

Teleconference Meeting Minutes



U.S. EPA Environmental Technology Verification (ETV) Program Advanced Monitoring Systems (AMS) Center

Air Stakeholder Committee Teleconference

Thursday, January 22, 2009

1:00 pm – 3:00 pm *EST*

FINAL AGENDA

Welcome and Introductions	Rachel Sell, Battelle
<ul style="list-style-type: none">▪ New EPA AMS Center Management<ul style="list-style-type: none">○ Project Officer John McKernan○ QA Manager Michelle Henderson▪ New Stakeholder Steve Ward and Observers	
ETV Updates and AMS Center News	John McKernan, EPA/Amy Dindal, Battelle
<ul style="list-style-type: none">▪ OAR Alternative Technology Initiative▪ International ETV▪ RFID for Hazardous Waste Package Tracking	
EPA Carbon Sequestration Research	Dom Digiulio, EPA
Discussion of ETV Carbon Sequestration Monitoring Opportunities	All
Update on Current Verification Tests	Tom Kelly, Battelle
<ul style="list-style-type: none">▪ Leak Detection and Repair (LDAR) Devices at Petroleum Refineries and Chemical Plants▪ Field Monitoring for Aerosols and Gases▪ Cavity Ringdown Spectroscopy Instruments for Power Plant Applications	
Update on Developing Technology Categories	Amy Dindal
<ul style="list-style-type: none">▪ Fungal Contamination Field Monitors▪ Multi-Metal Emission Monitors▪ Vapor Intrusion▪ Ozone Detector Card▪ Odor Management System▪ Selected Ion Flow Tube Mass Spectrometers▪ Digital Camera Opacity Technique	
Vendor Inquiries	Tom Kelly
Stakeholder Input – Monitoring Technologies on the Horizon?	All
Recap of Priorities, Action Items, and Next Meeting	Rachel Sell
Adjourn	

ATTENDEES

Stakeholder Committee Members:

Ernest Bouffard, Connecticut Department of Environmental Protection
Chuck Dene, EPRI
Rudy Eden, South Coast Air Quality Management District (SCAQMD)
Philip Galvin, New York State Dept. of Environmental Conservation
Cliff Glowacki, Covenant Associates
Doug Grosse, EPA
Dennis Mikel, EPA
Will Ollison, American Petroleum Institute (API)
Steve Priebe, Idaho National Laboratory
Joann Rice, EPA
Steve Ward, Bayer MaterialScience (*joined late*)

Participant:

Cathy Allen, EPA
Dom Digiulio, EPA
Michele Mahoney, EPA
Penny McDaniel, EPA
Danielle Meggyesy, Battelle
Sylvia Edgerton, Battelle

ETV AMS Center Staff:

Amy Dindal, Battelle
Michelle Henderson, EPA
Tom Kelly, Battelle
John McKernan, EPA
Rachel Sell, Battelle

Welcome and Introductions

Rachel Sell, Battelle AMS Center Stakeholder Coordinator, welcomed committee stakeholders and AMS Center staff, then took roll call of the participants in the teleconference. Ms. Sell proceeded with an overview of the agenda, noting the focus of the call would be on upcoming ETV events, updates on technology categories moving forward, updates on evolving technology categories, and identifying priority technology categories for verification.

Ms. Sell introduced John McKernan, the new EPA project officer for the AMS Center. Doug Grosse, who was serving as the interim project officer, will now represent EPA on both the AMS Center air and water stakeholder committees. Dr. McKernan previously worked at the Centers for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH). He holds a M.S.P.H. and Sc.D. in Environmental Health/Industrial Hygiene. His primary focus at NIOSH included air monitoring related to human exposure.

Ms. Sell then introduced Michelle Henderson, the new QA Manager for the AMS Center. Ms. Sell provided a brief introduction about Ms. Henderson as she was unable to make the teleconference. Before joining EPA, Ms. Henderson acquired 17 years of quality assurance and

health and safety experience while at The Shaw Group, Inc. as a contractor for the EPA focusing primarily on issues related to water.

Ms. Sell provided an introduction to new stakeholder, Steve Ward, who works in the Regulatory Affairs section of Bayer MaterialScience Health, Safety and Environment (HSE). Ms. Sell indicated that Mr. Ward would provide a formal introduction during a future stakeholder conference call.

ETV Updates and AMS Center News

Dr. McKernan provided an update on an EPA program within the Office of Air and Radiation called the Alternative Technology Initiative. EPA's Alternative Technology Initiative seeks to reduce the number of sealed radiation sources used in industrial devices and applications. Part of this effort must involve the acceptance of alternative technologies by those who currently use sealed radiation sources. As with any new technology, the likelihood of acceptance can be significantly increased by independent evaluation and verification of a technology's capabilities, so the program has been exploring collaboration with the ETV program.

Amy Dindal, AMS Center Director, provided an update on AMS Center international activities. Battelle is a participant on a team lead by Dechema (in Germany) to provide support to the European ETV program. Battelle's role will primarily be involved with joint international testing that will be focused on harmonizing verification testing across the European, U.S., and Canadian ETV Programs. The AMS Center is currently performing a joint verification test with the Nordic Water Technology Verification Center (NOWATECH) in Denmark on a passive groundwater sampler. A test plan, test protocol, and process document were prepared and approved by both the U.S. and Nordic ETV programs. Testing is in progress. The AMS Center is planning for a verification test of radio frequency identification (RFID) devices for hazardous package tracking across the U.S./Mexico border. Testing is expected to occur in March; a Field Day is also being planned in conjunction with the test. In addition, the AMS Center is in discussions with ETV Canada regarding joint verification testing on remote sensing air monitoring technologies. If testing proceeds, more information will be forthcoming on this joint verification in future meetings.

EPA Carbon Sequestration Research

Dom Digiulio provided a brief summary of EPA Office of Research and Development research on geological sequestration of carbon dioxide. Dr. DiGiulio described studies involving the evaluation of impacts to underground sources of drinking water (USDWs) and techniques for evaluating potential leakages and migration pathways. He also described a test site (Cranfield in Natchez, Mississippi) where EPA will be providing groundwater and soil gas monitoring support.

Discussion of ETV Carbon Sequestration Monitoring Opportunities

Stakeholders participated in a discussion regarding the types of monitoring opportunities available for geological sequestration of carbon dioxide. This included a discussion of shallow gas monitoring and issues associated with it. Dr. Kelly indicated that one vendor has approached the AMS Center with an isotopic analyzer to track stable isotopes in stored carbon dioxide and in

water. Instead of injecting and measuring surrogate tracers that are more expensive, this analyzer could measure the anthropogenic carbon dioxide directly.

Chuck Dene asked whether carbon dioxide is injected into wells in a liquefied or gaseous phase. Dr. Digiulio said that it was supercritical carbon dioxide injection. Danielle Meggyesy described some of the field testing that Battelle is conducting with respect to geologic sequestration as part of the Midwestern Regional Carbon Sequestration Partnership (MRCSP).

Update on Current Verification Tests

Tom Kelly provided an update on three technology categories (Infrared Cameras for Leak Detection and Repair (LDAR); Field Deployable Ion Chromatograph; Cavity Ringdown Spectroscopy (CRDS) and reviewed slides from a PowerPoint presentation distributed to stakeholders before the teleconference. Input from the stakeholders on these areas included the following comments:

- Steve Ward asked what the principle of detection was and whether one instrument was more sensitive than the other. He also asked whether the instruments measured anything they could not identify. Dr. Kelly explained the FLIR camera was more sensitive, and that the cameras worked from a list of target species and did not measure anything they could not identify.
- Phil Galvin believed additional field testing (maximum of 50 leaks) might be warranted.

Update on Developing Technology Categories

Ms. Dindal provided an update on seven technology categories still under development, and reviewed slides from a PowerPoint presentation distributed to stakeholders before the teleconference. The areas included fungal contamination field monitors; multi-metals analysis by XRF; vapor intrusion; ozone detector cards; odor management system; selected-ion flow tube mass spectrometry; and digital camera opacity. Input from the stakeholders on these areas included the following comments:

- There was interest from the stakeholders in continuing to focus on developing each of these areas with the exception of the digital camera opacity technique, since there is a draft ASTM method in process.
- Dennis Mikel expressed continued interest in the multi-metals analysis by XRF. He mentioned the possibility of piggybacking a deployment that is being planned for a test site in Cleveland, and suggested that Battelle contact Bob Willis (EPA ORD/NERL) for more information.
- After the teleconference, Rudy Eden reported that OdoTech is still interested in ETV verification testing for their odor management system and should be contacted again by Battelle.

Vendor Inquiries

Dr. Kelly provided updates on two recent inquiries the AMS Center received.

- Artium Technologies has a new instrument for characterizing soot emissions from gas turbine and diesel engines as well as other combustion sources. The laser-induced incandescence method has advantages over other methods for particulate mass measurements.

- Bacharach has a new handheld combustion and emissions analyzer that may be a candidate for verification testing.

Ms. Sell requested the stakeholders provide feedback on the two technologies when they receive the meeting minutes and provide input as to whether this category of combustion/emissions analyzer testing should be revisited.

Stakeholder Input – Monitoring Technologies on the Horizon?

Time was running short, so in terms of monitoring technologies on the horizon, stakeholders were asked to forward any ideas to Ms. Sell.

Recap of Priorities, Action Items, and Next Meeting

Ms. Sell thanked all of the stakeholders for attending the meeting and for their continued input and contributions to the ETV program. When asked about having an in-person stakeholder meeting in the coming months, stakeholders requested to not travel in near term. She said the next stakeholder teleconference would be planned for the May timeframe. The call adjourned at 3:00 pm *EDT*.

Ms. Sell reviewed the action items brought forth on the call:

1. Ryan James will contact Bob Willis at EPA regarding a multi-metals test being planned in Cleveland.
2. Tom Kelly will initiate a teleconference with Rudy Eden (SCAQMD) and OdoTech regarding ETV verification testing for their odor management system.