

ETV Program Pilot Period Ends, Transition Begins

The EPA began the ETV Program in 1995 with a five-year pilot period that was designed to test a variety of procedural and partnership alternatives for environmental technology verification testing. It also was intended to assess the market demand for such testing and the acceptance of testing data by environmental technology customers. The pilot period ended on September 30, 2000, and EPA has begun evaluating program successes, barriers, and lessons learned during the pilot period. Based on preliminary conclusions, the ETV Program is reorganizing from 12 separate pilots to six ETV Centers:

- ✓ ETV Advanced Monitoring Systems Center,
- ✓ ETV Air Pollution Control Technology Center,
- ✓ ETV Greenhouse Gas Prevention Technology Center,
- ✓ ETV Drinking Water Systems Center,
- ✓ ETV Water Protection Technologies Center, and
- ✓ ETV P2, Recycling, and Waste Treatment Systems Center.

Each of the 12 pilots, with the exception of the Indoor Air Products Pilot and the EvTEC (Independent) Pilot, has been folded into one of the six ETV Centers. The technology categories addressed in the Indoor Air Products Pilot will become part of environmental technology verification programs that are being established by industry associations. The EvTEC Pilot will likely continue its environmental technology verification activities independent of EPA's ETV Program, with some formal partnering between the two initiatives possible in the future.

More information on the results of the pilot period and the future of the ETV Program will be available soon. The EPA is developing an evaluation report based on data collected during the pilot period as well as a report to Congress that will provide conclusions from the pilot period and recommendations for the future of the program.

Total Number of ETV Verifications Reaches 115!

Two ETV Centers and EvTEC recently verified technologies, increasing the total number of ETV verified technologies to 115!

The ETV Air Pollution Control Technology Center verified the performance of a nitrogen oxides (NO_x) emission control technology and a paint overspray arrestor. The NO_x emission control technology, called the Xonon™ flameless combustion system, partially combusts fuel in the catalyst module and then completely combusts it in the burnout zone. The verified system was developed by:

- ✓ Catalytica Combustion Systems, Inc.; Mountain View, CA

The paint overspray arrestor, called the MULTI-SAK 6FZ159-S, is the third one verified by the ETV Program for developer:

- ✓ Koch Filter Corporation; Louisville, KY

The ETV Drinking Water Systems Center verified the performance of the ClorTec T-12 sodium hypochlorite disinfection system, which is used to kill bacterial contaminants in water and to provide residual chlorination to drinking water. It was developed by:

- ✓ Exceltec; Sugar Land, TX

EvTEC recently verified the Installation of Silt Fence Using the Tommy Static Slicing Method. This machine slices through soil while simultaneously inserting a silt fence, without displacing the soil. It was developed by:

- ✓ Carpenter Erosion Control; Ankeny, IA

The new verification reports and statements are, or soon will be, available on the ETV Program web site at <http://www.epa.gov/etv/library.htm>.

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Center Stage

ETV Advanced Monitoring Systems Center

Advanced Monitoring Systems

- Completed testing of two optical open path monitors from Spectrex.
- Completed the first phase of testing of four mercury continuous emissions monitors.
- Held a joint air and water stakeholder group meeting on October 12-13 in Burlington, VT.
- Held an air stakeholder group meeting on March 19-20 in Santa Fe, NM.
- Held a water stakeholder group meeting on March 26-27 in Pacific Grove, CA.

Site Characterization and Monitoring Technologies

- Held a stakeholder group meeting on November 14 in Crystal City, VA.

ETV Air Pollution Control Technology Center

- Issued verification reports for Catalytica Combustion Systems, Inc.'s Xonon™ flameless combustion system in December and for Koch Filter Corporation's paint overspray arrester in March.
- Held a mobile sources technical panel meeting on February 28 to complete the generic verification protocol.
- Held a stakeholder group meeting on March 8 in Research Triangle Park, NC.

ETV Greenhouse Gas Prevention Technology Center

- Completed the test plan and testing for Honeywell Power System's Parallon® 75 kW Turbogenerator.
- Started testing MIRATECH Corporation's air/fuel ratio controller.
- Hosted an international forum entitled "Commercial GHG Technology Solutions" on March 14-15 in New York, NY.

ETV Drinking Water Systems Center

- Issued a verification of Exceltec International Corporation's ClorTec T-12 on-site sodium hypochlorite generation system in January.
- Identified two new ultraviolet technology vendors to participate in verification testing.

ETV Water Protection Technologies Center

Source Water Protection Technologies

- Held a decentralized wastewater stakeholder group meeting on October 30 in Grand Rapids, MI.
- Held an infrastructure and watershed protection stakeholder group meeting on February 6 in Baltimore, MD.

Wet Weather Flow Technologies

- Completed testing of two induction mixers.

ETV Pollution Prevention, Recycling, and Waste Treatment Systems Center

P2 Innovative Coatings and Coating Equipment

- Held a stakeholder group meeting on November 9 in Research Triangle Park, NC.
- Completed the test plan for Superior's ultraviolet primer.

P2 Metal Finishing Technologies

- Received 10 new technology applications in the following areas: energy use reduction; sludge reduction; water use reduction/recycling; and metal recovery/recycling.
- Completed testing of a chromic acid anodizing bath maintenance technology.

ETV and US Coast Guard Team Up to Verify Ballast Water Control Technologies

The US Coast Guard (USCG), which has overall government responsibility for addressing the issue of invasive species brought to the US from other waters around the world in the ballast water of ships, is collaborating with the ETV Program to assess the performance of commercial-ready, private sector ballast water control technologies. The zebra mussel is an example of an invasive species that was introduced to the Great Lakes through shipping operations. Zebra mussels experience explosive population growth and disrupt the natural balance of food chains and ecosystems. The source water protection technologies stakeholders in the ETV Water Protection Technologies Center identified ballast water control technology verification as a top priority. It is expected that EPA

and USCG will sign a Memorandum of Agreement to conduct mutual verification activities under the ETV Program by late spring, making the partnership official.

Plans for upcoming activities are already in the works. In April and May 2001, USCG will hold east and west coast workshops to discuss the development of standards for managing ballast water. Workshop participants will include ETV representatives and experts in the field. ETV partner NSF International is leading the effort to develop a list of potential vendors to participate in verification activities. A new stakeholder group will be created, and the first meeting will be held in late May or early June. A technical panel, a small group consisting of technical experts and contractors, will identify the testing parameters and test procedures for the ballast water control technology verification protocol, which should be completed by August 2001.

Environmental Technology Verification Program

115 ETV Verified Technologies

Add-On NOx Control Technologies

- ✓ Catalytica Combustion Systems, Inc.; Mountain View, CA

Aqueous Cleaner Solution Maintenance Technologies

- ✓ US Filter (Silverback); Billerica, MA

Baghouse Filtration Products

- ✓ Air Purator Corporation; Greensboro, NC
- ✓ Albany International; Mansfield, MA
- ✓ BASF Corporation; Enka, NC
- ✓ BHA Group, Inc; Kansas City, MO
- ✓ Inspec Fibres USA; Niverville, NY
- ✓ Menardi-Criswell; Trenton, SC
- ✓ Standard Filter; Carlsbad, CA
- ✓ Tetratec; Feasterville, PA
- ✓ W.L. Gore & Associates, Inc.; Elkton, MD

Compressor Leak Mitigation for Natural Gas

- ✓ A&A Environmental Seals, Inc.; La Marque, TX (2 technologies)
- ✓ C. Lee Cook; Louisville, KY (2 technologies)
- ✓ France Compressor Products; Newton, PA

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

Decision Support Systems

- ✓ C Tech Development Corporation; Huntington Beach, CA
- ✓ DecisionFX, Inc.; Bosque Farms, NM (2 technologies)
- ✓ Environmental Software; Huntington Beach, CA
- ✓ ESRI; Vienna, VA
- ✓ University of Tennessee; Oak Ridge, TN

Drinking Water Enhanced Coagulation/ Ultrafiltration Technologies

- ✓ ZENON; Ontario, Canada

Drinking Water Microfiltration Technologies

- ✓ Pall Corporation; East Hills, NY
- ✓ ZENON; Ontario, Canada

Drinking Water Nanofiltration Technologies

- ✓ PCI Membrane Systems; Milford, OH

Drinking Water On-Site Halogen Generation Technologies

- ✓ ClorTec; Campbell, CA
- ✓ Exceltec International Corporation; Sugar Land, TX

Drinking Water Ultrafiltration Technologies

- ✓ Aquasource North America; Richmond, VA (2 technologies)
- ✓ F.B. Leopold; Zelenpole, PA
- ✓ Hydranautics; Oceanside, CA
- ✓ Ionics; Watertown, MA

Drinking Water UV Radiation/Disinfection Technologies

- ✓ Calgon Carbon Corporation; Ontario, Canada

Emulsified Fuels

- ✓ A-55 Clean Fuels, Inc.; Reno, NV

Explosives Detection Devices

- ✓ Barringer Instruments, Inc.; Warren, NJ
- ✓ Research International, Inc.; Woodinville, WA

Field Portable GC/MSs

- ✓ Bruker Analytical Systems; Billerica, MA
- ✓ Bruker Daltonics, Inc. (formerly Viking Instruments); Billerica, MA

Field Portable X-Ray Fluorescence Analyzers

- ✓ EDAX International (formerly through Scitec, Inc.); Mahwah, NJ
- ✓ HNU Systems, Inc.; Newton Highlands, MA
- ✓ Metorex, Inc.; Princeton, NJ (2 technologies)
- ✓ Niton Corporation; Bedford, MA
- ✓ Spectrace Instruments (formerly TN Spectrace); Sunnyvale, CA (2 technologies)

General P2 Technologies

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



115 ETV Verified Technologies

Ground Water Sampling Devices

- ✓ Burge Environmental, Inc.; Tempe, AZ
- ✓ Clean Environmental Equipment; Oakland, CA
- ✓ GeoLog Inc.; Medina, NY
- ✓ QED; Walnut Creek, CA
- ✓ Sibak Industries; Solano Beach, CA

High-Volume Low-Pressure Paint Spray Guns

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

Landfill Methane Control Technologies

- ✓ International Fuel Cells Corporation; South Windsor, CT

Laser Targeting Devices

- ✓ Laser Touch and Technologies, LLC; Waterloo, IA

NO/NO2 Analyzers

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

On-Line Turbidimeters

- ✓ Endress+Hauser Conducta; Gerlingen, Germany
- ✓ Monitek Technologies, Inc.; Hayward, CA
- ✓ Peak Process Controls, Inc.; Ontario, Canada

Optical Open Path Monitors

- ✓ AIL Systems, Inc.; Deer Park, NY
- ✓ Boreal Laser; Alberta, Canada
- ✓ Opsis; San Marcos, CA
- ✓ Spectrex; Cedar Grove, NJ (2 technologies)
- ✓ Thermo Environmental; Franklin, MA
- ✓ Unisearch; Ontario, Canada

Paint Overspray Arrestors

- ✓ AAF International; Louisville, KY (2 technologies)
- ✓ ATI; Ottawa, KS (2 technologies)
- ✓ Columbus Industries; Asheville, OH (2 technologies)
- ✓ Farr Company; El Segundo, CA
- ✓ Koch Filter Corporation; Louisville, KY (3 technologies)
- ✓ Purolator Products Air Filtration Co.; Henderson, NC (2 technologies)

Parametric Emissions Monitoring Systems

- ✓ ANR Pipeline Company; Detroit, MI

PCB Analyzers

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

Pressure Release Valves

- ✓ The Protectoseal Company; Bensenville, IL

Recycling Technologies

- ✓ Katec, Inc.; Virginia Beach, VA

Sediment Sampling Technologies

- ✓ ARI; Lemhi, ID
- ✓ Art's Manufacturing and Supply; Sauk City, WI

Soil/Soil Gas Sampling Devices

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

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

Wastewater Treatment Systems - EvTEC

- ✓ ThermoEnergy Corporation; Little Rock, AR

Erosion Control - EvTEC

- ✓ Carpenter Erosion Control; Ankeny, IA

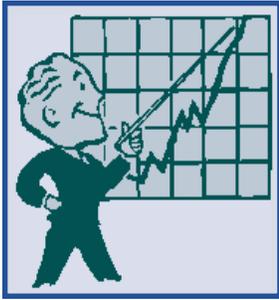
Indoor Air - Commercial Furniture

- ✓ Test Protocol Verification

Indoor Air - Ventilation Air Filters

- ✓ Test Protocol Verification

ETV Web Site a Hit! Changing Soon to Reflect New Program Structure



The ETV Program web site (www.epa.gov/etv) received almost 300,000 hits in fiscal year 2000, a record high for the site. About eight percent of these hits were from international entities. The ETV Program plans to respond to this interest level and revamp the web site to reflect the program's reorga-

nization into six ETV Centers.

The redesigned web site will include all of the information currently on the ETV web site in a new format, along with new and regularly updated information about the six ETV Centers. New tools will enhance the web site to make it more user-friendly. One of these tools dynamically generates onscreen information according to the type of user or the specific interests of the user. For example, information that is displayed on the web site can be tailored to specific types of users, such as vendors, government entities, and consumers. The redesigned web site will also incorporate new search capabilities so that users can search for information on a specific technology category or product. Finally, in response to requests from vendors, the web site will include a section for vendors that are interested in applying for verification. This section of the web site will provide more information about the verification process from beginning to end along with application instructions. The ETV Program anticipates launching the new and improved web site in the spring of 2001.

Web Watch

- ✓ The February and March 2001 issues of *The Monitor* from the ETV Advanced Monitoring Systems Center have been posted at <http://www.epa.gov/etv/07/MonFeb01.pdf> and <http://www.epa.gov/etv/07/MonMarch01.pdf>, respectively.
- ✓ The Test/QA Plan for Verification of Portable Analysis Technologies from the ETV Advanced Monitoring Systems Center is available at http://www.epa.gov/etv/07/test_portable.pdf.
- ✓ Verification reports for the four newly verified technologies are, or will be, available at <http://www.epa.gov/etv/library.htm>.



ETV International Workshop is a Success

From October 23 to 26, 2000, the ETV Program hosted an international training workshop in Research Triangle Park, NC. Workshop participants included 15 international delegates: two from India, four from Malaysia, three from the Philippines, and six from Thailand. Other participants included ETV Team members, ETV partner organizations, and EPA staff from a variety of offices.

The guest countries provided presentations on their environmental challenges and technology needs. The ETV Team members and partner organizations participated in panel presentations on the stakeholder group process, the protocol and test plan development process, and the technology testing and evaluation process. The workshop also incorporated several site visits and technology demonstrations, including a visit to North Carolina State University's Agricultural Waste Technology Demonstration Facility, a visit to the paint overspray arrestor testing laboratory at Research Triangle Institute, observation of the test set-up for continuous emission monitors for mercury at EPA's laboratory, a visit to EPA's boiler facility used to verify alternative fuels, a visit to EPA's diesel truck test rig facility, and a demonstration of an immunoassay test kit verified under the Site Characterization and Monitoring Technologies Pilot.

The feedback from the international delegates at the conclusion of the workshop was very positive, indicating that the workshop met their expectations and provided them with a better understanding of how the ETV process works and how environmental technology verification could be implemented in their own countries. All participants were excited to continue information exchange with the ETV Program and other workshop participants. The ETV Program provided a similar workshop in Thailand in March 2001 and was invited to provide a workshop in India during 2001. The July 2001 ETV Program Quarterly Report will feature an article on the workshop in Thailand.

ETV Events

<u>Date</u>	<u>Location</u>	<u>Event</u>
April 3-5	Chicago, IL	ETV Program - ETV exhibit at WasteExpo 2001
April 17-21	Washington, DC	ETV Water Protection Technologies Center - Source Water Protection Technologies presentation at the 3rd Annual Onsite Wastewater State Regulators Conference
April 22-25	Washington, DC	ETV Program - ETV Program panel session at the NSF International Small Water and Wastewater Symposium
May 8-10	Boston, MA	ETV Program - ETV exhibit at EnviroExpo 2001
May 20-24	Orlando, FL	ETV Water Protection Technologies Center - Wet Weather Flow Technologies presentation at the Environmental and Water Resources Institute's (EWRI's) World Water & Environmental Resource Congress
June 4	Rosemont, IL	ETV P2, Recycling, and Waste Treatment Systems Center - P2 Innovative Coatings and Coating Equipment Stakeholder Group and Vendor Meetings in conjunction with the Finishing 2001 Conference and Exhibition
June 4-5	Cincinnati, OH	ETV Drinking Water Systems Center - Stakeholder Group Meeting
June 17-21	Washington, DC	ETV Program - ETV exhibit at American Water Works Association's AWWA 2001 Conference
June 24-28	Orlando, FL	ETV P2, Recycling, and Waste Treatment Systems Center - P2 Innovative Coatings and Coating Equipment presentation at the 94th Annual Conference and Exhibition of the Air and Waste Management Association (A&WMA)

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

In February, the ETV Program web site received nearly 42,000 visits, almost 6,000 of which were by international users!

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2. Please, don't include a subject line in your message; however, you may add a period "." if your mailserver requires an entry.
3. The body of your message should say: subscribe ETVoice firstname lastname

New Verification Testing Area Announced

The site characterization and monitoring technology area of the ETV Advanced Monitoring Systems Center has announced its plans to test small diameter bladder pumps or other sampling devices that are designed for deployment in narrow-diameter, direct-push wells. The Center is looking for participants with a commercially available technology; willingness to share a portion of the testing costs; willingness to participate in the study design process; and commitment to deploy and operate the technology at one or more contaminated sites during the verification testing process. If you have a groundwater sampling technology or would like to refer a technology for verification testing, please contact either Wayne Einfeld, ETV Project Manager at Sandia National Laboratories (505-845-8314, weinfeld@sandia.gov), or Eric Koglin, EPA ETV Program Manager (702-798-2432, koglin.eric@epamail.epa.gov).