

# Solid Waste Processing

## CHAIRMAN'S MESSAGE

by Nathiel Egosi, P.E.



**Depending** on who you ask, you'll get a different answer. What's hap-

pening in solid waste? The answer lies between the different views of the public and private sectors. With solid waste management being divided almost equally between the two, it is not surprising that there is no clear answer. Then factoring the different policies of each state, as well as the differences in population density and geography, every imaginable approach can be found in use. So how do we answer the question?

On the private side, the emphasis is to increase income through efficiency improvements and internalization. Revenue growth through acquisition has slowed down. The business focus is now pure competition based on who can do it better, faster and cheaper.

On the public side, the emphasis is toward finding alternative long-term solutions. The uncertainties of landfill capacity are gone and every municipality knows (with relative precision) when and where they will have a disposal problem. They are trending more towards increased recycling, composting and other diversion methods. Several large municipalities such as Toronto and San Francisco are implementing very clear and real plans towards a "zero" waste solution. Other large cities such as New York and Chicago are focusing on how to better manage and reduce

their exporting costs. And other large cities like Detroit, Baltimore or Miami are simply managing their waste-to-energy plants and its residues.

As long as landfills exist, they will always compete for the waste that otherwise can be recycled, composted or incinerated. Engineers strive to drive down the cost of landfill alternatives. Even with great advancements, regulations seem to run the opposite direction or get in the way. The solid waste management hierarchy exists only as a guideline in nearly every state without any clear regulations or financial incentives to insure landfilling is the approach of last resort. Leaving solid waste management to the free market has helped keep disposal fees low but certainly has not led us toward a long-term national policy and direction that will be met with clarity.

The ASME Solid Waste Management Division (SWPD) is routinely challenged by knowing what products and services to provide its members. Frankly, with the continuing diversity in solid waste management methods, we find ourselves challenged by two types of members. Those that work solely in the waste-to-energy industry looking for opportunities and information that improve their business and plants. The other group may also work in waste-to-energy but is most involved with advanced waste processing technologies ranging from recycling, composting, air pollution control, gasification, ash treatment and more.

### Summer 2004

Awards and Recognition . . . . .	2
Membership Committee Report . . . . .	2
2004 Facility Recognition Awards . . . . .	3
QRO Committee News . . . . .	4
Help Wanted . . . . .	4
News Update on SWPD Scholarship Program . . . . .	4
Waste-To-Energy Research and Technology Council . . . . .	5
Update on PTC 34 Committee . . . . .	5
Research Committee Report . . . . .	5
Award Winner Celebrates ASME Recognition . . . . .	6
"Old Timer Exemptions" . . . . .	6
Papers and Publishing . . . . .	7
SWPD Committees 2004-2005 . . . . .	7
Environmental & Waste Processes 2004 . . . . .	8

With the waste-to-energy industry poised to return in favor, and with all the other proven solid waste processing methods available, our SWPD will see continued growth. Attendance at NAWTEC has increased by 10% each year over the past 4 years. The quantity and quality of technical presentations have improved each year.

We are dedicating 2004-05 as the year to fully integrate all the subcommittees and interests within SWPD under one single mission that best serves all its members and industry. This year's newsletter provides greater insight to the depth and breadth of SWPD's activities and affiliations.

The need for process based methods for solid waste management keep increasing in spite of cheap landfills. Government

*continued on page seven*

## AWARDS AND RECOGNITION by Tony Licata, P.E.

The Solid Waste Processing Division (SWPD) recognized the following recipients with their appropriate awards during the Annual Awards luncheon at the 2004 North American Waste-to-Energy Conference (NAWTEC) in Savannah, Georgia.



### *Medal of Achievement*

The Medal of Achievement was awarded to Maria Zannes, President, of the Integrated Waste Services Association (IWSA). Ms. Zannes was

selected for her eminent achievement in the field of integrated waste management through her leadership in building IWSA into the leading association representing

both private and public sectors in the field of waste-to-energy and integrated waste management. As President of IWSA, Ms. Zannes is responsible for the research, education, regulatory, legislative and technical services offered to its more than sixty public and private industry members.



### *Distinguished Service Award*

John S. Austin, P.E. received the Distinguished Service Award for his many years of service to ASME and the solid waste industry. As

Plant Manager of the NASA/Hampton Steam Generating Facility and through his duties in ASME, John has been an industry

trendsetter in health and safety, performance, training, and environmental compliance. One of John's major accomplishments has been to improve the training and professionalism in the industry. John has served ASME and the Solid Waste Processing Division in many capacities. He recently served two terms as Chairman of the division and has been a member of the Executive Committee for the past five years.

The following facilities were selected to receive the 2004 Facility Recognition Awards based on a criterion of:

- Success in reaching facilities goals
- Innovative and technical contributions to solid waste processing
- Environmental performance
- Health and safety records at the facility
- Facility economics
- Their role in integrated waste management

*continued on page three*

Greater Vancouver Regional District's Waste-To-Energy Facility



Covanta Haverhill, Inc.



## MEMBERSHIP COMMITTEE REPORT by Peter A. Napoli

The SWPD Membership Committee has reviewed data showing all current paid members who have chosen the SWPD as their Primary Technical Division of interest. A separate database of those members listing SWPD as their Secondary Technical Division of interest is also being reviewed. Those members may be contacted about their work situation and whether it would be better for them to switch their Primary status.

The Committee will also be preparing a questionnaire for all current Primary and Secondary members to ascertain what SWPD could be doing to assist them in their plant functions and careers, as well what would encourage them to become active participants. Also under review are ideas to recruit new members from the list of individuals who have taken the QRO exam. ♦

# 2004 FACILITY RECOGNITION AWARDS

## ***Large Combustion Facility (three way tie)***

### **GVRD Waste-to-Energy Facility**

Owned by the Greater Vancouver Regional District and operated by Montenay, Inc.

### **Covanta Haverhill, Inc.**

Owned and operated by Covanta Haverhill Associates

### **Wheelabrator Pinellas**

Owned by Pinellas County Utilities, Solid Waste Department and operated by Wheelabrator Pinellas, Inc.

## ***Small Combustion Facility***

### **Pittsfield Resource Recovery Facility**

Owned and operated by eco/Pittsfield LLC (a subsidiary of EAC Operations, Inc.)

## ***Material Recovery Facility***

### **Boulder County Recycling Center**

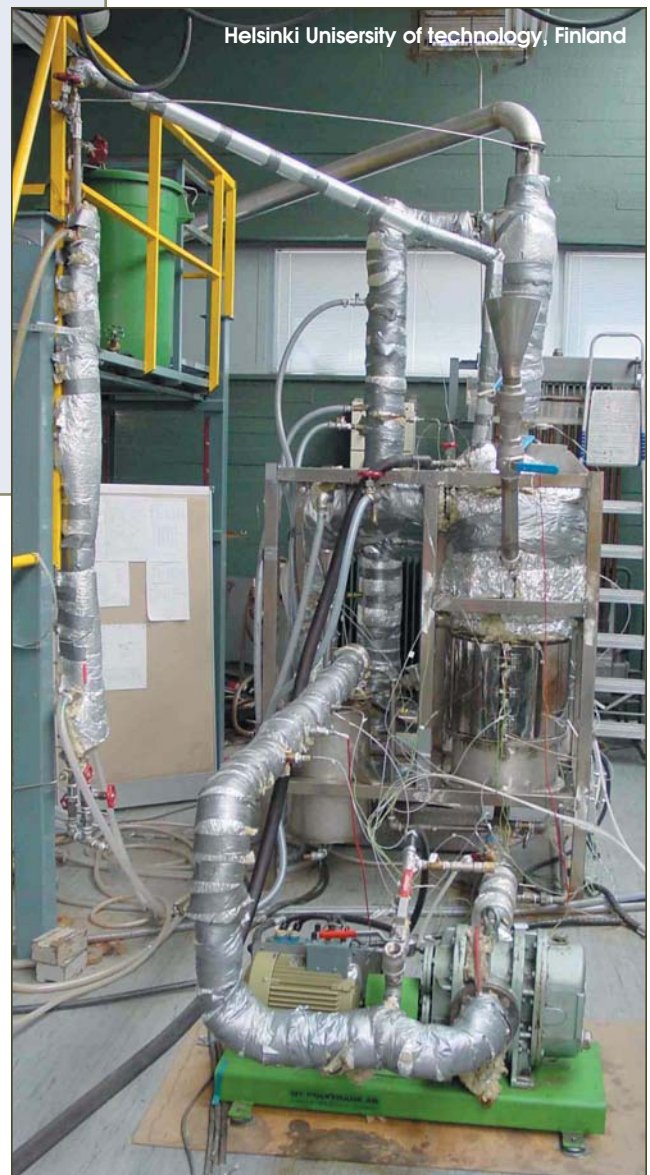
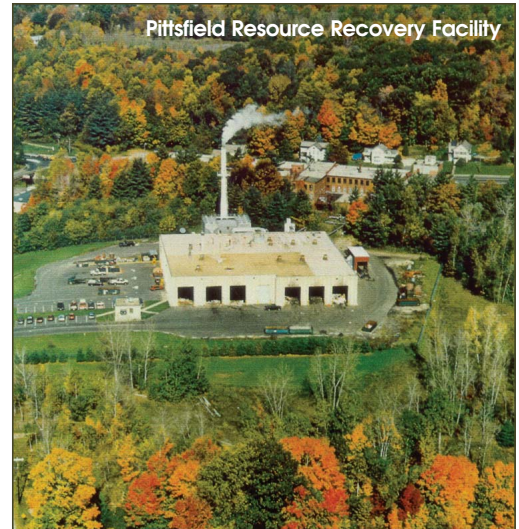
Owned by Boulder County, Co and operated by EcoCycle, Inc.

## ***Honorable Mention Awards***

Awards were presented to the following facilities:

- MacArthur Resource Recovery Facility
- Montenay Bay LLC
- Bristol Resource Recovery Facility
- Montenay York Resource Energy Systems, LLC
- French Island Generating Plant

A Technology Research special award was presented to Helsinki University of Technology for their research work in “Two-Stage Combustion of High PVC Solid Waste with HCl Recovery.” ♦



## QRO COMMITTEE NEWS by John W. Norton, P.E.

The QRO Committee has undertaken and nearly completed a Draft of the new QRO Standard. The new standard will be very similar to the original 1989 version, but will incorporate many procedural guidelines that the Committee has had to adopt over the years to effectively administer the program. One addenda was adopted in 1996 and a second in 1998. Current certificate holders should not be concerned; no major changes are anticipated. Their current certificate status and renewal dates will be the same as they are now.

As of January 2004, 1835 people have achieved Provisional Certification via the written exam, and 644 have had the on site Operator Certification. QRO certified Waste to Energy plant operators are still being recruited by other operations like fossil fired co-generators, thus, the need for new QRO certified operators continues, despite the recent lull in new plant construction.

The new QRO standard will include a new certification grade for waste combustion plant operators. This certification, known as "Combustion Certification," will be for people who are responsible for only waste combustion, not energy recovery. Their

certification requirements will be the same as for the current "Provisional Certification" and will be determined by written examination. The question bank and topics will be the same, just no boiler or turbine questions for the Combustion Certification. This level of certification might be a good place for people to begin with their waste combustion education and certification, although it is not to be considered a replacement for full QRO Provisional Certification.

It may someday be useful to have lower levels of certification for entry level operators in the industry to serve as "stepping stones" to top levels of certified responsibility. Most state wastewater programs, for example, have certification programs that have a first level of certification that tests the vocabulary of the industry. The next certification level typically begins to incorporate the applicant's understanding of the science of the industry processes, then

process design considerations, etc.

The QRO Committee also considers appeals regarding certification issues, one recent appeal concerned the ostensibly inadvertent lapse of an applicant's Provisional Certification; his provisional Certification lapsed as a result, and he found himself unable to get the full site certification as Plant Operator. Another appeal resulted from an applicant's failure on the subject of plant safety procedures during an on-site examination. Lessons for all: 1) keep your Provisional Certification renewal dates in mind, and 2) know all your plant safety procedures.

Anyone interested in being a member of this QRO certification committee should e-mail me at or call (937) 223-5848. Also, new test questions, with citations of authority (i.e. textbooks, peer-reviewed papers, etc.) should be faxed to Gus Miller, FAX (516) 471-7807. ♦

## NEWS UPDATE ON SWPD SCHOLARSHIP PROGRAM

by Amit Chattopadhyay, P.E.

The Scholarship Program continues to be an important part of ASME-Solid Waste Processing Division Activities. The Division awards annual total of \$9,000 in scholarships with a view to stimulate interest in students in solid waste management and related fields. The program has been generally satisfactory in the past; however, in order to enhance participation in the Scholarship Program, the Scholarship Committee has undertaken the task of reviewing and revising the program requirements. As the first step, some revisions to the original program have already been implemented for the 2004-2005 school year. These are:

- Addition of a new category – Continuing Education Scholarship.
- Expanding the student eligibility base to include environmental programs with solid waste related courses.
- Streamlined application process.

Our most important effort has been in "spreading the news" of our Scholarship Program. In this respect, we focused on creating a comprehensive mailing list and the use of electronic mail. Special thanks go to Karsten Millrath, Nat Egosi and Elio Manes for their support in this endeavor.

Depending on the results of the current program, further enhancements to the program will be considered in the future.

### *Congratulations to the 2003-2004 Recipients:*

We wish the best to the two Graduate Scholarship Recipients:

- Masato Nakamura, and
- Dionel Albina

### *Link to the ASME-SWPD Scholarship Information:*

<http://www.asme.org/divisions/swpd/studentprograms/index.html> ♦

## HELP WANTED

### *Technical Peer Reviewers*

Take this opportunity to advance your professional knowledge and enlarge your circle of associates. Our Peer Reviewers get to learn from the top people in industry and academia while helping them to provide more professional technical papers.

### *Reviewers Are Needed For*

- Corrosion in WTE Applications
- Air Pollution Control
- Pollution Monitoring & Risk Assessment
- Gasification & New Technologies
- Operating Plant Retrofits & Projects

Contact John S. Austin  
at 757-865-1914.

# WASTE-TO-ENERGY RESEARCH AND TECHNOLOGY COUNCIL

**The** Waste-to-Energy Research and Technology Council (WTERT) was founded in 2002 by the Earth Engineering Center of Columbia University (EEC) and the Integrated Waste Services Association (IWSA), representing most of the U.S. waste-to-energy (WTE) facilities. WTERT is co-sponsored by the Solid Wastes Processing Division of ASME, SWANA, and some other organizations. The academic consortium of WTERT includes Columbia, Stony Brook (SUNY), and Temple universities in the U.S. and several other schools abroad. WTERT endeavors to improve existing WTE operations and advance all energy and material recovery technologies. Through its publications, WTERT also informs the public and policymakers with regard to the best means for integrated waste management.

The SWPD-WTERT collaboration has taken several forms. WTERT students and faculty made presentations at the 2002 (NYC) and 2003 (Hartford) summer meetings of SWPD, published papers at the November 2003 international meeting of ASME and contributed several papers at NAWTEC 11 (Tampa, FL) and NAWTEC 12 (Savannah, GA). At the request of SWPD, WTERT provided academic review of Performance Test Code (ASME PTC 34) for “waste combustors with energy recovery”. Also, three Columbia graduate students, working on WTERT-sponsored projects, were awarded SWPD Scholarships.

The Council’s web page ([www.columbia.edu/cu/wtert](http://www.columbia.edu/cu/wtert)) includes recent WTERT papers and presentations and a data base (SOFOS) of nearly two thousand technical

papers. Past WTERT studies have examined recycling in New York City, comparison of emissions of WTE and coal-fired power plants, sources of dioxin emissions in the U.S., and the use of GIS technology for siting waste management facilities. Ongoing studies are beneficial uses of ash, corrosion phenomena in combustion chambers, and modeling of mixing and combustion on WTE grates.

SWPD-ASME members are invited to attend the next NYC meeting (October 7–8) where the first two WTERT awards will be presented to Martin GmbH, for global implementation of WTE, and Prof. George Tchobanoglous of the University of California, for lifetime contribution to education in waste management, (contact Dr. Karsten Millrath, [km516@columbia.edu](mailto:km516@columbia.edu)). ♦

## UPDATE ON PTC 34 COMMITTEE by Len Grillo, P.E.

**The** PTC 34 Committee (Waste Combustors with Energy Recovery) has been in existence since 1988. The Committee is developing a test code for waste-to-energy facilities using the boiler as a calorimeter procedure. The original committee had approximately 15 members, and met about four times a year. As the waste-to-energy industry declined in the late 1990’s, interest in the committee also declined. As committee members left the industry, they were replaced by new members. This constant change in personnel caused delays in producing the code, as the new members had to come up to speed on the developments and decisions which had been made over many years. The Committee now consists of six members and we meet only once or twice a year.

Several times over the last few years, the committee has been polled as to whether we should continue or abandon the project, due to the lack of new facilities coming on line. Each time, a majority has decided to continue to completion and publish a code.

At the present time, the Code is almost ready for industry review. We hope to have

this draft of the Code prepared by the end of 2004. We are now looking for persons in the industry with knowledge of performance testing to volunteer to critique the Code when it becomes available for industry review. The review process is expected to take about a year. After revising the Code based on comments received during

the industry review, it will be submitted to ASME’s Board of Governors for approval. We expect that the Code will be available late in 2006.

Anyone interested in reviewing the Code should contact Jack Karian ([karianj@asme.org](mailto:karianj@asme.org)) at ASME. ♦

## RESEARCH COMMITTEE REPORT

by Floyd Hasselriis, P.E.

**The** ASME Research Committee on Industrial and Municipal Waste has been actively involved in developing a research and demonstration program in conjunction with the Georgia Institute of Technology, to demonstrate the combustion of waste carpet material in cement kilns. The USEPA has long sought means to dispose of carpets other than in landfills. The DOE has recognized the energy value of carpets, replacing coal and other fuels. The cement kiln industry has shown active interest and participation in this research. Means for handling and shredding carpets, and introducing this material into cement kilns will be demonstrated, while monitoring the impact of their combustion on the emissions from cement kilns. The economics of this disposal operation will be studied, along with transportation and other management issues.

For more information on this or any of our research comments please e-mail me at: [Hasselriis@aol.com](mailto:Hasselriis@aol.com). ♦

## AWARD WINNER CELEBRATES ASME RECOGNITION

**Though** mature at 23 years old, the Pittsfield Resource Recovery Facility in Pittsfield, Massachusetts is nimble enough to have received the Small Combustion Facility Award this year from the American Society of Mechanical Engineers. In fact, the round-the-clock waste-to-energy facility is known for ongoing innovations, including a patented sludge recycling system that has been placed into commercial service at a sister plant in Agawam and is planned for installation in Pittsfield.

Kevin Rousseau, Facility Manager, and Jim Mattia, Recycling Coordinator, accepted the ASME Small Combustion Facility of the Year plaque during a special award celebration at the plant. In addition to a catered event, personnel received custom jackets proclaiming their ASME recognition. On hand to help celebrate the event, Pittsfield Mayor, James M. Ruberto commented that the “Pittsfield facility has been a good partner for the City for many years, and we plan to continue that good relationship.” After learning that the facility was also a recipient of OSHA’s SHARP (Safety and Health Achievement Recognition Program) designation, the Mayor added that “the employees of the Pittsfield waste-to-energy plant should be proud not only of their operating record, but perhaps even more importantly of their achievements in the area of worker health and safety.”

“The staff of our Pittsfield plant have so much to be proud of,” commented Larry D. Richardson, President of the company. “With their hard work, they’ve continued to improve and innovate the facility while reducing the number and severity of workplace injuries. Add to that their excellent working relations with both the City and Crane, and we’ve got an outstanding facility.”

The ASME Solid Waste Processing Division had earlier announced the recipients of their annual awards in Savannah, GA at the NAWTEC Conference. Members of the Pittsfield staff and corporate management were on hand to receive the award at the Savannah ceremony.

Eco/Pittsfield, LLC is a wholly-owned subsidiary of EAC Operations, Inc. (Albany, New York) which is the operating subsidiary of EnergyAnswers Corporation (EAC). ♦



*Kevin Rousseau, Facility Manager, and Jim Mattia, Recycling Coordinator, Pittsfield Resource Recovery, holding up the ASME award at a special plant recognition event.*

## “OLD TIMER EXEMPTIONS”

by **Herbert I. Hollander, P.E.**

The SWPD is interested in encouraging attendance by the Division “Old Timers” to attend SWPD Meetings, Conferences, Seminars, Board Meetings, and Planning Sessions to encourage:

- Greater meeting attendance,
- Opportunity to share experiences,
- Provide broader perspective,
- Stimulate “thinking” broadening analysis, and
- Recognition of continued value to the SWPD.

Currently, ASME policy stipulates “fee waivers” for Dues-Exempt Members, such as ASME Life Members. To be a Life Member, however, you must be age 65 or older and have been a Member of ASME for 35 years or more. Retired

Members, on the other hand, are not dues exempt but they are eligible for “half dues” after 25 years of paid membership, regardless of their retirement age.

To encourage attendance of those Members who are retired but have not yet met the length of service criteria to become Retired or Life Members of ASME, the SWPD is offering special consideration.

“SWPD Old Timers” are those deemed to be or have been active Members of the Division for 15 years or more and are retired, no longer employed, or do not have a sponsor. Upon request, the SWPD will waive conference and/or meeting registration fees for their participation. Traveling and living expenses are still the responsibility of the member, unless approved by the SWPD for committee involvement. ♦

## PAPERS & PUBLISHING by John S. Austin, P.E.

We just completed a successful NAWTEC 12 in Savannah. Twenty-seven technical papers were prepared and peer reviewed. Peer review score was down slightly this year to 2.6 points. A score of 3 represents the optimal three independent reviewers and myself had reviewed and offered comments. The quantity, variety and quality of papers this year improved. The number of corrosion papers presented doubled this year to seven, and many attendees have repeatedly asked for more papers about corrosion.

We want to give a big thank you to Barbara Signorelli of ASME publishing.

Barbara will soon be retiring, so this was the last NAWTEC Proceedings she will publish. Over the years she has help to give NAWTEC a professional looking proceedings. Thank you Barbara.

In November the Division sponsored two sessions at the Mechanical Engineering Congress in Washington. Three technical papers were peer reviewed for those proceedings. The Executive Committee has asked me to get us some regular sessions at the Congress in 2005.

ASME Publishing has also asked us to help put forward a quarterly technical

journal that presents papers covering all types and processes for waste including hazardous, medical and transuranic waste processing in addition to Waste to Energy and recycling. This is an ambitious project that would require efforts from the Solid Waste Processing and Environmental Engineering Divisions. Many requests have been received by ASME for such a journal, and their marketing research people think it could be successful. Like all our other projects this can only be successful with the dedicated efforts of volunteers. ♦

### Chairman's

#### Message - continued from page one

has realized they must get more involved again. Their hands-off approach of the 90's leaving disposal solutions to the market forces is failing in many regions. Clear policy, direction, leadership is needed to establish the solutions of tomorrow while also addressing the current daily needs.

SWPD has been positioning itself to serve both needs: Those that process garbage every day and have complex O&M issues, and those that are building new and expanded infrastructure for tomorrow. Leaders and planners alike can rely on the information, research, procedures, codes, standards, education programs and certifications developed and managed by ASME. We are your source for the information you need. Buyers and sellers meet each other at SWPD's functions.

Educators can promote their research and secure funding for more. Operators can share lessons and case study information. Planners can learn the trends and validate a developer's technology. Developers have a forum to present their ideas and technologies.

What is happening in solid waste can be best understood by being involved with SWPD. As the industry's level of sophistication increases along with your continued desire to stay current, active participation with a professional organization dedicated toward solid waste processing will insure you are ready for the future. I hope to see you soon at a SWPD event. ♦

## SWPD COMMITTEES 2004-2005

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# Solid Waste Processing

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## ENVIRONMENTAL AND WASTE PROCESSES 2004

<http://www.asme.org/divisions/eed/events/index.html>

Sponsored by ASME Environmental Engineering Division and Solid Waste Processing Division

**August 8–10, 2004**

At The Embassy Suites Pleasant Hill, Walnut Creek, California

### Session Topics

Environmental Risk Assessment • Small Waste to Energy Plant APC Retrofits • Air Pollution Control Cost & Benefit Analysis  
Multipath Risk Assessment for Waste Facilities • Risk Associated with Incineration • BioWaste Composting Or Combustion?

**Plus Exciting Tours:** Sandia National Laboratories Combustion Research Facility • Alternative Fuel Power Plant

### Great Food and Conversation

**Sunday:** Evening Welcome Reception • **Monday:** Full Breakfast Buffet Luncheon

**Tuesday:** Full Breakfast Buffet Luncheon or Box lunch

*Plus plenty of refreshments and networking at the breaks.*

**Monday Afternoon:** Panel on risk associated with incineration

**Monday Evening:** A Joint Meeting of the EED and SWPD Executive Committees

**Tuesday Afternoon:** Meetings of SWPD and EED Technical Committees

**What A Deal!** SWPD & EED Members \$150 (full conference early registration fee if received by August 2, 2004; thereafter, \$200 for members/\$320 nonmembers)

**Door Prizes:** Free Membership Dues, ASME Gear, and much more!

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