



Environmental Technology Verification Program

QUARTERLY REPORT

October 1999

Air Pilots Boost ETV Verifications to 53!



The ETV Program's air pilots have issued 19 new verifications that are on the ETV web site at www.epa.gov/etv/library.htm#verifications. In some cases, these are the first verifications issued by the pilot.

The **Air Pollution Control Technology Pilot**, partnered by RTI, issued verifications of five paint overspray arrestors (POAs) in July. Testing occurred in Research Triangle Park, NC in March. POAs are dry, disposable fibrous filters that capture paint overspray, including inorganic hazardous air pollutants (HAPs), before it is discharged to the atmosphere. The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Aerospace Manufacturing and Rework Facilities requires the control of inorganic HAPs from certain primer, topcoat, and depainting operations. Aerospace facilities must use POAs that meet specified filtration efficiencies.

The **Advanced Monitoring Systems Pilot**, partnered by Battelle, issued verifications of five field portable NO/NO₂ analyzers in August. Testing occurred in Columbus, OH from January to February. Portable NO/NO₂ analyzers are used to determine nitrogen oxide (NO_x) levels in controlled and uncontrolled emissions from small sources such as reciprocating engines, combustion turbines, furnaces, boilers, and water heaters that use fuels such as natural gas, propane, butane, and fuel oils. These analyzers are used for combustion efficiency checks, spot checks of pollution control equipment, and periodic monitoring applications of source emissions where a reference method for a continuous emission monitoring system is not required. The analyzers can be operated by a single person at multiple measurement locations in a single day using only 110V AC electrical or battery power.

The **Greenhouse Gas Technology Pilot**, partnered by SRI, issued verifications in September of three different technologies used in the oil and gas industry to reduce natural gas leaks from pipeline compressors. Testing occurred in Arizona, Indiana, and Tennessee. One technology captures leaking natural gas from pipeline compressors and reuses it as fuel for the compressor. The second and third technologies reduce emissions from pipeline compressors when idle but still pressurized and when shut down, respectively. Approximately 3,000 compressor stations are located throughout the U.S. where these technologies could be installed. Studies estimate that 100 billion cubic feet of natural gas leaks from compressor stations each year, representing about one-third of all natural gas emissions from the natural gas industry.

The **P2 Innovative Coatings and Coating Equipment Pilot**, partnered by CTC, issued four High Volume, Low Pressure (HVLP) paint spray gun verifications in September. Testing occurred in Johnstown, PA from January to March. HVLP paint spray guns have the potential to replace conventional air spray (CAS) equipment for spray painting of metal parts due to the higher transfer efficiency that results because the lower pressure system produces less overspray. Because organic coatings contribute nearly 20 percent of total stationary area source VOC emissions, as well as a significant percentage of air toxic emissions, improving the transfer efficiency using HVLP equipment reduces emissions.

The **Indoor Air Products Pilot**, partnered by RTI, made a policy decision in 1998 to not verify products by brand name but instead to only perform tests validating test protocols. Protocol verification reports were issued in September for commercial office furniture and ventilation air filters. Commercial office furniture was tested to determine aldehyde and volatile organic compound (VOC) emissions and to ensure that the impact of office furniture on indoor air quality is minimal. Ventilation air filters were tested using the fractional filtration efficiency test method to determine how well particles as small as 2.5 nm are removed. The two verified test protocols will be used by the Business and Institutional Furniture Manufacturers' Association and the National Air Filtration Association, respectively, to conduct verification testing of individual products after the pilot is transferred to those organizations.

Each of the ETV air pilots has other technologies under evaluation, and EPA expects many more verifications from the air pilots in the next several months. In addition, numerous water technologies are under evaluation, and vendors are being solicited for several water technology categories.



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Pilot Points

Advanced Monitoring Systems

- Issued verification statements for five NO/NO₂ analyzers.
- Began testing for turbidimeters.
- Held an air stakeholder group meeting in late September in Cape Cod, MA.
- Discussed in an article in the July 1999 issue of Water Environment & Technology magazine.

Air Pollution Control Technology

- Issued verification statements for five paint overspray arrestors in first round of testing, and completed second round of testing on six other paint overspray arrestors.
- Held add-on NO_x control technology manufacturers meeting on August 4 to identify interested ozone-injection NO_x control technology vendor companies.
- Held wood products technical panel meeting on September 15.

Drinking Water Systems

- Issued a request for proposals on August 19 for protocol validation testing for technologies for which the market demand will likely occur after the ETV pilot period ends. Proposals were due beginning on September 20.
- Re-issued two modified generic protocols and test plans based on stakeholder group recommendations, including inactivation of microbiological contaminants, and removal of precursors to disinfection by-products.

Greenhouse Gas Technology

- Issued Phase I verifications for three technologies.
- Completed Phase I testing for the PINTECH pressure relief valve.
- Began testing the PEMS monitoring system.

P2 Innovative Coatings and Coating Equipment

- Began to finalize the test method for liquid coatings.
- Began to add the curing emissions test method to the innovative coatings generic protocol. This protocol will be finalized in November, and additional vendors are being solicited.

P2 Metal Finishing Technologies

- Prepared draft test plans and identified two test sites for verification of two aqueous cleaner recycling technologies.
- Established an industry technical panel to assist in developing a verification approach which tests for generic P2 technology classes for metal finishing processes.
- Published a solicitation for technologies to be verified under the generic technology verification approach.

P2, Recycling & Waste Treatment Technologies

- Identified two vendors of a vegetable oil substitute for transformer fluids to participate in verification.

Site Characterization & Monitoring Technologies

- Completed testing of three explosives detection technologies in late August under partnership with DOD.

Wet Weather Flow Technologies

- Held a technology panel meeting on flow monitoring equipment in August to review the draft open-channel flow meter verification protocol.
- Held a technology panel meeting on high rate disinfection from August 31 to September 1 to review and discuss two draft test protocols: high rate mixing technologies, and high rate UV disinfection technologies.

Environmental Technology Evaluation Center (EvTEC)

- Received a \$25,000 grant from the Virginia Center of Innovative Technology to support an evaluation of the Ceracrete product, a substitute for conventional Portland cement-based concrete that uses recyclable waste products from the utilities industry such as waste fly ash.
- Held an expert panel meeting for the group evaluation of decentralized wastewater denitrification technologies on September 14-15, in Washington, D.C.

International Interest in the ETV Program Web Page Remains High

In recent years, many international entities have expressed interest in the EPA web site, which contains over 200,000 pages of information, as a model for distributing environmental information and for its technical resources. In response to this interest, EPA's Office of International Activities published a document entitled

Environmental Information On-Line: A Guide for International Users (July 1999, EPA 160-B-99-002) that highlights EPA web pages that have generated a strong interest outside of the U.S. The ETV Program web page at www.epa.gov/etv is one of the 14 web pages included in this report. For each of the 14 web pages in the report, a description of the program (if applicable) and web site is provided along with the web address, a sample screen from the web page, and information on whether documents are available in Portable Document Format. The report also provides some general information about the EPA web site.

In July 1999, 1,800 (12%) of the 15,000 visits to the ETV Program web page were international.

Web Watch

- ✓ The solicitation for vendors to participate in the generic technology verification process in the P2 Metal Finishing Technologies Pilot has been posted at <http://www.epa.gov/etv/recentdocs.htm>.
- ✓ An article on the verification of Calgon Carbon Corp.'s ultraviolet system has been posted at <http://news.wateronline.com/industry-news/19990614-5117.html>.
- ✓ The Site Characterization and Monitoring Technologies Pilot newsletter has been posted at http://www.epa.gov/etv/02/scmt_v1n2.pdf.
- ✓ The Site Characterization and Monitoring Technologies Pilot Evaluation of Explosives Field Analytical Techniques - Technology Demonstration Plan has been posted at http://www.epa.gov/etv/02/explosive_tdp.pdf.
- ✓ The 19 new verification reports have been posted on the ETV web site at <http://www.epa.gov/library.htm#verifications>.

Working Together: Joint Verifications by DOD and EPA on the Horizon



On July 21, 1999, the Assistant Administrator of EPA's Office of Research and Development, Dr. Norine Noonan, and the Department of Defense's (DOD) Deputy Assistant Secretary of Defense for Environmental Security, Sherri Goodman,

signed a Memorandum of Agreement (MOA). The purpose of the MOA is to facilitate collaborative environmental technology verification, reporting, technology transfer, and technology demonstration/evaluation activities with a particular emphasis on environmental protection, pollution prevention, and waste management technologies.

Specifically, this MOA is intended to increase collaboration between EPA's ETV Program and DOD's Environmental Security Technology Certification Program (ESTCP).

Collaboration between these two environmental technology evaluation programs makes sense because both programs support the ultimate goal of moving promising and innovative environmental technologies to the marketplace at a faster rate by providing users with better information for making purchasing decisions. The ETV Program is designed to accelerate the commercialization of improved environmental technologies through third party verification and reporting of performance. This program currently consists of 12 pilots addressing different environmental technology areas. The ETV pilots are managed by independent third party verification organizations who oversee and report on technology verification activities based on pre-designed test plans and quality assurance protocols.

The purpose of ESTCP is to demonstrate and validate the most promising innovative environmental technologies that target DOD's most urgent environmental needs and are projected to pay back the investment within five years through cost savings and improved efficiencies. ESTCP technologies are demonstrated under operational field conditions at DOD facilities based on DOD environmental requirements and expert scientific reviews.

This MOA is expected to result in four major benefits: (1) improved effectiveness and efficiency in the conduct of environmental technology demonstration, validation, and verification; (2) better use of each organization's capacity in environmental technology testing and verification; (3) joint reporting on technology performance; and (4) more widespread communication and acceptance of the results of joint and separate environmental technology demonstration, validation, and verification efforts.

The first joint verification effort is already underway at Oak Ridge National Laboratory to test and verify the performance of three explosives detection technologies under field conditions. To conduct the technology evaluation, ETV's Site Characterization and Monitoring Technologies Pilot and ESTCP are working closely together. The ETV pilot developed a test plan, coordinated the field demonstration, and is drafting the verification report. The ESTCP staff reviewed the test plan, audited the field demonstration, and is providing quality assurance of the data and report. Joint verification statements are expected to be issued in February 2000.

For more information on ETV, call Penelope Hansen at 202-564-3212 or go to the web site at www.epa.gov/etv. For more information on ESTCP, call Jeff Marquise at 703-696-2120 or go to the web site at www.estcp.org.

53 Technologies Verified

Cone Penetrometers

- ✓ Fugro Geosciences, Inc.; Houston, TX
- ✓ U.S. Navy, Naval Command, Control, and Ocean Surveillance Center, Research, Development, Test and Evaluation Division; San Diego, CA

Field Portable GC/MSs

- ✓ Bruker Analytical; Billerica, MA
- ✓ Viking Instruments; Chantilly, VA

Field Portable X-ray Fluorescence Analyzers

- ✓ Metorex, Inc.; Princeton, NJ (2 technologies)
- ✓ Scitec, Inc.; Kennwick, WA
- ✓ HNU Systems, Inc.; Newton Highlands, MA
- ✓ Niton Corporation; Bedford, MA
- ✓ TN Spectrace; Round Rock, TX (2 technologies)

Emulsified Fuels

- ✓ A-55 Clean Fuels, Inc.; Reno, NV

Soil/Soil Gas Sampling Devices

- ✓ W.L. Gore & Associates, Inc.; Elkton, MD
- ✓ Art's Manufacturing and Supply; American Falls, ID
- ✓ Geoprobe Systems, Inc.; Salina, KS
- ✓ SimulProbe; Novato, CA
- ✓ Quadrel Services, Inc.; Clarksburg, MD
- ✓ Clements & Associates, Inc.; Newton, IA

PCB Analyzers

- ✓ Dexsil Corporation; Hamden, CT
- ✓ Hach Company; Loveland, CO
- ✓ Electronic Sensor Technology; Newbury Park, CA
- ✓ Strategic Diagnostics, Inc.; Newark, DE (3 technologies)
- ✓ Evirologix, Inc.; Portland, ME

Wellhead Monitoring Devices

- ✓ Electronic Sensor Technology; Newbury Park, CA
- ✓ Inficon, Inc.; East Syracuse, NY
- ✓ Innova AirTech Instruments; Denmark
- ✓ Perkin-Elmer Corporation; Wilton, CT
- ✓ Sentex Systems, Inc.; Ridgefield, NJ

Pollution Prevention Technologies

- ✓ Smart Sonic; Newbury Park, CA
- ✓ Rayovac; Madison, WI

High Volume Low Pressure Paint Spray Guns

- ✓ ITW DeVilbiss; Maumee, OH (3 technologies)
- ✓ Sharpe Manufacturing Co.; Santa Fe Springs, CA

Fuel Cells

- ✓ International Fuel Cells Corporation; South Windsor, CT

Drinking Water UV Radiation/Disinfection

- ✓ Calgon Carbon Corporation; Markham, Ontario

Paint Overspray Arrestors

- ✓ AAF International; Louisville, KY
- ✓ ATI; Ottawa, KS
- ✓ Columbus Industries; Ashville, OH
- ✓ Koch Filter Corporation; Louisville, KY
- ✓ Purolator Products Air Filtration Co.; Henderson, CO

NO/NO₂ Analyzers

- ✓ Horiba Instruments; Pittsburgh, PA
- ✓ Testo, Inc.; Flanders, NJ
- ✓ TSI, Inc.; Shoreview, MN
- ✓ Energy Efficiency Systems, Inc.; Westboro, MA
- ✓ ECOM America Ltd.; Duluth, GA

Natural Gas Compressor Leak Mitigation

- ✓ A&A Environmental Seals, Inc.; La Marque, TX
- ✓ C. Lee Cook; Louisville, KY
- ✓ France Compressor Products; Newton, PA

Commercial Furniture

- ✓ Test Protocol Verification

Ventilation Air Filters

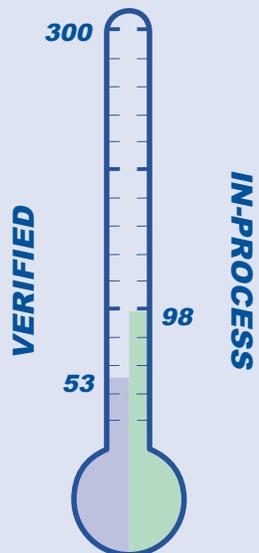
- ✓ Test Protocol Verification

ETV Events

<u>Date</u>	<u>Location</u>	<u>Event</u>
Oct. 12	New Orleans, LA	Wet Weather Flow Technologies Pilot - Vendors Meeting
Oct. 12	RTP, NC	Air Pollution Control Technology Pilot - Stakeholder Group Meeting
Oct. 19	Orlando, FL	Drinking Water Systems Pilot - Presentation and ETV booth at the ASDWA meeting
Oct. 20-21	San Diego, CA	Advanced Monitoring Systems Pilot - Water Stakeholder Committee Meeting
Oct. 25	Albuquerque, NM	Drinking Water Systems Pilot - ETV booth exhibit at the National Rural Water Association meeting
Oct. 26-28	Raleigh, NC	ETV Program - ETV booth exhibit at the Emission Inventory: Regional Strategies for the Future meeting
Oct. 28	Hartford, CT	P2 Metal Finishing Technologies Pilot - Vendor meeting
Oct. 28	Sacramento, CA	P2, Recycling and Waste Treatment Technologies Pilot - Stakeholder Group Meeting
Oct. 31	Tampa, FL	ETV Water Pilots - ETV and NSF International booths exhibited at the Water Quality Technology Conference
Nov. 2	Jekyll Island, GA	Source Water Protection Technologies Pilot - Stakeholder Group Meeting
Nov. 3-6	Jekyll Island, GA	Source Water Protection Technologies Pilot - NSF International booth exhibit at the NOWRA Annual Conference
Nov. 9	Hartford, CT	ETV Program - Presentation at Evaluating New Environmental Technologies Meeting
Nov. 14-16	Crystal City, VA	Source Water Protection Technologies Pilot - Presentation at the Water Environment Federation's Animal Residuals Management Conference
Nov. 18	Baltimore, MD	Source Water Protection Technologies Pilot - Stakeholder Group Meeting
Nov. 17-19	Houston, TX	ETV Program - ETV booth exhibit at the 1999 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation Conference
Nov. 30	Arlington, VA	ETV Program - ETV booth exhibit at SERDP's Partners in Environmental Technology Technical Symposium & Workshop
Dec. 6-8	Dallas, TX	ETV Program - ETV booth exhibit at Brownfields '99
Dec. 6-9	San Antonio, TX	P2 Metal Finishing Technologies Pilot - 4th Annual Joint Services Pollution Prevention/Hazardous Waste Management Conference & Exhibit

For more details on ETV events, check out our online calendar at <http://www.epa.gov/etv/highup.htm>

GOAL: 300 Technologies Verified by 2005



**Check out the new
ETV Program
brochure and fact
sheet on the web!
(Also available in Spanish)**

Would you like to be on our listserv?

1. Send an e-mail message to listserv@unix-mail.rtpnc.epa.gov.
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