



Meeting Notes

California Environmental Technology Verification (ETV) Stakeholder Advisory Group Meeting
Pollution Prevention, Recycling and Waste Treatment ETV Pilot
California Department of Toxic Substances Control (DTSC)
October 28, 1999

Attendees:

Bill Schreiber, President, SMarTsonic Corp. (ETV Verified Technology)
Brian Runkel, Executive Director, California Environmental Business Council
Claire Barker, Massachusetts Strategic Technology Evaluation Program (STEP)
Dave Miller, Senior Hazardous Substances Scientist, DTSC
David Jones, Director, Common Sense Initiative Program, U.S. EPA Region 9
David Ensor, Senior Program Director, Research Triangle Institute
Dick Jones, Hazardous Substances Scientist, DTSC
Greg Williams, P.E., Chief, Technology Development Branch, DTSC
Jane Williams, California Communities Against Toxics
Jim Allen, Ph.D., Chief, Office of Pollution Prevention & Technology Development, DTSC
Jody Sparks, Director, California Environmental Research Group
Kim Abbot, U.S. Department of Energy (DOE), Oakland
Mark Newton, Office of Legislative Analyst
Michael Jacobson, Deputy Director, Pacific Rim Enterprise Center
Nancy Uziemblo, Washington Department of Ecology
Norma Lewis, U.S. EPA ETV Pilot Project Manager, U.S. EPA (Cincinnati)
Perry McCarty, Ph.D., Director, Western Hazardous Substances Research Center, Stanford
Richard Ford, President, Purodyne (DTSC Cal/U.S. EPA Verified Technology)
Tam Doduc, Acting Chief, Cal/U.S. EPA Office of Environmental Technology
Terry Escarda, P.E., Hazardous Substances Engineer, DTSC
Tim Ogburn, Manager, Environmental Technology Export Program, California Trade and
Commerce Agency
Tom Lee, California Department of General Services
Tony Luan, P.E., Chief, Waste Reduction Unit, DTSC
Wolfgang Fuhs, Dr. Nat. Sci., Research Chemist, DTSC

9:00 **Welcome and introductions, meeting objectives/expectations ---Jim Allen**

Dr. Jim Allen welcomed the group, mentioned that the California Environmental Technology Certification Program was authorized by Assembly Bill (AB) 2060 in 1993, and that we became a pilot project under the U.S. Environmental Protection Agency (U.S. EPA) Environmental Technology Verification (ETV) Program in 1995. Jim also stated that the Program is facing funding limitations as

the U.S. EPA Cooperative Agreement funding expires September 30, 2000. Stakeholder input is requested on continuing to use state staff, bringing in other partners, or spinning off the program into the private sector. Then Jim asked everyone to introduce themselves.

9:15 ETV update---Norma Lewis

Norma Lewis of U.S. EPA provided background on the federal ETV Program, and mentioned that California's pilot was the first pilot in 1995. She stated that the ETV Program's customers were technology users, purchasers, and enablers such as permit writers, cleanup managers, consultants, investors, and exporters. Some important principles of ETV are that it is a voluntary program, verification is not an approval, and that a report to Congress is due in 2001. Major questions to answer in that report are "Does the market need/value an U.S. EPA verification program, and do the needs vary from one technology area to another?"

Benefits of the ETV Program include obtaining objective, credible performance data; facilitating permitting at the state and local levels, reducing risk for investors, leveling the playing field among competitors, and facilitating exporting.

Lessons learned - stakeholders are major contributors in every area: shapers of priorities, processes, protocols, and outreach. Protocols for verification testing largely do not exist; a major scientific contribution to the technology communication field is the 34 protocols/ generic test plans developed so far.

Feedback from Vendors - Norma reported that nearly all vendors who had verified technologies have reported that verification was useful in marketing. Most of them said the impact of verification on sales was difficult to quantify or it is too early to determine. Most responded favorably to questions about the process, while the most frequent criticism was the process took too long. A clear majority said they would submit another technology or refer others to the program, and 14 of 16 responded positively.

A lively discussion centered around the purpose and scope of the programs then ensued. Bill Schreiber and Richard Ford, presidents of SMartSonic and Purodyne, commented on the need to make the programs more valuable to the applicants by marketing the programs so that certification and verification mean something. Bill mentioned that they can use the Cal/EPA logo but not the U.S. EPA logo. Mr. Schreiber also mentioned that he would have been willing to pay an extra fee, perhaps 10 percent, to assist in marketing if he had known marketing would have been a problem. He also mentioned that even some well-placed articles in journals would be helpful.

Richard Ford said that they can use DTSC's logo. Mr. Ford said that the mayor of Miami set up an efficiency committee to save government money. His certified product received approval for a blanket purchase order, and the committee helped push the technology through the bureaucracy. Richard stated that the programs are missing the most important step: government agencies are very hard to convince, the advisory committee may need to go to the governor for top-down support.

Norma responded that marketing aspects were not a priority in the beginning, regulatory agencies have no experience, government capabilities are limited, but now increasing: U.S. EPA is designing a workshop with states for next year. Use of the U.S. EPA logo is a legal situation. Visibility of the programs is needed and assistance is given when it is possible. Numerous conferences and hits on the U.S. EPA ETV web site are helping to publicize the ETV program.

There seemed to be general agreement that it is not appropriate or viable for regulatory agencies verifying performance to market individual technologies; however, it is appropriate, and necessary to market the verification/certification programs so that the evaluations are meaningful and useful. Tim Ogburn of the California Trade and Commerce Agency agreed with the vendors that the programs need to be known, that a stamp of approval has to be done somehow, and that trade agencies can assist in marketing certified or verified environmental technologies.

Jody Sparks asked if any cleanup technologies had been approved. Norma answered that U.S. EPA does not approve technologies and that most of the remediation technologies were being addressed in the U.S. EPA SITE Program. Jody said the issue is that communities often are only being supplied with the disposal option. She also said she was concerned that technologies certified improperly may create problems as well as solving them.

10:00 Summary of progress on California Pilot and on key points and action items from prior meetings---Greg Williams

Greg Williams described technologies addressed by DTSC's Certification Program, and noted some differences between certification and verification: verification focuses on verifying test results by a third party and may be on a limited set of best operating conditions, while certification attempts to predict performance over a wider range of operating conditions, uses existing data, and sometimes acts in lieu of a permit (placement into tiered permitting). In response to a question by Jane Williams, Greg also noted that the Certification Program is statutorily required to evaluate safety and potential environmental impacts. He then described what certifications and verifications include: technology description, discussion of performance claims, test results and evaluation, basis for determination, limitations and conditions, and operational standards to ensure safety.

Greg then described the objectives of certification (similar to those mentioned by Norma Lewis) and described two verified technologies (Rayovac's rechargeable alkaline batteries, and SMartSonic's ultrasonic aqueous printed circuit board stencil cleaner system). He briefly mentioned some current projects (Katec, Hydromatix, LMT, Cooper, and ABB). He also presented some partnerships between other states (the Six State MOU and the Interstate Technology and Regulatory Working Group (ITRC)). Greg then noted that there were two handouts available summarizing activities since the last stakeholder meeting, but did not discuss them due to lack of time. Instead, he asked Terry Escarda to briefly present a possible funding mechanism applicable to the program.

Terry suggested that a potential useful and applicable funding source might be to put a small fee

(pennies) on consumer items that eventually become hazardous waste, e.g. batteries or fluorescent tubes. Advantages include: polluter pays, easy to collect, often problematic waste streams, precedent exists (motor oil fee, tire fee, bottle deposits), possibly significant source of revenue, other fees could be minimized, and if an agency provides directly related services, it is a fee, not a tax. Services that our program could provide include: assistance in evaluating products for state procurement, waste reduction research grants, research permitting, funding participation in demonstrations, and covering certain certification fees, thus allowing more broad participation, comprehensive evaluations, and independence.

10:30 **Break**

10:40 **Summary of alternative structures currently in use---Michael Jacobson**

Michael Jacobson announced that the Pacific Rim Enterprise Center has developed a catalogue of verification programs: 22 different programs (including both verification and certification). His presentation focused on program funding. Michael said he will be working for U.S. EPA on verification program outreach. There are three main funding models - government, shared, & private sector (shown below). Regardless of model, the vendor usually pays for mobilization, operation, & demobilization. How fees are determined, and who pays for plans, protocol development, and testing all vary.

Government: DOD, DOE, SITE, **CA only ones who can do this are heavily funded (not CA)**

Shared: MA DEP/ED/UMass, U.S. EPA/ 11 ETV pilots

Private Sector: most work contracted - CERF & labs, WA (w/CERF), NJCAT&NJ, ETV Canada

How to Measure Success -

Process: dollars leveraged, program dollars, applications received,

Outcomes - # of verifications, companies served, revenue earned, benefit to vendors (or environment.)

Conclusion: Funding is critical to sustainability, and MassSTEP is a useful state-funded model.

Discussion

Brian Runkel emphasized how damaging delays are to vendors. Jody Sparks noted contracting out would not speed up the regulatory certifications that vendors want. Brian responded that P2 companies would accept community involvement but for the delays. David Jones said payback for P2 has to be 2-3 years, and purchases could be made based on agency approvals. Norma noted even vendors who market well can fail. She also said ETV was voluntary, not for cleanups and that P2 is difficult to calculate. **Norma said there=s no information submittal deadlines** for vendors and Brian replied that some lack the needed resources.

Kim Abbot asked if Canada had an aggressive marketing program. David Ensor was surprised that no one noted that the government as a customer should pay. Michael Jacobson agreed that P2 was difficult. David Ensor agreed and said certification was closer to permitting.

Jane Williams wondered why the program has failed to remove institutional barriers to deployment. She said a major barrier to cleanups was community acceptance and that the Assembled Chemical Weapons Assessment was a model program in chemical demolition.. Nancy Uziemblo said verification should collect data needed (by states) (like ITRC does), and Michael Jacobson said verification needs to work with data users, e.g. labs.

Jim Allen noted that the California program is broad and without preestablished protocols. Michael Jacobson said the broad program without protocols is both a strength and a weakness. Jim added that Measurement and Monitoring protocols resulted in great efficiencies.

Mark Newton asked if the push for partnerships for California was due to budget or efficiency. Michael responded there's no easy answer, and we'll know more after U.S. EPA evaluates the model.

At that point the group adjourned for **lunch (12:30 PM)**

1:30 Reconvene: **Massachusetts program presentation and discussion - Claire Barker**

The Massachusetts Strategic Technology Evaluation Program (STEP) is not certification or verification; rather it is a technology commercialization effort. The STEP Mission: develop and use innovative environmental and energy technologies in Massachusetts. The STEP solution is to link agencies, coordinate existing services, and provide legislative funding directly to the University of Massachusetts (UMass) to assist in evaluations. A \$2 million fund pays for services that UMass provides: bring to market, business plans, marketing, and demonstration projects. The company pays for testing, sampling etc. STEP provides technical (verification, R&D), business (planning, funding source referrals), regulatory (permit assistance, e.g. dental office mercury recovery), and technology transfer (e.g. product roll-outs and aggressive transfer of technology to state agencies). Deployment is ultimate goal. Leveraging STEP's results with other programs was emphasized using: DOE Green Book report on STEP technologies, U.S. EPA P2 Template funding, six state Environmental Technology MOU, ITRC, ETV, and the federal Small Business Innovative Research (SBIR) grants.

Michael Jacobson asked Claire what their clients say about STEP. Claire replied that 80% said STEP was important or critical, 94% would recommend it, and perhaps the most valuable outcome was getting to know the regulators. The Massachusetts Legislature initially appropriated \$1.5 million, and then increased the appropriation to \$2 million. Agencies and universities provided more support than communities. A total of three staff are funded outside of the universities at less than \$0.5 million. To date, STEP has handled 120 company contacts.

Washington Program - Nancy Uziemblo

The Washington Dept. of Ecology is directed to participate in technology demonstrations, review certification programs, develop radioactive & mixed waste remediation certification program, if funding is available. (No current funding).

Concept for Pilot Program: focus on needs, technologies, and markets, but main goal is to clean up the Hanford site. Also, accelerate acceptance and use of innovative technologies and products, using partners (MOU with EvTEC). (EvTEC = Environmental Technology Evaluation Center which conducts one of the U.S. EPA ETV pilots.)

Two Pilot Programs:

1. Integrated Environmental Technologies - Plasma Enhanced Melter, at ATG for Hanford, multi-state, multi-agency cooperation, peer-reviewed process, participatory activities, demo next year.
2. Storm water Technologies (Abakeoff@), seeking to verify Best Management Practices in field for use by public works agencies.

Goals: focus on emplacement of technologies we are confident in.

Challenges: firms not lined up, market focus, opportunities to forge stronger alliances among programs

Discussion: No out of pocket funding yet. Also got worker health and safety added to new ITRC report. Jody Sparks emphasized the need to reach out for community/environmental group involvement. Jane Williams said the community groups are very leery of such processes, e.g. concern over plasma arc.

2:05 The Role of ISO Guide 65 and Reciprocity Issues -Wolfgang Fuhs

ISO Guide 65 lists guiding principles for certifying bodies for products and services (a technology is a system of products and services). European Norm (EN) 45011 is a more detailed elaboration on the structure and functions of certifying bodies based on ISO Guide 65. While EN 45011 is not binding on verification entities or certifying bodies in the US, both documents set out conditions that should be met if we expect technology verifications and certifications to be accepted in other countries or if reciprocity with other certifying bodies is expected, with possible impacts on export and commerce.

ISO Guide 65 reflects the position of the ISO community for accepting a certification system. It specifies that the Certification Body

- is to be impartial
- is to be responsible for certification decisions
- is to identify personnel having responsibility for
 - formulation of policy and procedures,
 - appointment of committees and staff,
 - decisions on certification,
 - fiscal resources, and
 - quality management system.

EN 45011 sets out the role of a governing board representing stakeholders, with no single stakeholder

interest prevailing. It describes the roles of senior and executive staff, committees for rules and procedures assuring independence and freedom from conflict of interest.

Verification/certification decisions at DTSC:

Evaluation Team reviews technical information, makes recommendation;

Technical Review Panel (senior professional staff) reviews report, recommendation, invites peer review;

Steering Committee (Division Chiefs) approves recommendations.

Possible forms of compliance with ISO & EN

Certification body in the agency

pro needs assessment facilitated, environmental groups could play major role;
interface to regulatory functions, permitting;
administrative structure available;
exemplifies government policy (and justifies subsidy).

con assurance of program independence and integrity is needed..

Certification Body as Independent Government/Public Body

pro decisions separate from regulatory structure
consolidated administrative structure
government support still possible

con few models in California
subsidy still required

Private, commercial Certification Body

pro easily constituted in accordance with ISO/EN
single, consolidated administrative structure

con financial backing needed

Monitoring - quality audit for verified/certified technologies required under ISO and EN

Summary

Compliance w/ ISO is desirable to obtain recognition by other certifying bodies, promote export.

In addition, participation in world-wide harmonization of verification standards via ISO 140xx remains desirable

Steps toward compliance

make documentation more coherent

monitor certified technologies

~3:15 Discussion of possible alternatives for improving current program structure ---Jim Allen

Several people stated that the program needs freedom from political interference. Jody Sparks recommended that Technology Development staff advise site mitigation or permitting, e.g. on arsenic in water. Jim said they did, before certification. Michael Jacobson recommended outside help on marketing from Tim Ogburn or Tam Doduc. A partnership using Cal/U.S. EPA's strict reputation was suggested. Tam said they were preparing a marketing plan and meeting with (Cal/U.S. EPA) ombudsmen. Perry McCarty noted that we are not evaluating competitors side by side (ranking) so marketing is difficult. Despite this, Richard Ford isn't asking for sales help, just product awareness.

Brian Runkel: Even more fundamentally, make people aware of the program; no one knows what ETV is.

David Jones said the agency model and logo are useful. If you tie into a university system, some services could be free and expedited. State should target industries and worthwhile activities.

Michael Jacobson: Deployment requires non-verification technology services, e.g. MassSTEP. Nancy's (WA) and Claire's (Mass.) programs get state money to observe; couldn't users pay for test assistance?

Claire Barker: There is a possible conflict if the state sets both performance and technology-based standards.

Discussion continued on high level support from legislatures (Michael/Brian), university (Claire-Mass.), or other certification agencies. Jim noted that we (Alternative Technology) used to provide range of services (albeit costly) like Massachusetts. Good protocols and up-front submittals would speed review up. Brian: Don't give up going the extra step for certification (vs. verification). He would hate to see California lose that because of funding, administrative problems, etc.

4:00 Adjourn