



**ACAA**

May 1998

# Ash At Work

American Coal Ash Association

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## **Educational Program for Managers of Coal Combustion Products (CCPs)**

ACAA's Educational Program for Managers of Coal Combustion Products (CCPs) program will be held at the National Research Center for Coal and Energy (NRCCE), West Virginia University (WVU), Morgantown, West Virginia. Jointly sponsored by ACAA, NRCCE/WVU and the ACAA Educational Foundation, this biannual program provides the opportunity for about 100 professionals involved in all aspects of CCP marketing and promotion, as well as regulators contractors and others, to broaden their knowledge and skills of CCPs.

The week-long program is designed for individuals new to the CCP industry as well as managers wishing to broaden their understanding of new and innovative concepts of CCP management and use. These industry "students" come from all backgrounds and levels of experience and include managers involved in all aspects of CCP marketing and promotion plus regulators, specifiers, designers and contractors who want to know more about CCPs.

The lectures are presented by leading members of the CCP industry and will cover a wide variety of subjects including:

CCP characteristics, applications and marketing; technical issues related to CCP management; business and commercial aspects of CCP management; and regulatory issues. Coverage will include important aspects of CCP production, handling and transportation, sampling and testing. The goal of the program, according to ACAA's Executive Director, Sam Tyson, is to "provide a quality program on CCP management and use issues in an environment where each participant can freely interact with their peers."

While the program has its roots in the fundamentals, many students have returned to the program every two years to sharpen skills and exchange ideas about current industry trends. ACAA's Director of Technical Services, Dr. Barry Stewart, has confirmed all speakers and topics and is confident that the 1998 program will meet the expectations of both entry-level registrants and advanced participants.

The Educational Program began in 1990 at Michigan State University in East Lansing, Michigan. (See Educational Program for Managers of CCPs on page 3.)

## Tyson's

## Corner

Commentary by: Sam Tyson  
ACAA Executive Director

## Progress on NORM

During April 1998, ACAA submitted comments to the U.S. Environmental Protection Agency (EPA), Office of Air and Radiation, regarding the latest draft version of EPA's "waste characterization section" on coal and coal ash NORM, i.e., Naturally Occurring Radioactive Material. ACAA received a copy of the draft from EPA in March 1998 and invited comments from ACAA members.

The characterization section on coal and coal ash NORM is expected to become a part of EPA's larger "Diffuse NORM Report" which will describe NORM sources in a number of industrial sectors. Beginning in 1993, in cooperation with the Utility Solid Waste Activities Group (USWAG), ACAA's Government Relations Committee, chaired by Jim Lingle of Wisconsin Electric Power Company, initiated activities to address EPA's interest in the NORM topic. EPA's 1993 draft report was not clearly focused with respect to the treatment of coal and coal ash NORM. Consequently, ACAA began an active role at that time to provide accurate and meaningful information for EPA's consideration.

Through a series of meetings, as well as the submission of written correspondence and reports, ACAA and USWAG have been successful in causing EPA to review and substantially modify its 1993 draft report. Consequently, EPA appears to be producing a more balanced report on this important topic. For example, EPA's current draft NORM report provides very thorough information, most of it from ACAA, regarding the production and use of coal ash. The report also provides accurate representations of coal ash marketing and management practices.

Federal agencies other than EPA also have an interest in NORM. Complementary information on coal ash may be found in a fact sheet, *Radioactive Elements in Coal and Fly Ash: Abundance, Forms, and Environmental Significance* [USGS FS-163-97, October 1997, 4 pages] prepared by the U.S. Geological Survey (USGS). The USGS fact sheet, initially available in February 1998, addresses the concentration, distribution, and form of radioactive elements in coal and fly ash and makes the observation that they "are not significantly enriched in radioactive elements, or in associated radioactivity, compared to common soils or rocks." Copies of the USGS fact sheet are available from ACAA. (Tyson's Corner continues on page 3.)



## Tyson's Corner

### Progress on NORM

(Continued from page 2)

The information summarized by both EPA and USGS points clearly to the conclusion that concerns about NORM in coal and coal ash are comparable to concerns about NORM in common soils and rocks.

Credit is due to ACAA's Government Relations Committee, and especially to Jim Lingle, who has chaired the committee and championed the NORM issue for years. But more remains to be done.

As stated earlier, the characterization section on coal and coal ash NORM is expected to become a part of EPA's larger "Diffuse NORM Report" which will describe NORM sources in a number of industrial sectors. EPA also intends to produce a risk assessment and, if warranted, describe related effects on human health and the environment.

We would expect EPA to conclude that these latter steps are unnecessary for coal and coal ash in view of EPA's own characterization report; nevertheless, ACAA's Government Relations Committee will continue to follow the NORM issue very closely until these issues are favorably resolved.

For more information on coal and coal ash NORM, see *Coal Ash Norm* on page 6.

## Joint ACAA/ECOBA Meeting Set for June in Toronto, Canada

ACAA and ECOBA will meet in Toronto in June for a joint Workshop on CCP Management and Use: *Management & Use Programs for CCPs in Europe and North America -- Influences of Regulations, Specifications and Guidelines*. The workshop, being held Monday, June 15, 1998 is the first event in three-day meeting. Following the Workshop, members of ACAA and ECOBA will meet for a reception and formal dinner.

On Tuesday, June 16, the groups will hold separate meetings. Following the meetings of ECOBA's Technical Session and ACAA's Program Committee Session, the groups will again meet for a reception. ACAA will also hold Administrative and Executive Committee meetings on Wednesday. A spouse program has been planned by ACAA staff with the assistance of Program Coordinator Dorothy Stewart, spouse of ACAA's Andy Stewart of Cooperative Power. Activities planned for the spouses include a dinner at CN Tower with spouses on Monday evening and a trip to Niagara Falls for lunch and sightseeing on Tuesday.

### Hotel Information

Delta Chelsea Inn  
33 Gerrard St. West  
Toronto, Ontario Canada M5G 1Z4  
For Reservations: 1-800-CHELSEA (1-800-243-5732)  
Guest Tel: 416-595-1975  
Guest Fax: 416-585-4375  
Room Rate: \$US 125.00 Single or Double Occupancy

### CCP Managers Program (continued from page 1.)

The program enjoyed a doubling of size from 1994 to 1996 for combined total of approximately 100 students and lecturers. The final program booklet was mailed in March 1998, and approximately 70 percent of the available seating was reserved at press time.

**Hotel Information** (Two hotels with a Room Rate of \$US 79.00 Single or Double Occupancy are available.)

**Euro-Suites Hotel** - 501 Chestnut Ridge Road  
Morgantown, WV 26505  
For Reservations: 1-800-678-4837  
Guest Tel: 304-598-1000 - Guest Fax: 304-599-2736

**Hampton Inn** - 1053 Van Voorhis Road  
Morgantown, WV 26505  
For Reservations: 1-800-HAMPTON  
Guest Tel: 304-599-1200 Guest Fax: 304-598-7331

## 13th International Symposium is Taking Shape

"Innovation for a Sustainable Future", ACAA's Thirteenth International Symposium on Management & Use of Coal Combustion Products (CCPs) is still over a half year away but to ACAA staff, much of the symposium is already taking shape. Over 5,000 flyers have been sent to members of the CCP Industry world-wide and the response, to date, has been outstanding.

The Symposium, sponsored by the American Coal Ash Association and the American Coal Ash Association Educational Foundation will be held January 11 - 14, 1999, at Walt Disney's Coronado Springs, Resort Hotel, Orlando, Florida. Attendance is expected to exceed 500 participants.

To date, over 100 abstracts have been received. ACAA's Director of Technical Services, Dr. Barry Stewart, said that ACAA "is on target for well-over 100 presentations" and added that "this group of abstracts is very good." For the first time, ACAA will be offering authors the opportunity to present their papers in poster sessions. Also new for 1999, winners of ACAA's Educational Foundation John Faber Scholarship will be featured in a student session. On Monday, January 11, 1999, special industry seminars are being planned on a wide variety of topics.

Abstracts are being reviewed by

a committee made of ACAA members who must "grade" the abstracts on ten separate areas to assure that the abstracts are acceptable for presentation and publication. Final manuscripts must be prepared to meet the proceedings format of the Electric Power Research Institute (EPRI). Instructions on the EPRI format for both hard copy and electronic formats will be sent to authors upon acceptance of abstracts.

Only authors with approved manuscripts will be scheduled for presentations at the Symposium. A list of suggested paper topics is located on ACAA's Home Page: <http://www.ACAA-USA.org>. For more information on publication and presentation at the 1999 symposium, contact Dr. Stewart.

ACAA will welcome as many as 32 exhibitors on a first call basis. The fee is US\$ 1,400 and this fee includes one registration. All exhibit personnel must be registered for the symposium. The Exhibit Hall hours have been expanded for the 1999 Symposium and will be open during all sessions. Drawings for prizes throughout the week in the Exhibit Hall and the Opening Night Reception, on Monday, January 11, 1999 will also be held there.

Also scheduled for Monday, January 11 is the 2nd ACAA Golf Tournament benefiting

ACAA's Educational Foundation. We will be returning to the picturesque and challenging Lake Buena Vista Course. We have outlined a variety of sponsorship opportunities for individuals and companies. Proceeds from the tournament will benefit the Educational Foundation's John Faber Scholarship program.

A special Walt Disney World program is being organized for spouses. Spouses are also welcome at all Symposium functions including the Opening Reception and Banquet.

For more information about ACAA's 13th International Symposium, Contact ACAA.

### Hotel Information

#### ***ACAA's 13th International Symposium on Management and Use of Coal Combustion Byproducts (CCBs)***

#### **Disney's Coronado Springs Resort**

1000 West Buena Vista Blvd  
Orlando, Florida 32830

Reservations: 407-939-1020  
Guest Tel: 407-939-1000  
Guest Fax: 407-939-1001

Room Rate: \$US 125.00  
Single or Double Occupancy

## Educational Foundation Awards Nine Scholarships for the Spring of 1998

The American Coal Ash Association Educational Foundation is proud to announce nine scholarship recipients from its second offering of scholarships from the John H. Faber Scholarship Program. All winners will be receiving funds at the beginning of spring semester.

The recipients were chosen from nearly forty applicants. Five students were selected to receive semester project scholarships in which \$300 is awarded at the beginning of the semester and then \$2200 is awarded upon successful completion of the project.

Each student was required to submit a project proposal as part of the application process along with a letter of support from a faculty advisor. Four students were chosen to receive research paper scholarships in which awards of \$700 are made for a research paper on some aspect of the management and use of CCPs.

The scholarship review committee consisted of Oscar Manz (Chair); Mike Schroeder, Solutions Management; Scott Renninger and Bill Aljoe, USDOE-FETC, Sam Tyson and Barry Stewart, ACAA staff. Stewart served as staff liaison and coordinated the review of nearly forty applications.

Scholarships recipients for the Spring 1998 cycle are:

**William Diesing** will develop An Instructional Tool for Coal Combustion Product Use: A move toward sustainability in the coal industry, education, and creative thinking with Dr. Dennis Grubb in the Department of Civil and Environmental Engineering at the Georgia Institute of Technology (Georgia Tech).

**Anna Erkinheimo** will research the Attenuation of Volatile Organic Compounds (VOCs) in High Carbon Fly Ash. She will be advised by Dr. Tuncer Edil, in the Department of Civil and Environmental Engineering at the University of Wisconsin-Madison.

**Rehinaldo Gonzales** will investigate In Situ Remediation of Anaerobic Mine Areas with CCPs under the advisement of Dr. Jess Everett in the School of Civil Engineering and Environmental Science at the University of Oklahoma.

**Jay Quint** chose the project Evaluation of Fatigue Response of Cold In-Place Recycled Mixtures with Type C Fly Ash, and will study in the Civil and Environmental Engineering Department at University of Kansas under advisor Dr. Stephen Cross.

**Steve Thomas** and **Kevin Wolf** will investigate Using CCPs in the Construction of a Concrete Canoe under the direction of Dr. Mumtaz Usman in the Department of Civil and Environmental Engineering at Wayne State University in Detroit, Michigan.

All proposals were highly regarded by the scholarship committee, chaired by Dr. Oscar Manz.

Four students from the University of Nebraska-Lincoln will receive research paper scholarships. **Calvin Chipperfield, Troy Schmidtke, T.J. Sykes, and Philip Tournor** were the authors of the four papers out of over 30 submitted which were chosen to receive awards. Each of these students evaluated the use of CCPs in the construction industry and why the construction industry is resistant to change. The four scholarship recipients are advised by Dr. Charles Berryman from the Department of Construction Management.

The ACAA Educational Foundation John H. Faber Scholarship Program will release its offering of scholarships for the Fall Semesters of 1998 soon. More information is available on the ACAA Internet site <http://www.ACAA-USA.org>.

## Coal Ash NORM Gets Favorable Ruling from US Environmental Protection Agency

On March 19, 1998, U.S. EPA issued a final rule, Administrative Reporting Exemptions for Certain Radionuclide Releases, that will reduce reporting burdens under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA). EPA interprets the term "coal ash" in the reporting exemptions to apply to fly ash, bottom ash and boiler slag. [Federal Register 63, 13460-13475]

Releases of radionuclides "from the dumping of coal ash" and "from piles of coal ash" at all sites—including sites that beneficially use the ash—are included within the scope of the reporting exemption. This expansion of the exemption resulted from EPA's acceptance

of comments filed by USWAG and EEI in January 1993, urging that the exemption apply to all sites, not just sites with coal-fired boilers. Therefore, the exemption extends to coal ash uses that involve the land application of coal ash that has not been otherwise processed or altered, typically as a substitute for natural materials.

EPA promulgated these broader exemptions for three principal reasons. First, the concentrations of radionuclides in coal and coal ash are generally within the range of "typical" background concentrations in surface rocks and soils in the USA. Second, EPA believes that a CERCLA response would be very unlikely because the concentrations of materials being handled are at or near background, and resulting radionuclide releases

are expected to be continuously low. Third, the submission of individual notifications of these releases does not appear necessary since the releases should be similarly low across all sites subject to the broader exemptions.

The broader reporting exemptions are intended to allow EPA to focus its resources on the more serious releases to protect public health and welfare and the environment more effectively and efficiently. Also, the exemptions would eliminate unnecessary reporting burdens on sites where coal or coal ash is stored or disposed. The rule, however, only exempts radionuclide releases from CERCLA section 103 and EPCRA section 304 reporting requirements, not from CERCLA response or liability provisions.

### Mineral Resource Technologies Awarded New Patent for Ash Based Cement

Robert Styron of Mineral Resource Technologies (MRT) has patented a process for producing a blended hydraulic cement produced primarily from fly ash. The cement can be formulated to have a wide range of curing times so that it can be used for a variety of purposes from patching to making concrete structures.

The rapid set/strength gaining cement can produce compressive strengths as high as 2000 - 3000 psi in 1 hour, 4000 psi in 3 hours, 4000 to 6000 psi in 24 hours, and 11,000 to 19,000 psi in 28 days. The rapid set and high strength gains allow traffic access within a 24 hour period. The cement also provides good ASR resistance. MRT also has a type 1 version of this new cement for ready-mix concrete. MRT hopes to have a production plant for this new cement in operation by the end of 1998.

## Federal Transportation Legislation - ISTEA Nears Completion

Reauthorization of the Intermodal Surface Transportation Efficiency Act (ISTEA) is nearing completion with significantly increased funding over prior years virtually guaranteed. A conference committee with members from the House and Senate is working to resolve differences between the House version (H.R. 2400) which passed on April 1, 1998, and the Senate version (S. 1173) which passed on March 12, 1998.

At press time, support for including ACAA's proposed language in the conference report was being confirmed with several conferees. The language would encourage the use of coal ash, or coal combustion products (CCPs), to

the maximum extent possible in all applications to construct and maintain the transportation infrastructure resulting from and/or supported by this new legislation. The suggested language is as follows:

### **Why CCPs Would Strengthen Transportation Legislation**

Here is how the use of CCPs can further strengthen this sound and essential federal transportation legislation (ISTEA Reauthorization).

### **No Added Cost**

CCPs are engineering materials. Annually, 100 million tons are available throughout the USA at competitive prices. Stacked on a football field, these CCPs would reach a height of 10 miles.

### **CO<sub>2</sub> Reduction**

Each 100 tons of CCPs used in cementing applications avoids the emission of 80 tons of CO<sub>2</sub>, a major greenhouse gas.

### **Safety and Lives**

The use of CCPs in the construction of highway overpasses at dangerous intersections will improve traffic flow and save lives.

### **Sustainable Development**

CCPs are recognized by U.S. EPA as environmentally preferable products. Using CCPs preserves landfill space and promotes commerce. Strengthening America with a commitment to transportation and the environment, since 1968.

## ACAA Structural Fill Video is Available

Structural Fill Applications Using Coal Combustion Products (CCPs) [Running Time: 6 minutes]. This new video presents information about high-volume structural fill uses of CCPs in three typical contexts: upgrading busy traffic intersections; accommodating growth in industrial areas; and modifying irregular and eroded land sites for development. The primary audience for this video will be developers, regulators and contractors who need to know about this alternative source of material without a lot of technical details. For viewers needing more information, the video references readily available standards, guides and papers published by ASTM, FHWA and ACAA.

The video was produced with guidance from a task force chaired by Bob Gerbus of Trans Ash. Video and photographic materials were provided by American Electric Power, Baltimore Gas & Electric, Delmarva Power & Light Company, Federal Highway Administration, GAI Consultants, Reuse Technology, Solutions Management, Trans Ash and U.S. Geological Survey. The American Automobile Association was instrumental in identifying hazardous traffic intersections as well as the source of "before-and-after" aerial photographs for the intersection improved through construction of a grade separation on structural fill. Contact ACAA staff for availability and pricing.

## Midwest Concrete Consortium Holds Final Organizational Meeting

The final organizational meeting of the Midwest Concrete Consortium (MC<sup>2</sup>). Was held April 8, 1998 at the Ohio University Inn in Athens, Ohio. ACAA Director of Technical Services, Dr. Barry Stewart attended this meeting. MC<sup>2</sup> is for Midwesterners interested in portland cement concrete who want to share problems, research efforts and results, and knowledge about concrete construction and maintenance.

The mission of the consortium is to provide an ongoing regional forum for: sharing portland cement concrete research and technology, encouraging uniform specifications, solving problems, and promoting quality design and construction.

MC<sup>2</sup> was formed in 1997 by representatives of state highway departments; cement, aggregate, and admixture producers; industry and paving associations; equipment suppliers; academics; and Federal Highway Administration representatives, all from FHWA Regions 5 and 7. The vision of the group is to provide an avenue for industry, suppliers, government agencies, and academia to work together to continuously improve concrete performance and durability in a cost-effective manner.

General membership is open to

anyone who wishes to participate in either of two annual meetings. There are presently no dues, and travel and other expenses related to attending the meetings are the responsibility of attendees. ACAA's Executive Director, Sam Tyson and Lon Zimmerman of Midwest Fly Ash were involved in the formation of this group.

The heart of the organization is this Web site:

<http://www.ctre.iastate.edu/mcc/>

At this site you can (1) Review abstracts of recent or ongoing concrete-related research and get contact information for the researchers. (2) Publish an abstract of your own research. (3) Post a concrete-related question on an electronic bulletin board and/or respond to others' questions. (4) Find a list of MC<sup>2</sup> members with contact information and get updates about upcoming MC<sup>2</sup> meetings.

ACAA encourages its members to participate in this technology transfer activity. Specific questions regarding the MC<sup>2</sup>'s organization and mission should be directed to:

Gary Whited, Wisconsin Department of Transportation, P.O. Box 7916, Room 601HF Madison, WI 53707-7916 phone - 608-266-3707 FAX 608-266-8459 E-mail- [whiteg@mail.state.wi.us](mailto:whiteg@mail.state.wi.us)

## Mining .... Gateway to the Future

The American Society for Surface Mining and Reclamation (ASSMR) celebrates its 25th anniversary in 1998. ASSMR is also holding its 15th National Meeting in St. Louis, Missouri, May 17 - 21, 1998. The theme of the meeting is Mining - Gateway to the Future and the meeting has been organized by Southern Illinois University. These meetings are a strong voice from all concerned with mined land reclamation in the US and are respected around the world. Of particular interest are two sessions on CCPs to be held on Wednesday, May 20. More information on this meeting may be obtained by contacting Ken Robinson, Division of Continuing Education, SIU at Carbondale, Carbondale, IL 62901-6705 Phone: (618) 536-5521, Fax: (618) 453-5680, E-mail [kenr@siu.edu](mailto:kenr@siu.edu).

## Indiana Society for Mining and Reclamation

The Indiana Society for Mining and Reclamation (ISMR) held its annual meeting in Vincennes, Indiana on December 8, 1997. Over 150 people from the mining, reclamation, and utility industries attended the meeting. ACAA Director of Technical Services, Dr. Barry Stewart, gave a talk on Potential Uses of CCPs, which was well received. Mr. Paul Ehret is the president of ISMR and is also Director of the Indiana Department of Natural Resources (IDNR). Increasing the beneficial use of CCPs is a goal of IDNR as well as several other agencies throughout Indiana.



## Economic Impacts of CCP Use

ACAA estimates that the annual economic impact of CCP use and disposal in the USA to be more than \$3 billion. Support for this estimate may be found in a letter, dated March 18, 1996, which ACAA submitted to U.S. EPA concerning potential economic effects of EPA's proposed rule on "Acid Rain Program: Nitrogen Oxides Emission Reduction Program".

As shown in that letter (available from ACAA), the economic benefits of using 21.1 million tons of coal ash in 1994 was estimated at \$1 billion. Approximately 50 percent of that amount was attributed to "avoided cost" of disposal and the remainder to combined sales revenues (utility sales plus marketer resales plus customer savings for certain applications).

Additional costs (in 1994) for disposal of the 70 percent of coal ash that was not used was estimated to be approximately \$1.5 billion, using a national average disposal cost of \$25 per ton. This average figure for the cost of disposal was based on estimated disposal costs ranging from \$3 to \$5 per ton in some regions up to \$70 to \$90 per ton in other regions of the USA.

Additional benefits (in 1994) included the preservation of 20 million cubic yards of landfill space (equivalent to 250 acres covered to a depth of 50 feet) as well as the avoidance of some 4.7 million tons of CO<sub>2</sub> emissions due to the substitution of coal fly ash for portland cement in concrete.

Using the preceding information, along with survey results for CCP production and use in calendar-years 1995 and 1996, more current figures for the economic impacts of CCP use can be obtained. Based on a 20 percent increase in both CCP production and use from 1994 through 1996, a straight-line extrapolation indicates annual economic benefits attributable to the use of CCPs to be approximately \$1.2 billion. Similarly, the current annual costs for disposal of CCPs would be about \$1.8 billion, for a total annual economic impact of some \$3 billion for CCP use and disposal.

The USA is well-served by encouraging increased use of CCPs. This observation is supported not only by the preceding economic data but also by the following description of the contribution of CCP use to sustainable development. (See "Sustainable Development" on page 15)

### Federal Energy Technology Center Hosts Two Programs

The U. S. Department of Energy (DOE) Federal Energy Technology Center (FETC) will host 2 programs that are of interest to many ACAA members in May. The 1998 Conference on Unburned Carbon on Utility Fly Ash will be the 4th conference of its type sponsored by FETC. This conference will be held May 19-20 at the Pittsburgh Greentree Marriott.

FETC will also host the 1998 Conference on Selective Catalytic and Non-Catalytic Reduction for NO<sub>x</sub> Control, May 21-22, also at the Pittsburgh Greentree Marriott. Several ACAA members will make presentations at these conferences. For more information or to register for either of these conferences call FETC conference services at (412) 892-4763. The fax number is (412) 892-4160.

## The Ohio State University Hires Coal Combustion Products Coordinator

Dr. Tarunjit S. Butalia serves as the program coordinator for a statewide Coal Combustion Products (CCP) Pilot Extension program at The Ohio State University. Dr. Butalia is a Research Specialist in the Department of Civil and Environmental Engineering and Geodetic Science at The Ohio State University. His technical specialty is the characterization of natural and synthetic materials and their use in technically sound, environmentally benign and commercially competitive applications.

The transfer technology pilot project overseen by Dr. Butalia is an effort to move CCP technologies and processes from the research and development phases into the marketplace. Nearly 90% of Ohio's electricity is produced from coal, and much of that use generates byproducts, the bulk of which are presently put in nonproductive landfills. When treated and applied correctly, CCPs can be put to multiple productive uses ranging from

highway applications, mine land reclamation, to agricultural applications. The CCP Coordinator works to develop and promote standardized practices and procedures acceptable to the private sector, end users and government regulators. The coordinator also is an information contact and coordinates, sponsors and presents at seminars and similar events. Additional activities include assessing the markets for CCP uses, and other related activities. The pilot extension project was begun in January, 1998 and will operate for two years. The American Coal Ash Association has contributed \$8,000 dollars to the \$270,000 budget for this project.

The CCP pilot extension project is a significant public/private effort with multiple sponsors. Government sponsors include the Department of Development's Ohio Coal Development Office and the US Department of Energy. Industry sponsors include American Electric Power, Cinergy, First

Energy and Dravo Lime Company. ACAA and several other trade associations are also participating, among them, Ohio Farm Bureau Federation, Ohio Dairy Farmers Association and Ohio Cattlemen's Association.

Dr. Butalia obtained a Bachelor of Engineering (with Honors) in Civil Engineering from Punjab Engineering College, Chandigarh, India. He went on to earn a Master of Technology degree in Civil Engineering from Indian Institute of Technology, Bombay, India and a Doctorate in Engineering from The Ohio State University, Columbus, Ohio. Dr. Butalia has been involved directly in several CCP research projects, and has authored, presented and/or published more than 15 technical papers. He currently resides with his family in Columbus, Ohio.

Dr. Butalia will be participating in ACAA's Educational Program for the Managers of CCPs. He can be reached at 614-688-3408 or [butalia.1@osu.edu](mailto:butalia.1@osu.edu).

### CCPs In Public Works Forum Held April 16-17

A forum entitled Using Coal Combustion By-Products In Public Works was organized by Energy and Environmental Research Center - University of North Dakota. The forum was sponsored by ACAA, Western Region Ash Group, Department of Energy, Federal Energy Technology Center, University of Milwaukee, Pozzolanix Northwest, Inc., National Minerals Corporation/LaFarge and Boral Material Technologies, Inc. The two-day forum, focusing on quality in public works for concrete and soil applications, was held in Salt Lake City, Utah. ACAA was represented by Barry Stewart, Director of Technical Services. Stewart was among the list of distinguished speakers at the forum.

## ACAA Meets in Alexandria, Virginia

ACAA's Executive Committee Meetings, Governance Committees, Task Forces and a Workshop were held in Alexandria, Virginia October 13-15, 1997. Over 80 members and guests attended. Alexandria's proximity to Washington, DC helped to facilitate the workshop entitled "Federal Agency Perspectives". The workshop was followed up by a successful three-stop Federal Agency Visit on Wednesday, October 15.

The following Task Forces also met throughout the week on the following topics; WVU Ash Managers Program, 1999 Symposium, ASTM, Financial, Dues/Class (M) Marketers, Coal Ash Book and Video Production. Following the meetings, the Basel Convention Task Force met at the U.S. Chamber of Commerce, in

Washington, DC.

The workshop, Federal Agency Perspectives -- Greening Federal Purchasing with CCPs, was opened by ACAA Chairman Andy Stewart of Cooperative Power and Sam Tyson, ACAA Executive Director and presentations were given by both ACAA members and Federal Agency representatives.

The titles and speakers included; Why Use Coal Ash? - Tom Blackstock of Reuse Technology, followed by three Agency Perspective presentations. The Agency Perspective presentations were given by; Gary Crawford, U.S. Department of Transportation, Federal Highway Administration; Dana Arnold, U. S. Environmental Protection Agency, Office of Solid Waste

and Bill Aljoe, U. S. Department of Energy, Federal Energy Technology Center. Following the presentations there was a Question and Answer Panel with all the speakers, moderated by ACAA's Director of Technical Services, Barry Stewart. Following the workshop, ACAA's Educational Foundation held a Board of Directors meeting.

Wednesday, October 15, 1997, members of ACAA staff and over 20 ACAA members attended Federal Agency Outreach-Agency Visits to three offices in Washington, DC. The schedule included information exchanges with Henry Rentz, Federal Highway Administration, Department of Transportation; Kathy Chan, Federal Bureau of Prisons, Department of Justice, and Al Young, US Army Corps of Engineers, Military Housing.

## ASTM Committee E50.03 Meets in Atlanta

ACAA's Director of Technical Services, Barry Stewart attended the ASTM Committee E50.03 (Global Sustainability/Pollution Prevention) meeting in Atlanta, Georgia. At that meeting, a first draft of a proposed standard on Use of Coal Combustion Product Grouts as Mine Backfill was presented by John Sherwell (Maryland DNR).

The draft will receive revisions based on comments before it is balloted. A title change as well as changing CCBs to CCPs in the text was discussed in Atlanta. Mr. Sherwell is hoping for a ballot at the subcommittee level before the next E50 meeting September 23-25 in Austin, Texas. To join this committee, contact ASTM at <http://www.astm.org> or call 610-832-9585. Contact ACAA for a draft review copy of this proposed standard.

A copy of the proposed standard is available from ACAA for review purposes. ACAA encourages all interested members to join this ASTM committee and become active. This committee is also developing a standard on the Use of CCPs in Low Permeability Liners, Barriers, and Encapsulations which will also be balloted soon.

## ACAA Rolls out West for February Meetings

ACAA began 1998 with a new three meeting per year format with the Annual Meeting; Program and Governance Committees, Board of Directors; Task Force Meetings; and Workshop on CCP Management & Use in Las Vegas, Nevada, February 1-10, 1998. Over 75 members and guests attended the meetings and workshop held in the Excalibur Hotel and Casino.

With full ACAA meetings scheduled for Monday and Tuesday, many task force chairs again took the opportunity to hold Task Force meetings on Sunday and Monday. The Stabilization Manual (Class C), 1999 Symposium, 1998 CCP Managers - WVU Program, and the Class M/Marketer Dues (Class M/Marketer) Task Forces all met on Sunday, February 8, 1998.

Monday morning the Stone Matrix Asphalt Task Force met and the Class M/Marketer Dues (Class M/Marketer) Task Force held their second meeting of the week following lunch on Monday. The task force meetings added to a full day of ACAA meetings on Monday. ACAA's Program Committee, Annual, Administrative Committee and Board of Directors meetings were also held on Monday. Following meetings on Monday, a social hour was held, co-hosted by Penn Worldwide and ACAA.

Penn Worldwide also participated in ACAA's CCP Management & Use Workshop: "Carbon Monitoring and Removal Systems", held on Tuesday, February 10. ACAA's Executive Director Sam Tyson delivered the Welcome & Opening Remarks and Barry Stewart, Director of Technical Services made the workshop

speaker introductions. Following is a list of topics and speakers: Beneficiation of High LOI Fly Ash for use in Concrete: STI's Successful Marketing Approach, Charles Willauer and Stephen Gasiorowski, Separation Technologies, Inc.; Patrick Borders, Roanoke Cement; The Concarb 2000 Real Time Fly Ash Monitor - Todd Palcic, Penn Worldwide; Carbon Burnout at South Carolina Electric and Gas - Peter Hay, Progress Materials; and The Camrac Carbon in Ash Monitor - Gary Brendel, GAI Consultants. Following the presentations there was question and answer panel discussion.

ACAA's Basel Task Force meeting was the only event to be held on Wednesday, February 11. The next ACAA meeting will be the joint ACAA/ECOBA meeting, held in Toronto, Canada, June 15-16, 1998.

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## New ACAA Officers Elected

ACAA's Board of Directors elected new officers for the two-year period, January 1998-2000, at its regular mid-year meeting which was held this year in Minneapolis, Minnesota. The new officers are: Joel Pattishall, Chairman; James Merkle, Vice Chairman; and Ted Frady, Secretary/Treasurer. They assumed their duties at the February 1998 meeting in Las Vegas, Nevada.

The election of new officers takes place every two years at the mid-year meeting preceding the expiration of the term of ACAA's current officers in accordance with ACAA's bylaws. The association has been fortunate to have the dedicated and professional services of its former officers: Andy Stewart, Chairman; Ted Frady, Vice Chairman; and Mike Schroeder, Secretary/Treasurer.

## ACAA Internet News (See page 14 for more Internet News)

Six months ago, ACAA was averaging just a little over 1,000 "hits" per month on our Internet home page. "Hits" refer to times that people log on to their computers and access information from ACAA's home page. Now it is common for ACAA to have as many as 2,000 hits a month and the number is on the rise. Each month, ACAA receives a "hit list", a tabulation of who visited our home page and what pages they visited once they got there.

The Internet has proven to be an effective marketing tool for ACAA, reaching people staff could not have reached in any other way. One of the statistics that has been consistent, is that the number of people that visit our home page from outside the United States is greater than the number of domestic visitors. This is good news for ACAA, especially with the 13th International Symposium coming up in January of 1999. Visitors to the ACAA home page can download information about the symposium and e-mail registration information directly to ACAA.

The most popular information viewed in March was information about ISTE legislation, followed by the Publication List and then the membership list (the list without contact information). As our "links" section has developed, it has also become one of the most popular pages with our visitors. Canada, Japan, the Czech Republic, Australia, and Israel round out the top five countries in this month's data.

As we see trends develop, we can adjust our home page to tailor certain information for maximum effect. ACAA members will also be able to benefit from the many people that stop by ACAA's home page, by linking your site to ACAA. If you have a home page that you would like to see linked to ACAA, contact ACAA's Executive Secretary, Earline Marshall or e-mail her at ACAA-Marshall@msn.com. The address for ACAA's home page is: <http://www.ACAA-USA.org>.

### Other Sites of Interest - These sites are linked to ACAA's home page. Is yours?

American Electric Power  
Boral Material Technologies  
Center for Applied Energy Research  
Central and South West Services  
Composites Fabrications Association  
Cooperative Power  
EEI (Edison Electric Institute)  
EPRI (Electric Power Research Institute)  
Ecobalance  
Energy and Environmental Research Center  
Construction Products  
Office of Solid Waste and Emergency Response  
Federal Depository Library (GPO)  
Federal Energy Technology Center  
Federal Highway Administration (FHWA)  
Fly Ash Resource Center  
Foundation Directory  
Foundations Non-profit  
IEA Coal Research  
International Ground Source Heat Pump Association  
Lower Colorado River Authority and the Fayette  
Power Project

Tarun R. Naik  
National Materials Exchange Network  
National Mined Land Reclamation Center  
National Research Center for Coal and  
Energy  
NOX and Particulate Control  
PA DOE Coal Ash Minutes  
Plastic News on the Web  
Research on Reef Balls and Reef Links  
Reuse Technology  
Sphere Services, Inc.  
Thomas Legislative Information on the  
Internet  
Transportation legislation in the 105th  
Congress, 1998 session  
Transportation Research Board  
U.S. Department of Energy  
U.S. Department of Transportation  
U.S. Environmental Protection Agency  
U.S. Government Printing Office  
Wallace Industries  
Washington Post

## ***More Internet News...***

### **Office of Surface Mining Planning a New Website**

The United States Office of Surface Mining (USOSM) is planning to post a "Coal Combustion Product Information Network" to the Internet. This network would provide access to scientific and technical literature, researchers, and resources for the coal mining community. This program is result of the interactive forum on the use and disposal of coal combustion products (CCPs) associated with coal mining held at Southern Illinois University,

Carbonale Oct 29-31, 1996. One of the needs identified during the forum was better access to scientific and technical literature and new developments in scientific research associated with CCPs that are used or disposed of associated with mining sites.

The advisory board of this project includes representatives from consultants, utilities, universities, the United States Geological Survey, and federal and state mining and

reclamation officials. There is hope that other federal agencies such as the Department of Energy, Department of Agriculture, and the Environmental Protection agency will join this effort. ACAA Director of Technical Services, Barry Stewart represents ACAA on this advisory board, whose last meeting was held October 30, 1997 at the USOSM Mid-Continent Offices in Alton, Illinois. The next meeting of this advisory board will be May 22, 1998 also in Alton.

## **Encyclopedia Now On Line**

The Federal Highway Administration has recently put the "Encyclopedia of Recovered Materials for Highway Use" on-line. The official title is User Guidelines for Waste Material and Byproduct Materials in Pavement Construction. This document contains chapters on fly ash, bottom ash and boiler slag, and FGD Materials as well as 15 other recovered materials. The chapter related to CCPs provides a good companion to Fly Ash Facts for Highway Engineers and they extend that document by include CCPs other than fly ash. This publication is available on line at:  
<http://www.tfhr.gov/recycle/waste/begin.htm>

The primary purpose of this guideline document is to assist

those who have an interest in using or increasing their understanding of the types of waste and by-product materials that may be recovered and used in pavement construction applications. It is intended to provide the potential user or reviewer with sufficient information on each material included in this document so that he or she will have an understanding of the nature of the material, where other information may be obtained, and what issues need to be evaluated when considering its use. It is also intended to provide the reader with general guidance on engineering valuation requirements, environmental issues, and economic considerations for determining the suitability of using recovered materials in

pavement applications.

ACAA member Robert Collins was one of the co-authors of this report and chapters were reviewed by ACAA member Mitch Nowicki (American Fly Ash) as well as ACAA Director of Technical Services, Barry Stewart.

**If you have Internet news, mail, fax or E-mail it to Gregg Deinhart at ACAA.**

**Phone:**  
**703-317-2400**

**Fax:**  
**703-317-2409**

**E-mail:**  
**ACAA-Deinhart@msn.com**

## EPRI Report on Dioxin and Furans

Occasionally, ACAA receives questions about the typical dioxin (PCDD) and furan (PCDF) concentrations in fly ash and bottom ash from coal-fired boilers. The Electric Power Research Institute (EPRI) recently published such information in the report "PCDDs and PCDFs in Coal Combustion By-Products" [Report No. TR-110399, META Environmental, March 1998]. The report can be purchased from EPRI. A report summary, authorized by EPRI for publication by ACAA, is provided as follows.

EPRI tested 15 samples from 11 coal combustion disposal sites along with one certified reference sample of municipal incinerator ash. The coal ash samples showed little or no detectable PCDDs and PCDFs. All of the samples had no detectable levels for most of the 17 PCDD and PCDF congeners of toxicological interest. The analytical detection limits were from 0.1 to 3.1 ng/kg (parts per trillion, or ppt). None of the coal ash samples had any detectable levels of 2,3,7,8-TCDD at detection limits ranging from 0.12 to 0.8 ng/kg. The total PCDD and PCDF concentrations ranged from non-detect to 40 ng/kg. By way of contrast, the municipal incinerator ash sample had a total PCDD and PCDF concentration of 88,700 ng/kg.

One common method for evaluating dioxin and furan data is to calculate a single Toxicity Equivalent Factor (TEF) concentration. The concentrations of the 17 compounds of toxicological interest are multiplied by individual factors to reflect the toxicity that would be equivalent to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The coal ash samples had TEF concentrations ranging from non-detect to 0.064 ng/kg when the detection limit values were considered zero in the calculations. By way of comparison, the municipal incinerator ash sample had a TEF concentration of 1,460 ng/kg. For reference, EPA risk-based concentrations for soil ingestion are 40 ng/kg and 4 ng/kg in soil at industrial and residential areas, and typical soil remediation cleanup levels are 1,000 ng/kg.

The report was prepared by Jim Lingle of Wisconsin Electric Power Company (WEPCO) in cooperation with EPRI. Requests for this report should be directed to the EPRI Distribution Center, 207 Coggins Drive, P.O. Box 23205, Pleasant Hill, CA 94523 [Phone: 510-934-4212] or contact Lingle or ACAA's director of Technical Services, Barry Stewart.

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## Sustainable Development

The use of coal fly ash in concrete to displace part of the portland cement reduced CO<sub>2</sub> emissions from the cement industry by 4 to 5 million tons annually in recent years in the USA. ACAA projects annual reductions of 12 to 20 million tons of CO<sub>2</sub> emissions as fly ash continues to gain a greater share of concrete markets [Increased Fly Ash Use Under the Climate Challenge Program: A Summary of Participation Accords Between the Electric Utilities and the U.S. Department of Energy, Twenty-First Strategies (prepared for ACAA, March 1996)].

This recycling success story is due in part to Executive Order 12873 as well as federal agency efforts such as FHWA's [Fly Ash Facts for Highway Engineers - Fly Ash Use in: Concrete, Base, Flowable Fill, Structural Fill, Grout & Paving, U.S. DOT, FHWA-SA-94-081, August 1995].

Concurrently, U.S. EPA's Phase II NO<sub>x</sub> Emission Reduction Program has, in some cases, resulted in lower-quality fly ash and loss of market share [Analysis of Coal Ash Uses Before and After the EPA's Nitrogen Oxides Emission Reduction Program Goes Into Effect, Using the Life Cycle Assessment Approach; and, Comparison of Coal Combustion Products (CCPs) Used as Structural Fill Material vs. Disposal in a Landfill Using the Life Cycle Assessment Framework (both reports prepared by Ecobalance for ACAA, September 1997)]. Fortunately, overall fly ash use in concrete in the USA continues to increase, along with predictable decreases in CO<sub>2</sub> emissions.

## ACAA Attends Superfund

ACAA's Technical Analyst, John Connors represented ACAA and joined over 150 other exhibitors at Hazwaste World/Superfund XVIII. The annual conference was held December 2-4, 1997 in Washington, DC and attracted over 2,500 attendees.

The meeting's close proximity to ACAA's offices in Alexandria, Virginia allowed for other staff to travel to participate in the meeting. ACAA's Communications Coordinator

Gregg Deinhart used the opportunity to take photographs of ACAA's exhibit for future use.

Hazwaste World/Superfund XIX will be held March 17-19, 1999 at the newly renovated Convention Center in Baltimore, Maryland. Susan Cantor, Project Director of EJ Krause & Associates, the organizer of Hazwaste World/Superfund, said that "we are changing the date and locations for a number of reasons". She noted that many of the environmental

conferences were held at the end of the year. Cantor remarked that the move to March was made to "ease the fall schedules for exhibitors" and to "kick off the year" with Hazwaste World/Superfund.

Cantor added that the location was changed to Baltimore because the area has more work being done related to Superfund. She also noted that it was easier to obtain "support from state and local agencies" by holding the event there.

## Power-Gen 1997 Presents New Opportunities for ACAA Deinhart and Wandell attend Exhibits

Exhibiting at Power-Gen gives an organization like ACAA access to the thousands of participants who walk through the mammoth exhibit halls, but what about reaching other exhibitors? ACAA's approach to Power-Gen 1997 was to reach out to other companies exhibiting at the event and the results were very positive.

Tracy Wandell of Sphere Services and ACAA's Communications Coordinator Gregg Deinhart represented ACAA at Power-Gen 1997, held in Dallas, Texas, December 9-11, 1997. Power-Gen traditionally has 10-15,000 registrants and some 500 exhibitors. By walking through the exhibit halls, Wandell feels that "ACAA (was) best served by having two people work the show rather than wait for the show to come to the association." Deinhart and

Wandell returned from the meeting with over 100 contacts and according to Deinhart "the contacts we made in Dallas were people that were serious about getting more information about ACAA programs."

One of the programs that should reap the benefits of ACAA's experience at Power-Gen is the 13th International Symposium on Management and Use of Coal Combustion Products, set for January 11-14, 1999 in Orlando, Florida. Wandell points out that the contacts "in the utility industry, equipment manufacturers, and potential end-users" all are target groups for the Symposium. The exhibitors that ACAA met with at Power-Gen have been contacted by ACAA and many have requested additional information from ACAA.

Wandell and Deinhart also got

support from member-company Boral Material Technologies who, according to Wandell, provided a good forum for discussing ACAA membership benefits and offered Wandell and Deinhart "a great place to rest our feet". The 11th annual Power-Gen International, will be held in Orlando, Florida December 9-11, 1998.

### ACAA Promotional Items For Sale

For a full-color catalog and more information on ACAA apparel and promotional items, contact:

HW Koogler & Company,  
8804 Northshore Drive,  
Knoxville, TN 37922  
Telephone: 423-690-6596  
Fax: 423-691-2236



## International Conference Held in New Delhi

The International Conference on "Fly Ash Disposal and Utilisation" was held at the Hotel Hyatt Regency, New Delhi, 20-22 January 1998. The event was organized by Central Board of Irrigation and Power. ACAA Chairman Joel Pattishal was one of the 45 foreign delegates that made up nearly 400 registrants at the meeting.

In a formal letter to ACAA's Executive Director, Sam Tyson from P.K. Lal of the Central Board of Irrigation and Power, ACAA was thanked for their cooperation in support of the

conference. ACAA provided technical information for the conference and placed an advertisement in the proceedings volumes.

In all, 80 technical papers were presented and discussed during three days of the Conference spread over ten Technical Sessions. A panel discussion was held in the closing session. Dr. Wolfgang vom Berg of VGB and ECOBA was a member of the board that was moderated by Shri P.K. Kunde, Technical Director of the Maharashtra State Electricity Board (MSEB).

MSEB was one of the organizations that co-sponsored the event.

From the conference, a list of future goals were outlined. They include; continued technology transfer and investment support programs from companies outside India, a push for more large-volume uses of CCPs, additional efforts by utilities to facilitate more utilization, and continued growth of government fiscal incentives to India's CCP industry for the next five to ten years.

## ACAA Task Force on Pavement Durability Offers Guidance

In late January 1998 the Federal Highway Administration made interim recommendations on early distress in concrete pavements. The initial recommendations would have severely limited the use of Class C fly ash in concrete pavements dealing a blow to the industry in general.

These recommendations were largely based on the findings of the "Gress Report" (Early Distress in Concrete Pavement by Dr. David Gress). The Pavement Durability Subcommittee of the American Concrete Paving Association (ACPA) was asked to make comments on the recommendations of "Early Distress of Concrete

Pavements Interim Guidance to Minimize Potential Distress". Through participation in that group, ACAA's Task Force on Pavement Durability was made aware of the situation and submitted comments directly to FHWA.

The comments submitted by the task group were very persuasive and the new guidelines put out by FHWA on March 23, 1998 reflect the work of the task force. The original document contained statements such as "If a Class C (low silica/high calcium) fly ash is proposed, it should have demonstrated good field performance at the proposed dosage with the cement being used. Increased dosages of

low silica/high calcium ashes are likely to increase early distress." The new guidance document is free from such statements.

Many members of the task force submitted comments to FHWA. Robert Styron of Mineral Resource Technologies was particularly active in this effort, providing critical comments on all the references cited in the guidance document. Styron was also active soliciting comments from other concrete experts such as Bryant Mather of the U.S. Army Corps of Engineers. ACAA has copies of the new guidance document as well as many of the documents cited in the reference section.

## **Member News - Member News - Member News**

### **Cooperative Power to Receive Grant News from: Cooperative Power**

The Industrial Commission of North Dakota Lignite Research, Development and Marketing Program, approved the funding of Cooperative Power's Forced Oxidization Plant for Gypsum Production in December of 1997. Cooperative power will receive \$926,500 of the \$3.7 million from the grant for the project that will be based out of their Coal Creek Station.

ACAA's Andy Stewart has been a key figure in the project and said that the production of the facility is slated for August. When completed, the facility will produce nearly 100,000 tons of gypsum annually. The gypsum will be used in the production of wallboard and as an agricultural additive.

Stewart points out that "The forced oxidization equipment can be added to each of the plant's scrubbers while the plant is in full production" and added that the "construction of the conversion facility will not interfere with power production." A market study for the proposed gypsum products is being prepared by an outside contractor. The project is expected to open more doors for the CCP management programs at Cooperative Power and has received positive reactions from local media.

### **ACAA Member Naik Wins Teaching Award News from: University of Wisconsin-Milwaukee (UWM)**

Tarun Naik, director of the University of Wisconsin-Milwaukee (UWM) Center for By-Products Utilization, has been named the recipient of the College of Engineering and Applied Science Outstanding Teaching Award.

Naik, an associate professor of civil engineering and an ACAA Individual member, was honored for his work in "undergraduate and graduate courses, continuing education courses for UWM and others, and seminars he has organized that expose students to numerous experts in the area of concrete research and technology."

Naik began his teaching career at UWM in 1975. In the past 10 years he has taught many courses in civil engineering and mechanics. Despite being known as a rigorous instructor, he has consistently received higher than average evaluations from his students.

"He is extremely conscientious, and is very concerned that his students understand what he is teaching," wrote former student John Beffel. "He also stands behind his former students after they have ventured beyond the realm of educational endeavors."

Naik also has received other state and international teaching awards. In the last decade he has been honored for his classroom skills by the Wisconsin Chapter of the American Society of Civil Engineers, the Wisconsin Society of Professional Engineers, and the Mexican Cement and Concrete Institute.

***Member News - Submit your "Member News" to Ash at Work via mail, fax or e-mail! Send your news, with complete contact information to:***

**ACAA - 2760 Eisenhower Avenue, Suite 304 Alexandria, VA 22314 - 4553 USA  
Phone: 703-317-2400 Fax: 703-317-2409 E-mail: ACAA-USA@msn.com**

## ***Member News - Member News - Member News***

### **Full-Scale Carbon Burnout Plant for SCE&G**

#### ***News from: South Carolina Electric & Gas Company***

South Carolina Electric & Gas Co. (SCE&G) is combating the effects that the Clean Air Act Amendments of 1990 placed on their fly ash program. At the time of the legislation, SCE&G was selling over 80% of its byproduct for use in readymixed concrete and other concrete products. The addition of Low-NOx burners could have spelled an abrupt end to SCE&G's ash business, but today the utility is building a first-of-its-kind commercial carbon burnout (CBO) facility using technology developed by EPRI, Progress Materials, Inc., and eight utilities.

As Ted Frady, senior engineer in charge of SCE&G's ash utilization program, sees it, the ambitious new CBO plant is a can't-lose investment: "We'll preserve our fly ash market, we'll avoid having to pay over \$2 million a year to dispose of the ash, and we'll increase the efficiency of our plants by burning carbon that would otherwise go to waste."

SCE&G began considering its alternatives as soon as CAAA legislation was passed. "We anticipated that retrofitting low-NOx burners on our plants would increase the carbon in our fly ash, at least doubling ash's loss on ignition (LOI) from the present 2-5% to 10-15%," recalls Frady. SCE&G had been successfully marketing some 350,000 tons a year, "and we had a vision of selling 100%," says Frady. The prospect of

paying to dispose of ash was not inviting, "so we looked at many different technologies, anything anybody had, any leads that could help us keep our ash market."

Frady learned that EPRI and Progress Materials (PMI) had developed a promising fluidized-bed CBO technology and had, with Duke Power Co. and Florida Power Corp., built a CBO pilot plant in Tampa, Florida, to demonstrate the technology. He visited the plant, and later sent a tanker truck of ash to Tampa for a test burn. The processed ash was tested and it had a particle size and LOI that were suitable for concrete admixtures.

The South Carolina utility then asked EPRI and PMI to conduct a site-specific engineering design study of a CBO facility that would serve three of its plants. The three, comprising seven boilers, generate about 60% of SCE&G's ash, and all were scheduled for low-NOx burner retrofits.

The plan was for SCE&G to own and operate the full-scale facility, and "we needed to know what it would take to bring CBO to our site, operate it, interface it with the plant itself, and with our ash sales operation," explains Frady. The design that PMI developed called for a central CBO facility at one of the locations; additional ash would be trucked in from the other two plants. The

plant would process 24 tons of 12.5% LOI fly ash an hour, 178,000 tons a year, in a fluidized-bed combustor, producing about 160,000 tons a year of 1.5% LOI beneficiated ash. "Other than fuel for a startup burner, the process would be self-sustaining, requiring only the carbon in the ash itself to maintain combustion," notes EPRI Project Manager Tom Boyd. "And the ash would be the sole bed material, so there would be no solid waste to landfill."

As an added inducement, the proposed CBO facility would improve plant efficiency by recovering heat from the burnout process. The Btus would be put to good use heating feedwater, effectively decreasing the plant's heat rate by 1.5%, or about 140 Btu/kWh. While preserving its ash market was paramount to SCE&G, efficiency improvements were important as well: "We don't buy coal—we buy Btus," emphasizes Frady. "If we don't get all those Btus, we lose plant efficiency— and money." At the conclusion of the study, SCE&G gave the multi-million-dollar project the go-ahead. The facility is scheduled for completion by June 1998.

*Edited and reprinted from Tom Boyd's article in EPRI's "Fossil Plant News", Winter 1998, Issue 39*

## ***Member News - Member News - Member News***

### **Roberts-Dawson Mine Project Hosts Open House**

#### **News from: AEP**

The Roberts Dawson Mine Project in which fixated flue gas desulfurization (FGD) material is being use to produce a grout seal to eliminate acid mine drainage from an abandoned mine hosted a field day on October 30, 1997.

Approximately 135 interested people attended this open house. This two-year project 2.35 million dollar project was funded by American Electric Power and the Ohio Coal Development Office.

Other contributing parties include; the Ohio Department of Natural Resources' Mines and Reclamation Division, The U.S. Department of Energy, The U.S.

Department of the Interior Office of Surface Mines, Dravo Lime Company, and The Ohio State University (OSU). The Ohio EPA is also reviewing the progress of the project. ACAA's Director of Technical Services, Dr. Barry Stewart is a member of the advisory board for this important project.

OSU and AEP designed the project, and OSU will monitor the surface and groundwater for at least the next two years to assess the impact of FGD use. The project is expected to use over 26,000 tons of grout. If successful this project could become the blueprint reversing the environmental impacts of acid mine drainage.

This project is very innovative in that the grout is not being used to fill the entire mine but rather to seal the mine to back water up into the mine creating anoxic conditions and eliminating the acid mine drainage problem. Prior to the project water discharge from the abandoned mine was high in acidity and iron content.

So far, the results look quite promising. Acid mine drainage affects thousand of miles of streams in the Appalachian region, adversely impacting aquatic life and water quality. The knowledge gained from this project can be applied to other projects in Ohio as well as throughout the Appalachians.

### **ACAA to Meet in Atlanta October 5-6**

ACAA members will have two hotel choices for the October 5-6, 1998 Committee Meetings and Workshop in Atlanta Georgia. ACAA has rooms reserved at both the Swissotel or the Holiday Inn, based on availability. The meetings will be held in the Swissotel. The Holiday Inn is only one block from the Swissotel.

#### **Swissotel**

3391 Peachtree Road NE  
Atlanta, Georgia 30326  
For Reservations: 1-800-253-1397  
Guest Tel: 404-365-0065  
Guest Fax: 404-365-8787  
Room Rate: \$US 159.00 Single or Double Occupancy

#### **Holiday Inn Buckhead Hotel**

3377 Peachtree Road NE  
Atlanta, Georgia 30326  
For Reservations: 1-800-465-4329  
Guest Tel: 404-264-1111  
Guest Fax: 404-233-7061  
Room Rate: \$US 109.00 Single or Double Occupancy

#### **ACAA Meeting News**

**For more information about recent and upcoming ACAA meetings, take a look at the following stories:**

CCP Managers Program.....	1
ACAA/ECOPA Meeting in Toronto.....	3
13th International Symposium.....	4
ACAA Meets in Alexandria, VA.....	11
ACAA Meets in Las Vegas.....	12

## Political Partners for Concrete Results

ACAA is one of eight associate sponsors of the "1998 Government Affairs Conference of the Concrete & Cement Industries." The May 12-13, 1998 conference co-sponsors are the American Concrete Pavement Association, the American Portland Cement Alliance and the National Ready mixed Concrete Association. The conference, just underway at press time, provides an opportunity for all sponsors to interact with federal legislators and regulators concerning the issues affecting our industries.

For more information about , 1998 Government Affairs Conference of the Concrete & Cement Industries, see Internet site <<http://www.portcement.org/gov98.htm>>.

## National Transportation Week

The week of May 10-16, 1998 was designated by the U.S. Department of Transportation (DOT) as a time for transportation organizations to reach out to schools and community organizations, the news media and public officials to celebrate our national transportation system. In fact, this is a year-round activity for ACAA and some 24 other trade associations that support the Transportation Construction Coalition (TCC) and its broad range of legislative goals for the reauthorization of federal transportation in 1998.

For more information about U.S. DOT and National Transportation Week, see Internet site <<http://www.ota.fhwa.dot.gov/ntw>>. And, for current information from TCC, see <<http://www.transconcoalition.org>>.

## National Mining Association (NMA) Organizing U.S. Pavilion in Dusseldorf

A trade fair, MINETIME '99--The 5th World Mining Technology Exhibition & International Congress, will be held in Dusseldorf, Germany during the period, June 9-15, 1999. The National Mining Association (NMA) is organizing a U.S. pavilion at the trade fair to give American companies a cost-effective opportunity to exhibit and expand their business in the international marketplace. Almost 45 percent of all European Community citizens live within a 300-mile radius of Dusseldorf.

For more information on trade fair exhibits, registration, travel and hotels, see Internet site <<http://www.dtsusa.com/dts>>.

## The Portland Cement Industry

The cement industry is regional in nature. Because the cost of shipping cement quickly overtakes its value, customers traditionally purchase cement from local sources. In the United States, 50 companies operate 118 cement plants in 38 states. The vast majority of cement produced in the United States is shipped less than 300 miles (500 kilometers); about 89 percent of U.S. cement is shipped to consumers by truck, barge and train shipments account for the rest of the cargo. Although U.S. cement production is widely disbursed---the largest company produces just 12.5 percent of the industry total and the top five companies collectively produce less than 40 percent---the ownership of most of the domestic cement industry is in foreign hands. Foreign companies now own approximately 65 percent of U.S. cement capacity, up from about 22 percent in 1980. Investments during the 1980s by French, British, German, Swiss, Italian, Austrian, Swedish and Norwegian companies, as well as by Japanese, South Korean and Mexican entities, were spurred by the favorable position of the U.S. dollar against many foreign currencies. For more information, see <<http://www.pca.org>>.

## Legislative Process Smoothing the Bumpy Road for Transportation

Congressman Bud Shuster (R-Pa.), Chairman of the House Transportation and Infrastructure Committee, convened the House-Senate Highway Conference on the multi-year highway and transit reauthorization bills. Currently, funding levels and taking the highway trust fund off-budget are the main issues for debate. While both the Administration and Senate conferees have developed offers to address some of the major funding issues of the highway and transit reauthorization bill, Chairman Shuster is now concerned that the Memorial Day target for completion of the bill may not be met.

The Administration's offer, outlined to Senate and House leaders earlier this month by OMB Director Franklin Raines and Secretary of Transportation Rodney Slater, has a \$219-billion spending package stretched over seven years (as compared to the \$214 billion to \$218 billion authorization over six years, as proposed by the Senate and House, respectively). The Transportation Construction Council (TCC), including ACAA and other national trade associations, requested that conferees take swift action on the reauthorization legislation because more than 1,400 projects worth \$2.61 billion will be impacted between by June 1998 if no new federal funding is provided. A total of 47 leaders of state DOTs signed letters stating:

"We are very deeply concerned that the Federal government has not yet enacted long-term legislation reauthorizing highway, transit, and highway safety programs. Congress simply must complete action on this critically important legislation before its Memorial Day recess, and must include in such legislation provisions ensuring the expenditure of Federal funds for transportation investments at the highest levels sustainable from the Highway Trust Fund."

The House and Senate conferees are as follows: from the House Transportation & Infrastructure Committee--Chairman Shuster (R-Pa.), Oberstar (D-Mn.), Young (R-Ala.), Petri (R-Wis.), Boehlert (R-N.Y.), Kim (R-Cal.), Horn (R-Cal.), Fowler (R-Fla.), Baker (R-La.), Ney (R-Oh.), Metcalf (R-Wash.), Rahall (D-W.Va.), Borski (D-Pa.), Lipinski (D-Ill.), Wise (D-W.Va.), Clyburn (D-S.C.), Filner (D-Cal.), and McGovern (D-Mass.); from the Senate Environment & Public Works Committee--Chairman Chafee (R-R.I.), Baucus (D-Mont.), Warner (R-Va.), Smith (R-N.H.), Kempthorne (R-Id.), Inhofe (R-Ok.), Thomas (R-Wy.), Bond (R-Mo.), Hutchinson (R-Ark.), Allard (R-Colo.), Sessions (R-Ala.), Moynihan (D-N.Y.), Lautenberg (D-N.J.), Reid (D-Nev.), Graham (D-Fla.), Lieberman (D-Conn.), Boxer (D-Cal.), and Wyden (D-Ore.). The following are also involved, because of Senate funding and mass transit considerations: from the Senate Finance Committee--Chairman Roth (R-Del.), Grassley (R-Io.), Hatch (R-Ut.), Breaux (D-La.), and Conrad (D-N.D.); from the Senate Banking, Housing & Urban Affairs Committee--Chairman D'Amato (R-N.Y.), Sarbanes (D-Md.), Gramm (R-Tex.), Shelby (R-Ala.), and Dodd (D-Conn.); from the Senate Commerce, Science & Transportation Committee--Chairman McCain (R-Ariz.), Hollings (D-S.C.), and Stevens (R-Alas.); and, from the Senate Budget Committee--Chairman Domenici (R-N.M.), Nickles (R-Ok.), and Murray (D-Wash.).

The major differences between the two bills, H. R. 2400 (House Report #105-467) and S. 1173 (Senate Report #105-95) are as follows: state funding formulas; trust fund off-budget; funding over six years of \$181 billion (House) and \$173 billion (Senate over seven years); House bill has 1,467 "demonstration" projects, versus the Senate bill which has only one, the Woodrow Wilson Bridge connecting Maryland and Virginia just south of the District of Columbia (one mile from ACAA's offices); off-setting funds to be found in other federal programs to retain budget balance of 1997; and other issues affecting funding mechanisms and mass transit.

In any case, the funds in these bills are merely reauthorizations. The House and Senate Budget and Appropriations Committees must still approve their actual spending (appropriations) each fiscal year during the six- (or seven-) year life of this soon-to-be-approved legislation.



## Coal Ash

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## Career Opportunities Sought -- ACAA Initiates Job Forum

During the last several years, and particularly in 1997, individuals seeking to move from one area of CCP management and use to another have contacted ACAA for assistance. Typically, such individuals have worked for either electric utility or marketing companies and feel that their experience could lead to more rapid growth in another environment. At this time, ACAA has confidential information from four such individuals, each of whom is currently employed full-time, with work experience ranging from four to fourteen years.

If your company is seeking an employee with experience in

CCP management and use and would care to send a confidential inquiry in writing to ACAA specifying your requirements, we will offer your information to the individuals who appear to meet your needs and ask them to respond at their discretion.

Companies and individuals wishing to run specific advertisements in Ash at Work may do so for a fee.

Please see related advertising information in this issue or contact ACAA's Communications Coordinator, Gregg Deinhart, for additional information about advertising rates and layout specifications.

### Send Your News to ACAA

ACAA is in the process of gathering information for the next issue of Ash at Work and we need your help. If your company has any ash-related project news that you would like to see in print, send it to ACAA.

Complete stories or story ideas can be sent to ACAA via E-mail, fax or mail. If you have the story in electronic format, send the story on disc in a Microsoft Word or WordPerfect format.

### Just a Reminder

Make sure to register for ACAA's Educational Program for Managers of Coal Combustion Products (CCPs)- (See page 1) and the ACAA, ECOBA Joint Workshop on CCP Management and Use: Management & Use Programs for CCPs in Europe and North America -- Influences of Regulations, Specifications and Guidelines. (See page 3). Time is running out.

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