoroughness, completeness (e.g., submittal of all quality control data), and accuracy (appropriate technical judgment based on technical review comments).

For chemistry and microbiology laboratories that will conduct analytical tests for the ETV DWS Center, the minimum and secondary qualifications are as follows:

Required Qualifications for a Chemistry or Microbiology Laboratory

1. Laboratory must be certified for analysis of water samples for Safe Drinking Water Act compliance by one or more states having Safe Drinking Water Act primacy.
2. Laboratory must be certified by a state for the pertinent analysis.
3. Principal Investigator or Technical Manager has professional experience in conducting drinking water analyses for state compliance monitoring.

Secondary Qualifications for a Chemistry or Microbiology Laboratory

1. Laboratory is accredited by a third party organization (e.g., NSF) for the work to be subcontracted based on ISO/IEC Guide 17025 or EN 45001.

Frequently Asked Questions and Definitions

For list of frequently asked questions by vendors and a list of definitions pertaining to the ETV DWS Center, please refer to Appendix F and Appendix G, respectively.

Appendix A: Overview of the EPA ETV Program

Concern about drinking water safety has accelerated in recent years due to highly publicized outbreaks of waterborne diseases and information linking ingestion of contaminants to cancer incidence. The 1996 Safe Drinking Water Act requires the U.S. EPA to set standards for contaminant levels and treatment and monitoring requirements to ensure the safety of public water supplies.

Throughout its history, the U.S. EPA has evaluated technologies to determine their effectiveness in monitoring, preventing, controlling, and cleaning up pollution. Since the early 1990s, however, numerous government and private groups have determined that the lack of an organized and ongoing program to produce independent, credible performance data is a major impediment to the development and use of innovative environmental technology. Such data are needed by technology buyers and permittees, both in the United States and abroad, to make informed technology decisions. To overcome this impediment, EPA established a program to accelerate the implementation of environmental technology through objective verification and reporting of technology performance. In October 1995, the ETV Program was established by EPA. The ETV Program develops testing protocols and verifies the performance of innovative technologies that have the potential to improve protection of human health and the environment. Recently, ETV began verification of monitoring and treatment technologies relevant for homeland security.

**Appendix B: Check List for Consideration of Protocol/Technology
Specific Test Plan Development**

**Environmental Technology Verification (ETV)
Drinking Water Systems (DWS) Center
Checklist for Consideration of Protocol/Technology
Test Plan Development**

***Purpose:** Currently, the DWS Center does not have a protocol against which to verify the performance of your product. You may request the Center to develop a test plan for your product. NSF is available discuss the cost of test plan development with you. To begin this process, please submit the following information to NSF:*

1. **Name:** _____ **Title:** _____
Company: _____
Address: _____
City/State/Zip: _____
Email Address: _____ **Website:** _____
Phone: _____ **Fax:** _____

2. **Technology/Product Name:** _____
Please describe your product, the process(es) involved, and the contaminants for which it is designed to reduce (attach information or brochures as needed): _____

3. **Does your company have patent protection on this product?**
 Yes No
If yes, what is the level of protection? _____
Please note: Participation in the ETV process is open to the public.

4. **Has your product been tested before at (check all that apply):**
 _____ **Lab or Bench Scale?**
 _____ **Pilot Scale?**
 _____ **Full Scale?**
Please attach any data and/or lab reports for the items checked above.

Please return this form and any additional information to:
 Mr. Bruce Bartley, Manager, ETV DWS Center
 NSF International, 789 N. Dixboro Road, Ann Arbor, Michigan 48105
 Phone: (734) 769-5148 Fax: (734) 827-7160

Appendix C: Existing Data Policies (Under Revision)



DRINKING WATER SYSTEMS ETV CENTER APPLICATION FOR EXISTING DATA

The ETV Program's current policy states that existing data can be used as supplemental data (in an appendix to a verification report) or to partially or totally replace verification testing. In either case, the DWS Center must assess the quality of the data relative to its intended use. Data that are used to partially or totally replace verification testing must undergo a very rigorous data review to assess whether the data meets ETV data quality and quantity standards and acceptance criteria associated with specific performance claims/objectives, as outlined in a pre-existing ETV protocol or TSTP for that technology category. The ETV Program is currently revising this policy. The vendor is responsible for paying the full cost of the existing data review.

Existing data may also be used to supplement testing results that are generated under ETV testing and placed in the appendix of the ETV report. Any data that was collected outside of ETV would be noted as such if used in a verification report and statement, and any deviations would be included as a caveat to the data. The purpose of the following procedure is to describe the current process for consideration of existing data for use as supplemental data to a verification report. This process is based on the ETV Program Policy Compendium and the EPA's Quality Management Plan. These policies are currently under review and revision.

Review Process for Supplemental Existing Data

A manufacturer may request review of an existing data package of a manufacturer's commercially ready product that is being tested and evaluated under the ETV DWS Center. Before submittal, the entity submitting the data package should review the package to ensure that it meets the minimum general acceptance criteria, as set forth below:

- The data meets the requirements of the ETV protocol and TSTP being used for evaluation tests of the technology. At a minimum, the existing data must meet the same level of quality assurance and quality control (QA/QC), replicate tests, data treatment, and reporting that is required for a verification report.
- The conditions under which the data were collected are clearly defined and were appropriate for the demonstration of the capabilities of the product.
- Sufficient data are supplied to allow the product to be evaluated. Sufficiency of the data will be determined by NSF and subsequently the technical reviewers.
- The data has been collected objectively and independently of the vendor.

Review of Existing Data under the ETV DWS Center will be comprised of the following key activities:

- Identifying and Qualifying the Data by NSF,
- Convening a Data Evaluation Panel (DEP) by NSF,
- Evaluation of the Data by the DEP,
- Recommendations by the DEP for Acceptance of Data for Verification Report Supplement, and
- Review and Acceptance of Recommendation by NSF and EPA.

Appendix D: NSF and EPA Policies on Use of Names and Logos

NSF International (NSF) Policy on the Use of the NSF Name and Logo as Part of the U.S. EPA Environmental Verification Technology Program (February 3, 2000)

INTRODUCTION:

The purpose of this policy is to provide clear and unambiguous instructions on the conditions for the use of the NSF International (NSF) Name and Logo and Trademarks. For any PARTY that has a signed agreement with NSF, the terms and conditions of that signed agreement shall supersede these policies.

DEFINITIONS:

The term Report includes data, findings, and any other information included in an NSF verification, assessment, evaluation, or testing, whether such information is in preliminary or final form as collected under the United States Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) program.

The term Verification Statement refers to the EPA's ETV summary of the Report as defined previously.

The term PARTY refers to any public or private organization, group, or individual materially involved in the production of the Report, as defined previously, and may include but is not limited to the product manufacturer, distributor or vendor, the testing organization and its subcontractors.

The term NSF refers to NSF International.

The term Mark refers to each of NSF's trade, service and certification marks.

POLICIES:

1. The actual or implied use of NSF's registered Marks® by the PARTY is prohibited, except with advance written permission of NSF. Each time one of NSF's registered Marks® is used, the symbol ® must be indicated.
2. The PARTY shall NOT state misleading or untruthful information about the status or content of the Report or Verification Statement. The PARTY may request NSF to review any statements and NSF shall, upon request, provide a written review of statements concerning NSF's verification or assessment. NSF may issue a notice to the public to correct any misleading information or other misstatements of which NSF is aware, in order to protect the environment, public safety, or the NSF Mark®.
3. Until EPA and NSF have completed their technical reviews of the Report and Verification Statement, Reports and Verification Statements provided by NSF are preliminary only. Preliminary Reports and Verification Statements are subject to change. PARTY may use a preliminary Report, preliminary Verification Statement, or information contained within them only for purposes of in-house review by PARTY, and may not distribute that information, Report or Statement to persons outside PARTY. PARTY shall not use any preliminary Report, Verification Statement, or information contained within either of them, without advance written permission of NSF for external use, including presentation at conferences, exposition or other such activities.
4. NSF will provide written notification to PARTY that the Report and Verification Statement are final. After receiving this written notice from NSF, PARTY may copy the final Report and final Verification Statement in a manner that is not misleading. The PARTY may mail, distribute or otherwise disseminate copies of the final Report or Verification Statement in their entirety. NSF will make the final Report or Verification Statement available to the public by dissemination. PARTY may not use the NSF Mark, however, without advance written permission of NSF.
5. NSF has statutory authority under the Lanham Act, 15 U.S.C. §1125, to bring a civil action against any person who, in connection with the sale of any goods or services, uses any symbol or false or misleading statement which is likely to deceive as to the sponsorship or approval of his or her goods or services.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
NATIONAL RISK MANAGEMENT RESEARCH LABORATORY
CINCINNATI, OHIO 45268

USEPA Environmental Technology Verification Program
Purpose of Verifications and Use of Program Name and Logo

The U.S. Environmental Protection Agency (EPA) supports the Environmental Technology Verification Program (ETV) by providing financial and technical assistance through cooperative agreements that enable non-Federal partners to evaluate or “verify” environmental technologies. By verify, EPA means to establish or prove the truth of the performance of a technology under specific, predetermined criteria or protocols and adequate data quality assurance procedures. Verification does not imply that technologies will always perform as they performed under ETV testing, nor that they will perform in the same manner under circumstances different from those tested. Most specifically, *ETV does not “certify,” guarantee, or warrant the performance of technologies.* Under the ETV Program, EPA and its cooperative partners do *not*: (1) seek to determine regulatory compliance; (2) rank technologies or compare their performance; (3) label or list technologies as acceptable or unacceptable; or (4) seek to determine “best available technology” in any form. In general, the ETV Program will avoid all potential pathways to picking “winners and losers.” The goal of the program is to make objective performance information available to all of the actors in the environmental marketplace for their consideration and decision making.

ETV is a voluntary program. Vendor participation in the ETV Program is completely voluntary. Vendors of environmental technologies and other actors in the environmental marketplace are not required to participate in the program, nor are they required to seek verification. The program goal is to provide objective technology performance information to the environmental marketplace. Vendors who believe that such information would be of value to their marketing activities are encouraged to participate as appropriate. Verification reports and statements are available publicly on the ETV website at www.epa.gov/etv.

In order to protect the integrity of the program, EPA and its cooperative partners oversee proper use of the Environmental Technology Verification Program name and logo. The name and logo may be used for general educational purposes by anyone without specific permission from the Agency. The name and logo may be used when describing the ETV Program, such as in an educational brochure, a newsletter, an annual report, or in a general news or scientific article. Vendors of verified technologies may use the ETV logo to advertise the availability of verification information and the fact that the technology has been verified under ETV. **Under no circumstances shall the name or logo be used in a manner that would imply EPA endorsement, approval, certification, guarantee, or warrantee of the company, its products, its technologies, or its services.**

If EPA or its cooperative partners discover that an ETV verification is being misrepresented, the verification will be revoked if necessary. However, EPA or one of its cooperative partners will first notify the vendor of the misrepresentation and work with the vendor to resolve the issue. If the vendor does not voluntarily resolve the problem, EPA and its partner will initiate the revocation process. In addition, the Agency may refer the matter to the Federal Trade Commission for further investigation to determine whether the vendor has violated laws or regulations relating to false or deceptive advertising.

Appendix E: Contract for Drinking Water Technology Vendors

CONTRACT FOR ENVIRONMENTAL TECHNOLOGY VERIFICATION OF [VENDOR NAME] FOR DRINKING WATER APPLICATIONS

Agreement made and entered into on this [DATE], between NSF International, a not for profit company organized and existing under the laws of the State of Michigan, with its principal office in the City of Ann Arbor, Michigan, hereinafter called NSF, and [VENDOR COMPANY NAME], a corporation existing under the laws of the State of [NAME], with its principal office in the City of [NAME], herein after called VENDOR.

1. In consideration of fees to be paid NSF by VENDOR, NSF agrees to perform the Environmental Technology Verification (hereinafter called ETV) of a drinking water treatment technology submitted by VENDOR and described as the [DESCRIBE MAKE AND MODEL OF PRODUCT], hereinafter called the [PRODUCT ABBREV NAME], for treatment of or production of drinking water for communities under the protocol for the [NAME OF PROTOCOL AND TSTP WITH CURRENT DATE].
2. Testing of the [PRODUCT ABBREV NAME], shall be conducted in accordance with the product specific test plan (PSTP) at the testing site, [NAME AND LOCATION INCLUDING CITY AND STATE].
3. The VENDOR hereby certifies and represents that it has received, read and abides by the ETV Program Information and Guidance for Technology Vendors, which includes Existing Data Policies, USEPA Program Purpose of Verifications and Use of Program Name and Logo, and the NSF Policy on the Use of the NSF Name and Logo as Part of the U.S. EPA Environmental Verification Technology Program (February 3, 2000). NSF assumes no liability for any claims arising from the VENDOR'S misuse of the NSF or ETV Name and Logo. Failure to abide by NSF Policy on the Use of the NSF Name and Logo as Part of the U.S. EPA Environmental Verification Technology Program (February 3, 2000) may result in actions stated in NSF policies. NSF may notify the EPA about any failure to abide by the USEPA Program Purpose of Verifications and Use of Program Name and Logo for EPA action.
4. The VENDOR'S portion of the fee for testing shall be [SPELL OUT AMOUNT AND (\$0,000) dollars]. VENDOR shall be invoiced and agrees to make payment of [AMOUNT] with return of the signed contract, and will be invoiced for [AMOUNT] each month, for NUMBER months, beginning with the start of the test, and a final payment of [AMOUNT] with submittal of the draft final report to the VENDOR. Payment is due upon receipt. A monthly service charge of 1.5% will be added to any unpaid balance after thirty days.
5. VENDOR may, at their own expense, complete preliminary testing of [PRODUCT ABBREV NAME] prior to initiation of the Verification testing. VENDOR shall be invoiced for preliminary testing, at rates charged by the [UTILITY AND/OR LABORATORY]. VENDOR acknowledges that once the Verification testing is initiated, the testing shall be completed in its entirety and the results of the testing shall be published. After the field testing organization (FTO) has addressed comments from NSF, the vendor may elect to review the draft product specific test plan and draft ETV report. If the vendor elects to review either or both documents, the vendor has a maximum of ten (10) business days to provide comments on the report to the FTO, in this case is [FTO NAME].
6. VENDOR agrees to assume all risks of loss or damage of any kind to the [PRODUCT ABBREV NAME] and any equipment placed with NSF under the terms of this agreement, whether such loss or damage results from fire, vandalism, strikes, floods, other acts of God, or other agencies and whether it is caused by negligence of NSF, any of its employees, or agents.
7. VENDOR may enter the testing site for purposes of the [PRODUCT ABBREV NAME] examination only with prior notification and the permission of the NSF DWS Center Manager or designee. Any cost for supervision requested by the vendor during a visit shall be the responsibility of the VENDOR.

- 8. VENDOR agrees to refrain from using any and all data produced during the period of the ETV testing, except for in-house review purposes. These data are preliminary, may be subject to change, and are provided for VENDOR's information only. Use of preliminary data in any form, or final data taken out of context from all data generated during the ETV, are grounds for cancellation of the contract by NSF and the immediate payment of all remaining fees. VENDOR further agrees to hold NSF, its agents and employees harmless from, indemnify it for, and defend it against all claims, demands, liabilities, losses, expenses, costs, fees, damages, lawsuits, and attorney's fees, resulting from or claimed by any third party to have resulted from the negligent or wrongful acts or failure to act by the VENDOR including, by way of example and not limitation, the wrongful release of NSF data.

- 9. Only the final ETV Report and Verification Statement obtained directly from NSF and/or the United States Environmental Protection Agency, or downloaded from the websites of NSF or EPA, shall be considered an authorized document and may be used by [VENDOR]. Any unauthorized use, distribution, or publication of the information generated during this testing program is prohibited.

For
NSF International

For
[FULL VENDOR NAME]

Signature

Signature

Typed Name and Title

Typed Name and Title

Date

Date

Appendix F: Frequently Asked Questions

Frequently Asked Questions by Vendors

What is the Environmental Technology Verification (ETV) Program?

Throughout its history, the U.S. Environmental Protection Agency (EPA) has evaluated technologies to determine their effectiveness in preventing, controlling, and cleaning up pollution. To accelerate the introduction and use of environmentally beneficial technologies, the EPA established the ETV Program to assist in the collection and dissemination of quality assured data on the performance, operations and maintenance, and cost factors of environmental technologies.

What is the ETV Drinking Water Systems Center?

On October 1, 2000, NSF International entered into an agreement with the EPA to form an ETV Center dedicated to providing independent performance evaluations of drinking water products. NSF and the EPA co-operatively manage the Drinking Water Systems (DWS) Center with the goal of raising awareness for new treatment technologies. The Center represents the next phase of the ETV Program's DWS Pilot, which began in 1995 as a partnership between NSF and the EPA's Office of Ground Water and Drinking Water and laid the groundwork for the new Center.

How many participating vendors are there in the ETV Drinking Water Systems Center?

Please refer to the ETV DWS Center websites for the most up-to-date information and a complete list of verified products at www.nsf.org/etv/dws or www.epa.gov/etv. At the time of publication of this document, over 25 vendors have participated in verification testing with the DWS Center.

What are NSF's roles and responsibilities?

NSF is responsible for co-management of the DWS Center with the EPA (i.e., "contractual arm"). Specific to product testing, NSF is involved with coordination of the testing, quality assurance and quality control (QA/QC) review of the Product Specific Test Plan (PSTP), inspection of the testing, review of the verification report, coordinate reviews by technical peer reviewers and the EPA, and publication of the final verification report.

What are the roles and responsibilities of the Field Testing Organizations (FTOs)?

When field testing is required in the protocol and TSTP, an FTO may be responsible for preparing the PSTP, conducting the shakedown testing prior to the verification test, conducting the verification test, collecting of data, analyzing the data, and preparing the verification report.

What are the EPA's roles and responsibilities?

The EPA provides funding for the ETV Drinking Water Systems Center. The EPA co-operatively manages the DWS Center with NSF. The EPA provides technical review of all verification reports and protocols.

If a vendor is not commercially ready, what are some sources of funding available for research and development (R&D) testing prior to ETV participation?

Some sources of funding available for R&D testing include EPA's Small Business Innovation Program (SBIR) (<http://es.epa.gov/ncerqa/sbir/>), The Environmental Technology Commercialization Center (ETC2), an EPA technology transfer center managed by Battelle (<http://www.etc2.org/>), and the National Environmental Technology (NET) Incubator at Central State University in Wilberforce, OH (<http://www.centralstate.edu/netincubator>). Please visit their websites for more information about these programs.

What is the testing process?

To participate in performance verification through the Center, a vendor establishes a performance threshold for their treatment product (e.g., “The vendor states that the product can provide 3 log₁₀ removal of *Cryptosporidium* oocysts”). Evaluation of the performance threshold is performed to assure impartiality through third-party testing.

A PSTP is prepared that adheres to the requirements of the applicable ETV protocol and technology specific test plan (TSTP). Prior to testing, NSF reviews all field operations documents to ensure accurate and complete testing. The testing entity carries out the testing and NSF performs an audit of the testing. Upon completion, the testing results are summarized in a verification report and statement.

What is the degree of confidentiality of the testing and the data generated from it?

Any information included in reports and data generated from testing that is submitted to the EPA, may be covered under the Freedom of Information Act (FOIA). However, NSF is not subject to FOIA and will keep all designated information confidential. The final report is published and becomes public domain.

What is the final data report development and review process?

The testing entity prepares the data report based on the requirements outlined in the ETV protocol and TSTP. NSF reviews the report, which includes a data check for transcription errors and a rudimentary engineering review. A technical peer reviewer and the EPA also review the report. Usually, there is another set of revisions to the document and then it is sent to the EPA for sign-off and the report is published.

What if the product is not performing as expected at the test site?

According to a policy as a result of the Science Advisory Board’s review of the ETV Program, vendors participating in ETV testing in the Drinking Water Systems Center can withdrawal from testing anytime during shakedown testing (i.e., start-up testing). However, once the official verification testing begins, a vendor cannot withdrawal from testing and all data generated will be published in a final data report.

What type of data is collected?

This varies for each type of technology tested. For specifics, please refer to the appropriate ETV protocol(s) and TSTP(s). See Chapter 1 of the ETV protocol for contaminant of concern and the applicable chapter in the same protocol related to the technology type (i.e., Physical removal of Microbiological Contaminants – Chapter 1 and the Membrane Test Plan – Chapter 2).

What if the ownership or name of a product changes?

A verification report and the ETV logo may only be used for a product that was verified and named in the original ETV report. The onus that the name changed and not the design, parts, or performance of the product is the responsibility of the vendor. For more information about product and/or product name changes, please contact NSF.

Can NSF handle all verification testing, including field testing?

NSF oversees all verification testing done in the field or laboratory for the DWS Center. If the testing protocol requires field testing, an FTO may be chosen to conduct the field test. NSF is responsible for assuring the quality of ETV testing and all ETV testing will be audited by NSF.

Can existing data be used to supplement the verification report?

According to the ETV Program’s current policy, existing data can be used as supplemental data (in an appendix to a verification report) or to partially or totally replace verification testing. In either case, the DWS Center will assess the quality of the data relative to its intended use. Data that are used to partially or totally replace verification testing must undergo a very rigorous data review to assess whether the data

meets ETV data quality and quantity standards and acceptance criteria associated with specific performance claims/objectives, as outlined in a pre-existing ETV protocol or TSTP for that technology category. The ETV Program is currently revising this policy. Also, the vendor is responsible for paying the full cost of the existing data review.

Appendix G: Definitions

Agreement or Contract – A written document signed by a vendor and NSF where in the vendor and NSF agree to abide by specific terms and conditions related to the obligations of each party.

Commercially Ready – A package plant, component or module that is either in full-scale commercialization or able to be manufactured and marketed without the need for additional research and development. Three items are required by the DWS Center to demonstrate commercial readiness: an O&M manual for the product, a patent on the product, and any previous test performance data and/or certification from an independent source. ETV verification must not be used for product research and development.

Compliance – Conformance with all requirements established by the ETV DWS Center.

Component – A packaged, functional assembly for use in a drinking water treatment system or package plant that provides a limited form of treatment of the feed water(s) and which is discharged to another component of the treatment system or in the final step of treatment to the distribution system.

Conditionally Qualified Field Testing Organization – A testing organization with identified deficiencies, but demonstrates its ability to conduct valid verification testing of package plants, components or modules under the management and guidance of the ETV DWS Center by NSF.

Data Quality Objectives (DQOs) – The criteria used to compose the experimental design of a verification test based on a specified target performance of the product. DQOs are based on seven steps: 1.) stating the problem, 2.) identifying the decision, 3.) identifying the inputs to the decision, 4.) defining the boundaries of the study, 5.) developing a decision rule, and 6.) specifying limits on decision errors, and optimizing the design.

Distribution System – A system of conduits by which a primary water supply is conveyed to consumers typically by a network of pipelines.

EPA – The United States Environmental Protection Agency, its staff, or authorized representatives.

Equipment/Product - A package plant, component, or module of a drinking water treatment system.

Feed Water– The influent water supplied to package plants, components or modules.

Field Testing Organization (FTO) – An organization qualified to conduct studies and testing of package plants or modular systems in accordance with ETV protocols and TSTPs. The role of the FTO is to conduct the skilled operation of equipment during the intense periods of testing during the study and the tasks, as required by the ETV protocol and TSTP.

Fully Qualified Field Testing Organization – An FTO meeting all of the requirements stated in the *Policies For Field Testing Organizations Performing Verification Services, EPA ETV Program Purpose of Verifications and Use of Program Name and Logo*, and the *NSF Policy on the Use of the NSF Name and Logo as Part of the U.S. EPA Environmental Verification Technology Program (February 3, 2000)*.

Modular System – A packaged functional assembly of components for use in a drinking water treatment system or package plant that provides a limited form of treatment of the feed water(s) and which is discharged to another module of the package plant or in the final step of treatment to the distribution system.

NSF – NSF International, its staff, or other authorized representatives.

NSF Logo – A designated Mark registered by NSF with an appropriate agency.

Package Plant – A complete water treatment system including all components from the connection to the raw water(s) intake through discharge to the distribution system.

Product Specific Test Plan (PSTP) – A written document of procedures for on-site/in-line testing, sample collection, preservation, and shipment and other on-site activities described in the ETV protocol(s) and TSTP(s) that apply to a specific make and model of a package plant, modular system, or component.

Protocol – A written document that clearly states the objectives and scope of the study including the TSTP(s) to conduct the study.

Public Notice – The issuance of a written notice or document describing the unauthorized and/or misuse of the NSF or EPA names by an organization involved in verification testing.

Report – A written document that includes data, test results, findings, and any pertinent information collected in accordance with a protocol, analytical methods, procedures etc., in the assessment of a product whether such information is in preliminary, draft or final form.

Source Water – The influent water supplied to a drinking water system that originates from a surface water or ground water and which has not previously been treated.

Technical Review – A review performed by a technical advisor that has knowledge of the technology(ies) applied by the vendor's product and has no business relationship with either the testing entity or vendor. At a minimum, the technical reviewer will consider whether the results of the report are consistent with the technology used in the product, and the credibility of the results, findings and conclusions of the report.

Technology Specific Test Plan (TSTP) – A written document that describes the procedures for conducting a test or study for the application of a specific water treatment technology. At a minimum, a TSTP will include detailed instructions for sample and data collection, sample

handling and sample preservation, precision, accuracy, reproducibility goals, and quality assurance and quality control requirements.

Testing Laboratory – An organization certified by a third-party independent organization, federal agency, or a pertinent state regulatory authority to perform the testing of drinking water samples. The role of the testing laboratory in the verification testing of package plants and/or modular systems is to analyze the water samples in accordance with the methods and meet the pertinent quality assurance and quality control requirements described in the protocol, TSTP and PSTP.

Vendor – A business that makes and/or sells package plant equipment and/or modular systems. The role of the vendor is to provide the package plant and/or modular system and technical support for the verification testing and study. The vendor is also responsible for providing assistance to the testing entity during operation and monitoring of the equipment during the verification testing and study.

Verification – To establish evidence on the range of performance for a product, such as a package plant or modular system, under specific conditions following a predetermined ETV protocol(s) and TSTP(s).

Verification Report – A written document that includes data, test results, findings, and any pertinent information collected in accordance with an ETV protocol(s) and TSTP(s) for the verification of a product, whether such information is in preliminary, draft, or final form.

Verification Statement – A written document that summarizes a final verification report that is reviewed and approved by NSF and the EPA.