

**EMFACT Advisory Committee Meeting
Draft Notes
February 10, 2006**

Present: Don Alger, Allegro Microsystems; Linda Darveau, EPA Region-1; Tom D'Avanzo, EPA Region-1; Gil Friend, Natural Logic; Al Karg, Sturm, Ruger & Co.; Frank Marino, Raytheon; Chris McNeill, Pratt & Whitney; Shelly Metzenbaum, Facility Reporting Project; Tara O'Hare, EPA Headquarters (on phone); Jeff Sama, NYS DEC; Deb Savage, EMARIC; Lucille Servidio, Cappaccio Engineering; Jonathan Shefftz, Industrial Economics; Ed Waldner, Pratt & Whitney; Barry Wenskowicz, Narragansett Bay Commission; Ken Zarker, WA State DOE (on phone); Terri Goldberg and Meg Wilcox, NEWMOA; Rick Reibstein, Bill McGowan, Phil Milmo, MA OTA

Review EMFACT Project Scope

Terri opened the meeting with a Power Point presentation on the background and vision for the EMFACT project. She stressed that environmental management accounting (EMA), as a critical tool for sustainable production, was a cornerstone of the project.

She defined EMA as the collection, identification, and analysis of materials and energy flow information, and environmental and other cost information for environmental decision making.

Terri described EMFACT objectives as the following:

- Improve the ability of the private sector to evaluate material use and flow
- Help public and private consultants and assistance providers enable their clients to track material use and flow more effectively
- Help companies and governments quantify pollution reductions and associated costs from implementing P2 and energy efficiency initiatives.

The proposed target audience for the EMFACT tool includes:

- Government and private sector environmental assistance providers
- MEPs (Manufacturer Extension Programs) and business assistance providers
- Small and mid-sized manufacturers
- Companies involved with greening the supply chain
- Performance Track and other environmental leaders

Deb noted that small and mid-sized businesses were too broad a category, suggesting that the project be more specific about business size and level of sophistication.

Rick said that level of sophistication could not be linked to company size. Some large companies need help, while some small companies are doing great.

Gil agreed that company size was important to narrow down but that other factors might also help to define the target audience, such as level of sophistication.

Tom suggested that validation by external auditors be considered.

Frank said that from Raytheon's perspective, it was not possible to separate out the health and safety costs from environmental costs. It's on companies' minds. When they redesign a product line, they have to take ergonomic and safety issues into consideration.

Companies are now using EMA for issues other than pollution prevention, such as for environmentally preferable purchasing, efforts to green the supply chain, or for air or water permits.

Lessons Learned from Company Visits & Meetings

Terri summarized the results of the visits she, Rick, and Phil conducted with companies to find out if they were already doing materials and energy tracking and if so for what purpose. She presented a series of slides summarizing the visits and what the team learned from the sessions

Terri and Rick found some companies that had systems but many do not. Some had partial systems related to compliance. All were home grown. They found a continuum of capabilities, and tracking systems, ranging from no tracking or reporting to some tracking, to extensive tracking. They found that reporting was primarily for compliance purposes (e.g., air or water permits, hazardous waste, TRI or TURA) and that no one was tracking for P2 or cost purposes.

Deb noted that, in other countries, companies also report for compliance purposes and do not use the information internally. Tracking systems can take a lot of time and many companies do not have the time to analyze the information they are collecting.

Some common elements of the tracking programs Terri, Rick, and Phil learned about include:

- Material tracking was linked with purchasing, so that costs could be pulled in
- MSDSs were used to identify chemical constituents; and tracking was done by CAS number
- Quantities of each chemical were summed and tracked over time
- Systems included waste release estimates and process flow diagrams
- Compliance was the driver

Key messages learned through the visits include:

- Others have tried and failed to develop commercially available software; developing a generic program may be tough
- Guidance and training may be more important than the tool itself
- MSDSs need to be accessed electronically
- Tool needs to link to purchasing systems
- System should be modularized, with linkages among elements, but each element should be able to stand alone
- Scrap per unit of product or production line could be a useful measure to track

- System should use readily available software, such as Excel or Access
- System should be able to map the process, focusing on materials flow
- Boilerplate reports should be included
- System for tracking wastes is needed
- Guidance should be provided to existing software tools

Rick outlined the emerging vision for the EMFACT Tool:

- All components modular and optional
- Excel spread sheet with ability to connect to purchasing system
- Works with MSDS data sources
- Links to hazardous waste and other release outputs
- Ready made queries with prompts to help users build reports
- Includes module that prompts users to add costs
- Links to process flow diagram
- Compares impacts and costs, NPV, and Payback time

Terri asked the group to address the following questions

- 1) What are the key reports the EMFACT system should generate?
- 2) What are the key visual and numerical outputs?
- 3) Should EMFACT create an online source for MSDSs? Is it critical?

Bill said that OTA thinks such a tool would be helpful to the smaller manufacturing businesses with whom they work.

Barry said he thought the tool could follow the model used by the National Strategic Goals Program (NSGP) that is active in Rhode Island. NSGP has worked with electroplaters; 500 out of 13,000 have used the NSGP system. The data collected by NSGP firms goes to a national organization that ranks the users' performance in seven areas. Individual companies can then see how their performance rates in comparison to others, and this is very useful.

Brainstorm: EMFACT Tool Vision, Audience, & Purpose

Terri led a discussion about the emerging vision for the EMFACT tool, asking the advisory group to provide specific feedback on a handout outlining the proposed vision.

Shelly said she hoped that the EMFACT tool would be developed so that it could be useful to companies participating in the Facilities Reporting Project (corporate sustainability reporting) on which she works. Shelly also asked two basic questions about the project's scope/vision:

- 1) "If you build it, will they come?"
- 2) "What role should government play in building the tool?"

Responding to Shelly's first question, the group discussed some of the barriers that keep companies from tracking materials and energy use. Barriers at the company level were identified as time, money, motivation, and expertise.

Some thought that making the tool free would encourage companies to use it while others thought that cost was not necessarily the most important barrier. Internal management issues and the time/effort for maintaining the system may be more important.

Tom suggested that since compliance appears to be a driver, it could be a focal point of the tool.

Jeff stressed that the project needs to pay attention to the target audience and the considerable amount of effort that is required to collect the data. He thinks that internal management concerns, such as ROI, may be more compelling reasons to track material use than reporting or compliance.

Al suggested designing from the bottom up because the bottom up approach has worked at his company. The tool should address, for example, what does a purchaser at a company need to convince management to make some changes?

Shelly proposed that NEWMOA develop a software tool to help companies access the numerous tools already in existence for tracking material and energy use, and to help private companies improve these existing tools. An online tool was proposed that would allow users to select from available programs relevant to their needs, as well as provide feedback on specific tools.

A problem with this approach is the enormous amount of time required to identify, collect, and review the programs, as well as keep such a system current. Deb said that a company already does this at a cost.

Deb recommended a visual component for the tool, such as process mapping using a black box. This is a common feature of other software she has seen, and is a particularly useful way to get a cross-functional team thinking about materials flow and use. A visual component also helps a company to see relationships among materials and energy use.

Jeff suggested that NEWMOA seek advice and input from financial accountants. It could be useful to learn what information they need to identify/endorse process changes.

Including benchmarking (e.g., energy index) was recommended as a useful model that is working elsewhere. NEWMOA could be a portal to benchmarking companies' efforts at pollution reduction. Graphs showing performance in comparison to others in the same industry can be a big hit.

The group discussed whether the tool should be a desktop application or an online program. Web-based tool offers broader use, but privacy issues need to be addressed. Some companies won't use web-based tools because of privacy concerns.

One recommendation was for NEWMOA to develop a desktop application with a mechanism for sending in reports for comparison to other companies (benchmarking).

Gil said the best approach is to start rough and broad, and then identify areas for drilling deeper. He also said that before the tool is designed it is most important to be clear on what is the problem to be solved, and for whom the tool is to be designed.

Shelly summarized the problem to be solved as the following: Facilities are using more materials than they need. Why aren't they pursuing opportunities to save money and benefit the environment when resources are out there to help them do this?

She advised thinking about behavior change as a four-step process: 1) awareness, 2) understanding, 3) acceptance, and 4) behavior change. The EMFACT Project will deal with awareness up to acceptance (the "Ah ha!" moment) but may not result in much behavior change.

Terri said the project has funds for training and support after development, for a period of time. Several group members said that service providers could do some ongoing support. NEWMOA could follow a model similar to the US Green Building Council. It developed a rating system for certifying green buildings that service providers use with their clients but it does not work directly with builders.

Lucy proposed that tax incentives be offered to companies that track materials and energy flow.

Survey of Companies

Rick presented a draft survey that he is working on to send out to Massachusetts companies and TURPs to find out more about what they are currently doing related to materials and energy tracking and related costs and what tools they would be interested in to support their work. The group provided Rick with a number of suggestions and comments on the draft survey:

- develop an electronic version that is easy to complete and includes pick lists that the respondent can quickly choose; disseminate electronically
- be clearer about what the resulting report will focus on and what is to be learned from the survey
- keep it short and easy to complete
- give them more of an incentive to complete the survey
- design the survey so that the results can be electronically compiled in a database and more easily analyzed and presented

Rick is planning to take the lead on implementing the survey and compiling the results. He will prepare another version of the questionnaire for the group to review.

Next Steps:

- Talk to George Cushnie, NMFRC
- Look at NMFRC and other Compliance Assistance Centers

- Refine questionnaire, get out to Advisory Group for review
- Plan Web conference on the UTC system
- Send out options to Advisory Group to get pulse on direction
- Examine whether tool could be part of CA Centers or P2Rx
- Develop detailed workplan with milestones