

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL FINANCIAL ADVISORY BOARD

JUL 18 2003

Honorable Marianne L. Horinko
Acting Administrator
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Administrator Horinko:

The Environmental Financial Advisory Board (EFAB) is pleased to provide you with its findings and recommendations regarding *Environmental Management Systems*. The Board's work was led by its Cost-Effective Environmental Management Workgroup, chaired by Michael Deane. In particular, the Board would like to recognize the excellent work of Jim Horne in the Office of Water and Bonnie Barkett of the San Francisco regional office.

Over the past several years, the EPA has done remarkable work in encouraging regulated entities to develop and implement formal environmental management systems (EMS). From the development of its EMS position statement and implementation policy to its participation in national and local conferences and its ever improving web site, EFAB commends the Agency's efforts.

On November 8, 2001, EFAB co-sponsored, with Office of Water and Region 9, a workshop on EMS designed to examine the possible financial implications of adopting an EMS. The Board wanted to find out what the link is, if any exists, between EMS implementation and improved financial performance. The workshop convened two panels of experts from the financial services industry (public and private) to discuss their experiences with implementing an EMS. The workshop explored whether or not the financial services industry considers EMS and EMS certification as a factor in its decision-making; if so in what way(s) is this occurring and, if not, what measures, incentives or other factors might encourage organizations to take EMS into account? The workgroup developed a detailed summary of the workshop and a copy of this summary is enclosed for your convenience.

The Board believes that when an EMS is properly implemented (including the ISO 14001 model), organizations have the potential to improve their corporate image, realize financial savings through improved efficiency, achieve a competitive advantage, and improve environmental performance. While there have been a few examples of positive responses from the financial community, the EFAB workshop illustrated the need for continuing and expanded dialogue to help educate financial representatives on the specific benefits to public and private organizations of EMS implementation. To this end, EPA's Office of Water, as part of its Public

Entity EMS Resource Center (PEER) Initiative, recently sponsored a two day workshop at the Wharton School of Finance at the University of Pennsylvania. This workshop featured presentations by several public entities that have developed EMSs and various representatives of the financial community. This workshop made it clear that the level of understanding of EMS benefits by the financial community is increasing. We understand that EPA hopes to help increase this understanding through continued communication, and we applaud this effort. There were other common themes found throughout the summary of information that was gathered and we enclose those findings along with the Board's recommendations.

We hope that you will find the recommendations constructive and useful. The Board is prepared to take any follow-up actions that are consistent with its charter. The members of EFAB appreciate the continuing opportunity to advise and assist EPA on important priorities. If you would like to discuss our findings and recommendations in more detail, we would be happy to meet with you and/or other members of Agency management you deem appropriate.

Sincerely,



A. Stanley Meiburg
Executive Director

Enclosures

cc: Stephen L. Johnson, Acting Deputy Administrator
Tracy Mehan, Assistant Administrator for Water
Linda M. Combs, Chief Financial Officer
Joseph L. Dillon, Comptroller
Jim Horne, Office of Water

Findings and Recommendations from the Environmental Management Systems Workshop

Findings

1. Environmental performance is a good proxy for general management quality.
2. Environmental management is a big challenge for corporate management. The environment and environmental performance have significant impacts on corporate financial performance.
3. EMS implementation does not have a direct influence with bond rating agencies' assessment of organizations.
4. Third party certification/verification is very important in establishing credibility with regard to EMS implementation.
5. The Socially Responsible Investments area is more concerned about EMS. Although the financial services industry is beginning to understand the benefits of EMS, the main barrier is the investment advisor's fiduciary responsibility to maximize investment returns.
6. There is yet little systematic data regarding implementation of EMS and few objective analyses of the performance of organizations that have implemented EMS.
7. It is difficult for the financial services industry to determine benchmarks that would establish value for EMS implementation since such implementation is voluntary and very sporadic among regulated entities.
8. There have been some instances in which the insurance industry has recognized the risk management benefits of EMS implementation and therefore provided financial benefit to the implementing entity. However, in general, there is no recognition of any direct financial benefit from EMS implementation by public or private entities.
9. Comprehensive national data on EMS is lacking. Compiled information that does exist focuses on operations and compliance rather than financial and business strategy.

Recommendations to EPA

1. EPA should partner with environmental trade and industry organizations to develop materials and conduct workshops for development and implementation of EMS in the water industry.
2. EPA should provide incentives to regulated entities that implement proven, cost-effective EMS (e.g., point savings in SRF loans).
3. EPA should monitor existing pilot programs for results and try to identify direct financial benefits.
4. EPA should prepare case studies of tangible examples of the value (financial benefits) of EMSs and the relationship between EMS and finance.
5. EPA should support and promote third party evaluation and certification of EMS.
6. EPA should support development of a national database that provides sufficient data for benchmarking the financial value of effective EMS.

**ENVIRONMENTAL FINANCIAL ADVISORY BOARD
COST-EFFECTIVE ENVIRONMENTAL MANAGEMENT WORKGROUP**

EMS Public Meeting

**Ariel Rios Building
Washington, DC
November 8, 2001**

TOPIC: What is the nature of the link, if any, between EMS implementation and improved financial performance?

QUESTIONS TO BE ADDRESSED

1. What is the Financial Services Industry (FSI) doing, if anything, in considering EMS/certification as a factor in decision-making?
2. If the industry is taking EMS/certification into account, in what ways is this occurring?
3. If the FSI is not considering EMS/certification at all or only tangentially, why not and what incentives or other factors would encourage them to take EMS into account?

DETAILED SUMMARY NOTES

Introductory Remarks

Stan Meiburg, EFAB Executive Director

- gaveled the meeting to order
- good morning and welcome
- described roles and responsibilities of EFAB
- solicited written statements from panel members

Jim Horne, EPA Office of Water

- has been working on the relationship between EMS and finance for years
- actively working with public agencies and with OECA and OAR
- Agency is more active in this (EMS) area now and is working smarter
- believes EMSs are applicable beyond big industry to areas such as agriculture
- The purpose of today's meeting is to facilitate a discussion about EMSs, not set policy.

Michael Deane, Chair, EFAB Cost-Effective Environmental Management Workgroup

- The role of the Board/Workgroup is to provide advice to the Agency on finance-related issues.
- outlined past and ongoing activities of the workgroup in looking at both private and public sector cost-effective initiatives
- placed today's discussion in the context that work

Erik J. Meyers, Environmental Law Institute

- The environmental community does not have much interest in EMS and is not very aware of it.
- EMSs are process-oriented. Environmental groups are interested in performance, not process.
- The environmental community associates EMSs with voluntary initiatives -- skeptical.
- "Think Tanks" are interested in EMSs as a public policy tool.
- There has been some environmental interest in EMSs from WRI, EDF, and the WWF (international part).
- Multinational companies use EMSs as a tool for continuous improvement.
- He sees EMSs as an effective tool for improvement, but stresses the importance of verification with regard to EMS implementation.

Jack Greer, Moderator

Director, University of Maryland Environmental Finance Center

- Kudos and thanks to USEPA for hosting the meeting
- views EMSs intellectually in three parts -- environment, management, systems
- breaks today's discussion into 3 main parts -- public sector panel, private sector panel, and roundtable discussion

EMS and the Private Sector

Frank Dixon, Innovest

- Traditional environmental issues are not relevant to management except where a big problem exists.
- Environmental performance is a good proxy for management quality.
- Environmental management is a big challenge for corporate management.
- The environment has a big impact on corporate financial performance (both on the upside and the downside).
- Companies that have done better environmentally have outperformed the market.
- Increased transparency via the Internet is opening company environmental records to increased scrutiny.
- There is increased awareness among investors of the importance of environmental management.

- The Socially Responsible Investments area is more concerned about EMSs, but the mainstream investment community considers it less.
- The FSI is beginning to change (improve), but the main barrier is the investment advisor's fiduciary responsibility to put profit first.
- A major problem is that EMS data quality is not good.

Q (J. Horne): What factors in EMS certification interest senior managers?

A: How it is implemented. Managers believe third-party certification/verification eliminates worry about bias.

Q (R. Wells): Does the positive correlation between environment and financial performance only apply to an up market?

A: No, it applies in a down market too.

Peter M. Lanahan, Con Edison

- Managers said they only get environmental questions when they have a problem.
- There is no direct relationship between EMSs and bond ratings at Con Edison.
- An EMS was forced on the company in reaction to a negative court decision.
- The EMS developed was tied to traditional due diligence work.
- Environmental health and safety work was a key part of the EMS.
- The company developed environmental procedures for all work options (extensive guidelines).
- A risk management program and a rigorous auditing program were important parts of the EMS.
- To succeed in these programs and activities, you need to change the company culture.
- The results of an EMS can be measured.
- Communications and management understanding are an ongoing challenge.
- You can avoid liability via an EMS.

Q (Jim Horne): Have you been able to use EMSs to open up other things beyond compliance?

A: The company began with compliance and then moved/evolved to risk identification.

Q (R. Wells): Is there feedback between the EMS and the management system?

A: Yes. It does really help the management system.

Q (R. Wells): How was the public involved in the EMS?

A: They were not involved in developing the EMS, but were informed about it.

Q (J. Greer): How were future risks identified?

A: By having people involved who knew the operations and environmental works

Amy R. Lasky, Fitch

- Ms. Lasky works on revenue bonds at Fitch.
- She was asked if EMS was a factor in the rating process. She answered that she did not know, and then asked, what was an EMS?
- Ratings Agencies look at the credit quality of bond issuers on behalf of investors.
- Over the past twenty years, water and sewer bonds have one of the lowest default and problem rates.
- This strong safe credit environment means that a single factor like an EMS is not likely to have much impact on water and sewer bond ratings.
- What she looks at in doing ratings:
 - 1.) legal provisions of the bond
 - 2.) service area
 - 3.) economy -- growth and development prospects
 - 4.) financial operations/rates
 - 5.) management (includes financial planning and environmental planning)
 - 6.) capital needs
 - 7.) Compliance with regulations/compliance problems
- The financial ability of bond issuer to meet long-term costs/needs is an important consideration (involves capital planning).
- She sees management as the primary area for possible use/integration of EMS.
- EMSs are voluntary, a negative.
- EMSs are a very pro-active management commitment and to the extent they are cost-effective would be credit positive.
- Management is the main area for the possible use of EMSs (in credit considerations).

Q (J. Greer): What if the EMS is not cost-effective in the short-term, but is in the longer term?

A: It depends, but we do have to weigh the financial ability of the issuer to meet both short- and long-term costs/needs.

Q (E. Meyers): When you are developing information on management factors, can you tell us how you do that research?

A: It is a combination of things. We rely on engineering, financial and planning reports and information but our research is heavily weighted on financial factors such as capital plans, the cost of programs, debt, and rate increases.

Q (J. Horne): What is the viability of integrating management systems under the umbrella of the traditional EMS framework to bring in capital and financial planning (including capital assets) with traditional risk management and environmental compliance. Our colleagues in the water industry are facing a real challenge in dealing with the large costs of sanitary sewer overflows and we would like to see if this integration concept could help.

A: Moodys recognizes that environmental concerns can have a huge cost impact in cases such as the one described.

Q (J. Petersen): Quantitative analysis, the traditional government cash flow analysis does not seem to explain much relative to credit risk, but a qualitative emphasis on good management does. Political culture is also a factor as it impacts the management system. Are policy issues more important in a qualitative determination, because they are generally reflective of the management and community take on things?

A: Yes.

John Thorne, Capitolink

- Capitolink is a lobbying group and policy development think tank.
- Capitolink EMS work has focused on Agriculture non-point source issues with the United Egg Producers (318 entities)
- They have worked with USEPA through Project XL to develop their model.
- EMS plays a critical role in moving the egg industry from a non-regulated to regulated.
- The EMS approach has allowed the industry to self-direct environmental policies/goals.
- The industry's overall permit process has been tied to a continuous improvement process with a third party audit.
- The EMS concept is very new to agriculture.
- The EMS presentation to agriculture has to be simplistic, bottom line-oriented, talk about the benefits, and minimize the use of jargon.
- They cannot be an ISO 14000 modeled EMSs, but must be based on minimum critical management programs everyone agrees to up front.
- They must be adaptable to local conditions and the differences between hogs, dairy, poultry, and beef.
- EMSs won't work if they are one size fits all in agriculture.
- Farmers have a keen eye on the bottom line and if you show them something that will get to greater profits, they will run with it.
- List of areas where they think the EMS will help:
 - reduce accidents,
 - improved cost controls
 - improved food safety
 - improved public relations
 - improved regulatory status (qualify for one general permit)
 - smaller environmental footprint
 - improved employee morale
 - reduced liability
- Insurance company has already given a 20% reduction in premium costs to producers taking part in the program.
- The EMS should be a cookbook for addressing environmental and societal issues.
- I view the EMSs as a long-term permanent solution for the egg industry.
- Capitolink is also helping to develop a risk model/platform for livestock and poultry facilities to help with dealing with underwriters, bond rating agencies, etc.

Q (J. Greer): What is the difference between Best Management Practices (BMPs) and EMSs?

A: BMPs are a simple form of standard operating procedure. EMSs are structured ways of using BMPs in a systematic manner to meet bottom line business plan needs and to address social concerns.

Q (S. Meiburg): As the agricultural shakeout leads to consolidation and franchising in the industry, how are the integrators (the franchisers) getting involved.

A: The big corporate entities are developing EMSs that are ISO 14000 compliant, while their

(smaller) contract farmers are focusing more on BMPs.

Q (S. Diefendorf): In California, wineries and vineyards implementing EMSs are finding that they are helping to produce a better product. Do you see this in other agricultural endeavors

A: At one farm they were implementing BMPs to control dust by misting systems in an area that they were raising animals and found that there was a reduction in veterinary calls for respiratory problems and that animal weight gains were recorded. He doesn't know that it was just due to dust reduction and doesn't think they have proven that.

Q (P. Lanham): Is the statewide permit available in all states? Is the process self-regulation?

A: It is an alternative for states who are in the process of adopting new regulations for large feedlot and livestock operations. It is not self-regulating. The EMSs are non-regulatory, self-imposed structures following certain guidelines. They are audited by a third-party. To qualify for the state-wide general NPDES permit they must apply and send in the third-party audit report.

J. Horne: The challenge that we all face is to move beyond BMPs to a larger, better integrated system that will ensure that they implemented and communicated effectively.

Q (E. Meyers): There seem to have already been some insurance benefits. Given the capital-intensive nature of the industry, have there been any impacts among lenders recognizing the efforts (through reduced costs).

A: Not yet, it is too early.

E. Henry: The commercial bank traditionally requires a low level of environmental due diligence. I could envision that once a (EMS-type) certification program is in place it would also be acceptable to the bank once it established a track record of success.

EMS and the Public Sector

S.E. Kiner: I just wanted to call everyone's attention to the National Academy of Public Administration's (NAPA) study which examines the third party certification system approach. Our findings indicate that this approach is developing in the right, but it still has a ways to go before it matches certifications that exist in the financial arena.

J. Horne: This was a study of the ISO 14000 registration system.

John B. Cook, Charleston Commission of Public Works

- He works for a public water and wastewater utility serving 400,000 and employing 400.
- They looked at the ISO 14001 system to become a best-in-class utility -- seeking better public health and environmental output.
- The utility was and is looking for continuous improvement and better service.
- They started with the water distribution system because it was a well-defined area.
- ISO 14001 is a goal-oriented model. It examines how jobs relate to the environment.
- Some findings/observations:
 - improved training critical
 - risk reduction/reduced liability embedded in all work
 - corrective action plans are a key
 - performance improvement targets
 - must develop SOPs for all processes (reduces variability)
- Important goal: optimization of all technical processes and outputs
- Important aspects of the EMS:
 - quarterly compliance self-assessments
 - monthly internal audits
 - quarterly management meetings
 - monthly operating reports
 - periodic legal/regulatory requirement reviews
 - documentation
 - vibrant maintenance program – leads to robust operations
70% preventive, 30% corrective
 - training, training, training
 - third-party registration route is a key factor.
 - emergency planning is a critical component.
 - capital improvements program important
- The incentives to adopt the system have been 100% intrinsic and 0% external.
- Rating agency did not care about ISO 14001 certification and did not know what it was.
- There was no State agency interest either.
- Given this lack of interest, there is a need to quantify the tangible economic benefits associated with no problems or the effect of implementing EMSs.

Q (J. Greer): It seems that compliance was not driving the utility, but rather efficiency improvements and tangible financial benefits. Is this accurate?

A: Yes, but it sure would be nice if the regulators were to give some benefits recognizing our efforts financial (say 50 basis point savings in SRF loans) or otherwise.

Q (M. Deane): Have you approached your insurance carriers seeking credit for your EMS/ISO 14000 certification?

A: No, but that is a good question. Our insurance is tied to a subsidized state program where all participants in the pool pay the same inexpensive premiums.

Q (S. Diefendorf): Do any EMSs actually incorporate the cost savings/risk avoided into a company's financial statistics.

A (J. Thorne): ConAgra has a corporate-wide sustainable development council that empowers managers and employees to develop (EMS) procedures that make improvements. ConAgra has documented huge dollar savings over the past seven years in this effort.

R. Wells: The national database on EMSs is disappointing. The information is operationally focused and compliance focused, but not business (financially) focused.

F. Dixon: It is often difficult to quantify the benefits of environmental performance. Only the very best organizations are able to do so to any degree of success.

Mary T. Francoeur, Moody's Investors Service

- Over the past twenty years, they have seen two water and sewer trends:
 - 1.) increase in water quality; and
 - 2.) increase in credit quality (for bonds).
- They believe the two trends are related.
- The Rating agencies have been moving away from a pure financial ratio analysis to looking at credit quality on a systems basis (which determine real quality).
- They are trying to give more attention to environmental compliance and capital programming.
- But, debt service coverage ratios are still important.
- Recognize that finances are a function of public policy choices/decisions.
- The rating agencies have found that management issues are very important.
- The capital improvement program is a key management issue.
- She accepts that tools such as EMSs/GASB 34 are ways to capture some of the needed information.
- She will not advocate an EMS because of costs, but will talk about important EMS issues.
- Any additional disclosure/information is good.
- Standardization of EMSs would help.
- Regarding environmental compliance, they try to put orders and consent decrees in the proper context.
- Good management is very important in all this, since confidence in management is also key.
- One area that EMSs might be particularly important is with regard to project financing of specific parts of systems.
- She believes that EMSs would/could/will play a more important role in project finance.

Q (J. Greer): Can you ever have too much information?

A: Sometimes there are information overloads, but not often. Our job is to sift through all of the information. As analysts, we get to know a lot about our issuers over time.

Q(audience): Can we assume that in looking at a utility, the rating agency analyst reads audits, consent materials, NPDES permits, etc.?

A: Yes

Q (J. Horne): I am glad that your answer to the last question was yes. Would you also be interested in examining specific cost savings?

A: Yes, but they would usually only be important at the margins. They are an outgrowth of a strong/good management team. Hopefully such information would be captured more generally.

John Petersen, Government Finance Group

- First thing that we must understand is that we are dealing with markets.
- Private investors have an interest in the economics of good government and enterprise especially vis a vis debt obligations.
- Standards and how they become important to financial markets is a key point.
- For example, government audits and government accounting standards exist because of one thing, a program begun in the 1960's by the federal government known as revenue sharing.
- Strong private accounting systems exist because of two things: 1.) companies sell securities to the public, and 2.) they pay corporate income taxes.
- We should have more appreciation of the value of efficiency improvements.
- This is true in the debate on standards for government audits and even in GASB 34.
- Emergency and disaster response are even more vital now. Plants must be protected.
- Thoughts on GASB 34:
 - its handling of depreciation and the treatment of fixed assets will show governments running a deficit
 - it will be a vehicle by which politicians will be forced to focus on asset replacement

Q (G. Ames): What is the relationship of EMSs to GASB 34?

A: The tie together within the overarching concern about efficiency. We are entering a new fiscal climate will require cuts and new efficiency drives, particularly at the state level.

Michael Sweeney, Louisville & Jefferson County Metropolitan Sewer District

- The District is a sewer, stormwater, etc. utility.
- It manages treatment, pre-treatment, natural restoration, hazardous materials/waste, and biosolids production and sales, and .
- It also runs an environmental education center and uses an advanced GIS.
- The utility first got involved in EMSs when the CERES principles were signed in 1990.
- These principles supported self-audits, transparency, a compliance focus, energy efficiency, and purchasing efficiency.
- The utility's EMS is part of their strategic business plan.
- Their total debt now exceeds \$1 billion, but its debt service ratios are still manageable.
- The utility stresses full disclosure of information.

- They are doing an EMS to ensure the optimal use of resources and responsibility.
- They benchmark their operations, run an information clearinghouse, participate in industry initiatives such as QualServe, and actively participate in peer review activities.
- The utility has an aggressive program to upgrade, improve, educate, and reinvest.
- They do believe that some regulatory refinement/improvement is needed to provide more consistency with regard to the environmental standards against which they are judged.

Billy G. Turner, Columbus Water Works

- I work for a water authority that serves 200,000 people in a consolidated city-county government.
- We have kept rates low and won a lot of awards over the past five years.
- I want to talk about where the water and wastewater industry is at right now. How does the industry view EMSs? The EMS focus is more on public acceptance than on financial improvement.
- The EMS for biosolids is being developed with public involvement.
- Competition in the industry has led to improved management over the past 10-15 years.
- QualServ is a peer review self-assessment developed by the AWWA.
- The industry has had to struggle with the fact that there is no industry data base and no standard accounting system.
- EMS offers the potential to capture a lot of valuable needs (integrate management improvement, financial improvement, etc.)
- Need: third-party evaluations and a good data base
- Utility highlight: achieved energy savings through automation, \$200,000 investment saves \$ 250,000 every year

Working Lunch

Richard P. Wells, The Lexington Group

- impressed with the presentations and perspectives that he heard in the morning sessions
- EMSs and ISO 14000 are tools.
- They reward up front effort in the design phase and good maintenance.
- They need to be integrated with other business tools.
- Perhaps the most important factor is the skill and commitment of the people who implement the EMS.
- EMSs: How can you tell a good one? What is an EMS?
- Characteristics of the ISO 14000 model:
 - 1.) engages senior management;
 - 2.) uses a process to identify how the organization relates to the environment;
 - 3.) prioritizes;
 - 4.) plans - assigns people and resources;
 - 5.) stresses continuous improvement;
 - 6.) trains staff to develop an environmental culture;
 - 7.) maintains an emergency management plan(s);

- 8.) measures and monitors environmental performance;
- 9.) reviews performance; and
- 10.) documents.
- The organization can use ISO 14000 to truly transform itself or just to get certified.
- EMSs are good for achieving reliable consistent performance, but they are not so good for promoting creativity.
- How do you tell what is a good EMS? Answer is deep commitment.
- Seven habits of a good EMS:
 - 1.) strong senior management involvement with staff involvement/cultural transformation;
 - 2.) well thought through policy (linking environmental policy to business objectives;
 - 3.) significant criteria – risk reduction, savings, image;
 - 4.) objectives and targets tied to business;
 - 5.) performance measures, transparency, external reporting;
 - 6.) emergency preparedness and response plans; and
 - 7.) frequent and serious management reviews with a consistent format. This last habit is a springboard to follow-up and improvement.
- Finally, remember that you get what you pay for in an EMS.

Q (J. Thorne): I have consistently encountered opposition to EMSs over the years and have been told that they are sellouts vis a vis compliance. Is that right or why is that?

A: There has been a lot of miscommunication about EMSs. EMSs were oversold when they first came out. EMSs are good things, but they are not the be all, end all.

Q (J. Horne): Are EMSs relevant to all? I did not think so when we started, but I feel better now as you seem to be saying things that indicate they do or can.

A: A lot of my experience comes from working with small companies. I know of companies with as few as three employees that have been ISO 14000 certified.

Q (E. Meyers): What is the hardest thing for EMSs to get right?

A: Probably getting middle management buy-in.. It is much easier to get the buy-in of top management and the line workers.

S. Meiburg: When first introduced, EMSs got tangled up with two things -- audit privilege and the either EMS or regulatory enforcement issue. I think we have gotten past this now.

R. Wells: Do not look only at certification as needed to make EMSs worthwhile. Do look for a good EMS and understand that good companies use them and incorporate environment in their thinking.

EMS Roundtable Discussion and Wrap Up

J. Greer: We have been exposed to a lot of interesting information during the day there are many questions that one might have. One that I might suggest is getting us back to our original question: What is the relationship between EMSs and the financial community?

J. Horne: USEPA is slowly but surely moving to a new phase that moves beyond promoting EMSs on a voluntary basis to integrating them into the fabric of what we do in our regulatory framework. For some sectors EMSs may be a reasonable alternative regulatory approach. I am also interested in devising appropriate third party oversight.

M. Deane: EFAB and the Cost-Effective Environmental Management Workgroup are interested in how EMSs help to maximize performance and want to find the financial service nexus between EMSs and business. Personally, I have not yet put the EMS picture together yet and am looking for the next step and/or information.

Q (J. Thorne): What kind of information would you like. We will try to provide whatever data you want.

A (J.Horne): We need tangible examples of the value of EMSs and the relationship between EMSs and finance. We even welcome anecdotal examples if that is all there are.

Q (S.Diefendorf): There are a lot of different EMSs. Standardization is needed. Would it help the rating agencies?

A ((M. Francoeur): Bond rating agencies look at a lot of factors. EMSs will not be a ratings determinant.

Q (P. Lanaham): Doesn't the company/issuer have an obligation to present its case to the ratings agency?

A (M. Francoeur): Yes.

Q (E. Meyers): Is it more likely that as EMSs are used more, that rating agencies will rate those who don't have them lower?

A(A. Lasky): Yes. But this is not always a good thing. It may crowd out other valuable information tools.

Q (J. Greer): Is there a way that you would rather hear the question?

A (A. Lasky): The bottom line is the rating agency's confidence in management. The impact of an EMS on a highly rate water system's credit is likely to be minimal.

Wrap up

R. Berringer: Struck by the large numbers of companies (organizations) that have gone beyond compliance for no recognition. Maybe EFAB should look at the economics of the firm.

B. Turner: I would like to see EMSs function as a different type of permit.

J. Horne: I am interested in EMSs and the public sector and non-traditional sectors.

E. Meyers: There is a need to make the business case for EMSs.

M. Francoeur: Dialogue helpful... it allows Moody's to learn and explain its own role.

A. Lasky: EMSs impact likely to small for water systems

M. Francoeur: EMSs are already captured through strong management quality

R. Wells: Don't oversell EMSs, they are one factor like having an automated accounting system.

E. Henry: Even presupposing that you find some linkage, it will have to have value. It probably will only have incremental value. Companies must sell rating agencies/lenders on the value of their EMSs unless it is required by government regulators. The first step must be taken by the companies themselves.

M. Deane: Thanks to all, especially Jack Greer, our moderator. EFAB now has the challenge to carry this discussion further and craft a product for USEPA.

S. Meiburg -- At this point, he gaveled the meeting closed.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

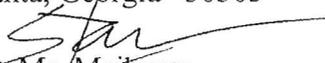
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REGIONAL ADMINISTRATION

Mr. A. Stanley Meiburg
Executive Director
Environmental Financial Advisory Board
61 Forsyth Street, S.W.
Atlanta, Georgia 30303


Dear Mr. Meiburg:

Thank you for your letter of July 18, 2003 to Acting Administrator Marianne L. Horinko concerning the findings and recommendations of the Environmental Financial Advisory Board (EFAB) Cost-Effective Environmental Management Workgroup. My office was pleased to co-sponsor the workshop held by this workgroup on November 8, 2001, to examine the possible financial implications of adopting environmental management systems (EMS).

There is now clear evidence that adoption of effective EMSs by various organizations, including public entities, can result in better environmental performance, improved compliance, and reduced operating costs. At the same time, certain organizations are beginning to see direct financial benefits such as improved bond ratings and reduced insurance premiums, due in part to EMS adoption. This fact was reinforced at another workshop co-sponsored by my office in January 2003 at the Wharton School of Finance at the University of Pennsylvania. A summary of this workshop is enclosed.

My office continues to play a major role in promoting EMS adoption with public entities, especially local governments. We have worked directly with approximately 30 agencies around the country since 1997 and have also designated 8 organizations as EMS Local Resource Centers to better serve the needs of local governments around the country. One of these Centers is located at Georgia Tech University, and I hope you will take the time to become better acquainted with the services they offer. More information about Georgia Tech's program can be found at www.peercenter.net.

One of the challenges facing the Environmental Protection Agency as we continue to promote EMS adoption across a full range of programs is to demonstrate the tangible costs savings and other financial benefits, in addition to the clear environmental benefits that these

systems are fostering. I look forward to working with you and other EFAB members to help address this challenge through ongoing dialogue with the financial community and other partners.

Thank you for your continuing leadership in this important area. Please feel free to contact me or Jim Horne in the Office of Wastewater Management at (202) 564-0571, if you have any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Tracy Mehan, III". The signature is fluid and cursive, with a large initial "G" and a long, sweeping tail.

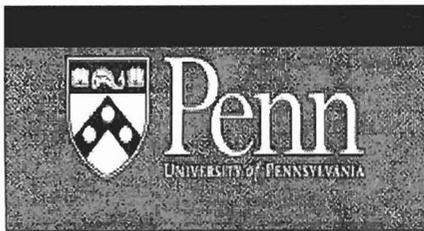
G. Tracy Mehan, III
Assistant Administrator

Enclosure

Summary of
Environmental Management Systems (EMS)
and Financial Incentives in the
Public Sector Workshop

January 29-30, 2003

At the University of Pennsylvania



This effort is co-sponsored through a cooperative agreement between:



United States Environmental Protection Agency

and

University of Pennsylvania Institute for Environmental Studies

University of Pennsylvania Risk Management and Decision Processes Center

Global Environment & Technology Foundation

Summary of

ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) AND FINANCIAL INCENTIVES IN THE PUBLIC SECTOR WORKSHOP

January 29-30, 2003

At the University of Pennsylvania

This workshop was held at the University of Pennsylvania and sponsored by the US Environmental Protection Agency, the University of Pennsylvania Institute for Environmental Studies, the University of Pennsylvania Risk Management and Decision Processes Center, and the Global Environment & Technology Foundation. The goal of the workshop was to identify relationships and benefits between entities in the public sector that implement environmental management systems (EMS), including ISO 14001, and the three “financial communities” (i.e. insurance, bonds, and investments/access to capital).

Case studies were presented to demonstrate linkages between EMS and the respective financial community. The Port of Houston identified the positive experiences they had with their insurance carrier through their EMS efforts, the readiness to respond to risks as a part of their underwriter review and the potential for significant insurance savings as well as other costs savings. Jefferson County, AL also presented the benefits accrued through their application of an EMS, costs savings from EMS, and potential savings for a significant bond rating increase for a 2 billion dollar bond for their wastewater treatment plant partially due to the EMS. Both public entities made the transition from compliance issues to model national organizations meeting and exceeding compliance requirements through the EMS application. In fact, Jefferson County is now on EPA’s list of recognized performers as a Performance Track member. Representation from the other stakeholder groups included an array of state and EPA officials as well as

representatives from the financial communities who play an important role within their organizations in terms of potential linkages between EMS and financial instruments. Listed below are the key findings from the workshop and suggested next steps. A workshop agenda and list of attendees is attached.

Key Findings

1) ***The use of EMS by public entities is growing and has established itself as a valuable tool for environmental protection.***

A small but growing number of public entities (municipalities, counties, authorities) have adopted an EMS and have begun to see the benefits from having systematic management processes and procedures in place. Several participants voiced the opinion that EMS are here to stay and are in the process of becoming a significant tool in reducing environmental risks and liabilities. One government official indicated that EMS is sufficiently institutionalized to transcend political party changes. Another participant observed: “EMS transform environmental talk into management action.”

One Penn researcher pointed out that his research on the private sector has shown that “verifiable, credible” environmental results lead to better overall organizational performance and that in the long run these results influence financial institutions. The full degree to which EMS contribute to these improvements is not known, although there are some current studies to address that relationship. Several participants suggested that further data be collected and assessed to determine the extent of the relationship between application of an

EMS, impact upon risks and liabilities, improvement in the public entities' overall operating and financial performance, and the potential for beneficial treatment by financial institutions.

Several participants noted that EMS has certain overlooked limitations and potentials. One participant from the financial community observed that most losses come from past practices and it needs to be shown how EMS would address that issue. For example, it was noted that the once legal disposal of hazardous waste now results in tremendous liabilities. Although little can be done to correct for past issues, EMS can employ strategies to mitigate further liabilities from past practices and to identify potential problems with current legal practices before additional legal requirements or liabilities are imposed.

2) **The Financial Community needs more specific, targeted data showing that EMS results in quantifiable risk reductions**

Financial community members made it clear that EMS has the potential to significantly and favorably impact their decision-making processes. Almost all the attendees from financial institutions, however, acknowledged that they need time to become more comfortable with EMS and, more importantly, they must be shown considerably more data regarding actual risk reductions before they can quantify specific cost savings or benefits (e.g., insurance premium savings, favorable bond ratings and loan conditions). However, even without risk reduction data, the presence of an EMS can be a positive factor in the financial community's overall evaluation of a public entity if the public entity's

management shows a commitment to fully utilizing the EMS (e.g. document controls, defined procedures, consistent compliance, etc.). Suggestions were made that a “crosswalk” be undertaken between criteria used and made available by the financial institutions against the EMS criteria for conformity and differences. Such an effort would help to better characterize the risks and opportunities for favorable treatment by the financial institutions to the public sector as a direct result of EMS implementation.

Attendees also emphasized the importance of “outcomes” that are linked to quantifiable risk reduction, not just having an EMS in place. EMS must be presented to the financial community in the right form in order to influence decision-making. There seems to be a need for much more work to bridge the gap between the information financial institutions need to understand risk and the data that public entities collect to support EMS and ISO 14001 certification. (This is made somewhat more difficult since the specific formulae used by financial institutions for evaluating risk continue to evolve and may be proprietary. It was recommended that further discussions take place with individual financial institutions on how to overcome the availability of data or utilize what is available.)

The bond community noted that in making its decisions on revenue bonds for a public entity it considers factors such as: regulatory risk, construction risk, new technology, system size, competitiveness of rate base, local economic and demographic wealth indicators, governance, quality of management, strategic

focus, rate structure and financial ratios (e.g., debt coverage). Bond ratings are, in a sense, a ranking of risk. At least one participant stressed that a public entity's track record with environmental regulators is very important in setting the rating, and that environmental compliance is often considered a minimum requirement for a favorable rating. EMS is often referred to as a means to move "beyond compliance," or to insure that compliance is met. The participants from the banking community observed that current awareness of EMS in the banking community is not high (note that only about 50 of 7000 banks have an environmental department). It was also noted that Europe is generally ahead of US on recognition and implementation of EMS and environmental applications and that, in general, both loan officers and the banks' regulators (e.g., FDIC, OCC) need to be educated. More effort could be made by the regulatory community to help educate on EMS and better demonstrate the linkages between EMS, compliance, and risk reduction.

More specific information on the ability of EMS to reduce risk is needed to increase the acceptance of EMS by insurance companies. At least one insurance community representative pointed out that certain coverages are significantly increasing in costs, and that a public entity needs to show a decrease in risk or face an increase in insurance premium. Therefore, EMS can be an important "driver" or tool to accomplish the needed risk reduction. Two questions then arise: 1) Can the level of risk reduction from an EMS be quantified to the satisfaction of the financial community? and 2) How can we best accomplish that

effort? To be fully useful in standardizing decision making by the financial community, it was felt that such measurements may need to be documented within individual agency “sectors” rather than for all public entities, generally. Case studies were suggested. Attendees also recommended that the EMS drivers be fully identified through this type of workshop and that other outreach opportunities be identified within the financial, regulatory and academic communities to increase public awareness. Within the insurance sector, there was the belief that an “EMS would more likely induce insurance firms to grant additional coverage rather than to reduce premium.”

3) **Public entities need to show quantifiable benefits in order to gain management support**

Public entities need incentives, especially financial incentives, to be convinced to adopt EMS. The cost of implementing an EMS (relative to the quantifiable savings) concerned several participants. The documentation of costs and savings generated by EMS needs to be greatly improved and the results must be communicated to all stakeholders, including public entity executives and elected officials. Several participants mentioned that there is evolving documentation with regard to energy savings, reduced materials usage, better compliance, and improved management. Others suggested that although the cost of developing an EMS may seem high, the cost of EMS development and implementation in the context of total environmental expenditures (capital improvements, operations and maintenance, and regulatory compliance) is minimal, and quite cost effective.

It was also noted that statistics from the private sector show that if process management is in place, the cost of EMS implementation is much lower. One public entity representative claimed that their experience in having an EMS has shown considerable internal benefits including employee motivation and empowerment, lower risk, greater environmental stewardship, and an estimated 5-10% increase in operating efficiency. He also mentioned that having an EMS could result in the public entity feeling comfortable with an increase in their insurance deductible, thereby reducing costs further to the public sector. Further documentation along this area should be gathered since any entity with an EMS that feels “comfortable” accepting a higher deductible is quite significant and represents important acknowledgment of risk reduction. There was general agreement that these success stories need to be fully documented across the country using a consistent methodology that would “make the case” for EMS to all stakeholders. Some monetary returns for environmental factors have been well documented, but too often these results are taken for granted or not fully developed in a consistent manner.

4) **Better education, communications, and marketing is needed for EMS to reach its full potential**

Participants generally agreed that better communication in all directions and between many groups is needed to increase the understanding and usage of EMS. This includes developing opportunities for consistent, on-going communication between the government, public entities, and the financial community so that each

understands the other's needs and processes. Participants emphasized that a common language for EMS needs to be identified, a marketing approach developed, and the message kept simple.

Education is essential to the future success of using EMS. This includes education of the public (who is generally not very interested in environmental management intricacies), the financial community (who are interested in EMS and need more data on risk reduction if their decisions are to be influenced), and public entities (who generally would like to see documentation of cost savings and other advantages). There is need for more communication between EMS and financial communities for both to understand the other's needs and processes. The level of information exchange between and within the different financial organizations and sectors is weak, especially within the bond-rating sector.

5) **Government regulators need to continue to find ways to encourage public entities to use EMS and to continue to take a leadership role in advancing the relationships between EMS/ISO, financial, and environmental interests.**

Many attendees voiced the essential role of the government officials, not only environmental regulators at both the state and federal level, but also the regulators of the financial community. President Bush's January 2003 State of the Union address was referenced because he encouraged movement away from command and control and towards "technology and innovation." EPA and state officials also noted that government environmental regulators continue to encourage non-regulatory approaches, such as EMS, as important ways to meet the nation's

environmental goals. The use of EMS within Supplemental Environmental Programs (SEP) was “strongly encouraged” by one senior EPA official, recognizing that the SEP offers the opportunity to implement an EMS that helps public entities monitor its compliance with the laws. Further, the EMS provides the opportunity to use some of the penalties that would be collected by authorities to support a public entity’s EMS to better protect the public and the environment. This opportunity was recognized as a major step to link the enforcement/compliance program with the EMS effort, and to support the concept of reducing risks and liabilities. Data should be regularly collected through the SEP effort whether the SEP is applied to the public or private sector, recognizing that benefits would be similar.

Many questions were identified that would benefit from government leadership, including the following:

- Finding ways to merge EMS, financial, and environmental reviews to avoid duplication and increase overall efficiency.
- Examining the value of third party audits. Third party audits were mentioned by some invitees as being very important in verifying the implementation of EMS. It is believed that such certification could play a significant role in emphasizing the importance of environmental issues within an organization. One participant mentioned that the financial community sometimes does not accept third party audits and would rather depend on its own risk reviews.

One government official mentioned that approximately 65% of EPA Performance Track companies have ISO certification, and those with independent third party audits don't seem to have as many environmental problems.

- It was suggested that it would be very beneficial to have EPA review and approve specific EMS in addition to its current general support of the EMS concept. Government invitees agreed that this is not likely. There was considerable discussion by attendees of how do financial communities compare different EMSs, especially with the reality that not all EMSs are equally successful. This same issue was raised with third party auditors. How do we keep this process transparent and credible?
- Continuing to lead in the development of techniques and methods to standardize risk reduction documentation in an EMS.
- Determining what constitutes an acceptable EMS in terms that the financial community and the public can understand.
- Coordinating the interests of the various regulators: EPA (and state counterparts), Federal Reserve, FDIC, OCC, SEC. Expanding of the workshop with other organizations, especially regulators, was recommended.
- Continuing to expand environmental regulatory relief for public entities with EMS.

- Using academia as a resource for research. By virtue of its independent position, academia has an essential role in convening the parties from the various sectors, identifying the critical issues, conducting special research, and educating all parties on these issues.

Some Potential Next Steps

During the day and a half meeting, many ideas and viewpoints were expressed. At the end of the meeting participants identified “potential next steps.” The following are offered as a general sense of what the attendees noted were some of the most important next steps to take. It is by no means an exhaustive list but rather an attempt to highlight the strongest collective messages.

1) Assemble a working group of key representatives from the financial community, government agencies, and EMS practitioners to address the following needs:

- A strategy for increasing awareness, conceptual understanding, and ultimately support by the financial community of EMSs for risk mitigation. Present EMS in a “proof of concept” context that the financial community can easily grasp (e.g, linkages with traditional management systems such as ISO 9000, 6 Sigma, and Risk Management.)
- Defining, extracting, and compiling precisely what information the financial community takes into account in assessing applicant risks (e.g., EMS practitioners should be able to understand exactly what the financial community needs to see when assessing risk). Included in the analysis could be links between enforcement/compliance programs and EMS (how EMS

supports and strengthens compliance programs) in reducing risks and liabilities.

- Building on the information gathered above, evaluate 5-10 case studies across the United States to provide the financial community with a specific data set of information about the effect of EMSs on reducing risks and liabilities and assess the value (changing the perceptions of EMS, facilitating more efficient communication between public entities and the financial community, etc.) of collecting such data.

2) *Promote within the financial community a better understanding of and confidence in the EMS audit and third party certification process.*

- Develop a strategy to make the audit process more transparent and understandable to the financial community including:
 - Understanding the selection and certification process of auditors;
 - Understanding the audit checklist used in certification audits;
 - Understanding the audit plan and process (including pre-, certification, and surveillance audits);
 - Understanding the management of nonconformances.
- Cross walk the audit checklist with the checklist used by respective financial community sectors in assessing risk
- Develop training, awareness, and outreach materials using the information above and determine the best opportunities and methods to disseminate the information

- Involve the Registrar Accreditation Board (RAB) and other registrars in material development and all future discussions to ensure that the ISO registration process is properly understood

3) *Continue to build the business case and disseminate information in a format that resonates with the financial community and other stakeholders (e.g. public entity executives and elected officials) demonstrating the rich benefits of EMS in public entities, including:*

- Cost-benefit analyses
- Confidence of regulatory community and citizens
- EMS as a platform for integrated management (e.g., security, health/safety, quality, efficiency)

4) *Collect information from steps 1-3 above as well as information from key representatives from public entities, the financial community, government officials (both environmental and financial) and legislators and develop a rigorous public entity EMS marketing plan with a simple message geared towards financial communities. .*

- Develop a clearinghouse of information (possible on the Public Entity EMS Resource Center website www.peercenter.net), case studies and data, and a calendar of meetings where there is an opportunity to present a paper or be part of a discussion
- Develop an EMS communication toolkit for public entities to use in their interactions with the financial community

- Enlist the support of organizations that typically serve public entities (ICMA, LGEAN, NACO, WEF, AMSA, etc.) and the financial community (Moody's, FleetBoston, EBA, XL Environmental, etc.) in disseminating awareness and information about the linkage between EMS and financial obligations.

The sponsors gratefully acknowledge the role and support received from all attendees who contributed information, publications, case studies, and through open dialogue made the workshop successful.

For additional readings see the following websites:

- www.epa.gov/ems for EPA's position and policy statements on EMS
- www.peercenter.net

Feedback on this report is most welcome. Please contact Faith Leavitt (fleavitt@earthvision.net) or Steve Wassersug (swassersug@getf.org) at GETF, Stan Laskowski at the University of Pennsylvania (slaskows@sas.upenn.edu), or Jim Horne at USEPA (horne.james@epa.gov) with any thoughts you may have.