



ACAA

Ash At Work

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ACAA Membership Nears 100 Mark

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New ACAA Membership Directories Updated in August, Membership Up

Alexandria, Virginia - The new ACAA Membership Directories were sent out in August and membership is on the rise. The August 1995 update of the Membership Directory lists 94 members and documents a steady growth over the past two years. Currently, the association is reviewing other candidates for membership and ACAA Executive Director Sam Tyson is confident that membership will continue to grow. Tyson said that "We have a number of interesting prospects and hope to reach 100 members in the next three to six months".

The membership is made up of 36 Electric Utility Producers of Coal Combustion Byproducts (CCBs)--Class U; one International (Non-USA) Producer--Class IN; three Non-Utility Producers--Class N; seventeen Marketers--Class M; 31 Organizations--Class O; and six Honorary--Class H members.

ACAA has seen its largest percentage growth in membership among the Marketers--Class M category. The number has nearly doubled in the past two years.

The directory lists ACAA Officers, Executive Committee, Standing Committees, Staff and Board of Directors.

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ACAA membership is currently at the largest point in history and although membership growth is traditionally slow at the end of the calendar year, Tyson expects things to continue to move forward in the early part of 1996. Often, potential members will wait until the beginning of a new year to join the association.

What's New?

Ash at Work is introducing a new feature in this issue called "Tyson's Corner", written by ACAA Executive Director Sam Tyson. See page 2 for Tyson's comments on ECCO. (Environmental Council of Concrete Organizations)

Tyson's Corner

With direction received from our members in Denver this July, ACAA has become a member of the Environmental Council of Concrete Organizations (ECCO). I attended the July 25, 1995 meeting of ECCO's Board of Directors in Skokie, Illinois, at which time ACAA was approved as a voting member. ECCO's bylaws state its mission which is to "improve the quality of the environment by developing and disseminating information on the environmental aspects of concrete and concrete products".

Issues that are being addressed by ECCO include: environmental impacts of concrete production and use; comparisons of concrete with wood, steel and other construction materials on the basis of factors such as "embodied energy;" sustainable building; impacts on water, air and land; and various other factors.

Involvement in ECCO provides an opportunity for ACAA and its members to share with the concrete industry some of the knowledge and experience gained with respect to environmental awareness by the CCB industry over more than a quarter century. The concrete industry has long known of the technical and commercial benefits associated with the use of fly ash in concrete. Now, through ECCO, ACAA can deliver a strong and positive message about the **environmental** benefits of using fly ash. If concrete is to earn a "green label" from designers and architects it will be due in large measure to the environmental advantages derived from the use of fly ash.

A recent editorial [Asphalt Contractor, May 1995] gave ECCO a "resounding yawn" in an attempt to minimize the potential benefits to the concrete industry of a "move to the environmental camp." In 1995, every industry must deal with the environmental burdens to which it contributes, and no industry can afford to ignore the environmental benefits that its products can achieve. ACAA has a strong and positive message about environmental benefits to deliver with other ECCO members.

Other members of ECCO include: the American Concrete Pavement Association; American Portland Cement Alliance; Concrete Reinforcing Steel Institute; Expanded Shale Clay and Slate Institute; National Ready Mixed Concrete Association; National Stone Association; Portland Cement Association; and Precast/Prestressed Concrete Institute.

Sam Tyson
Executive Director

ACAA Chairman Andy Stewart Attends ECOBA Meeting in Glasgow, Scotland

Glasgow, Scotland - ACAA Chairman Andy Stewart attended the July 3-4 meeting of the European Association for Use of the Byproducts of Coal-Fired Power Stations (ECOBA). Members from thirteen European countries met to discuss the current issues facing ECOBA. Many of the topics discussed are of direct interest to ACAA. ECOBA is very interested in working with ACAA to arrange a meeting between the two groups followed by a jointly sponsored symposium.

They also hope to update and exchange publication lists with ACAA, creating a combined library of publications to be made available through both organizations. Another area that the two groups hope to help each other is in the sharing of information about Naturally Occurring Radioactive Material (NORM). NORM is a growing issue in many countries and has been addressed in some but not others. Stewart encouraged the exchange of research currently being compiled. ECOBA is currently struggling for recognition as an

organization when they attend meetings or when they call on agencies. A meeting has been planned between ECOBA and other European electricity producers to discuss how the groups can work more closely together.

A marketing committee has been set up and their first order of business is to address marketing and publications concerns. Groundwork for a newsletter has been established and the organization also plans to publish a more formal annual report and business plan along the lines of ACAA. Members have been asked to submit data on utilization projects, environmental issues, research and other related topics for future action by ECOBA.

ECOBA discussed a plan to implement a report on the various marketing techniques in each member country. The object of the report is to stimulate ideas and problem solving techniques used in individual member-countries that may be helpful to others. One marketing technique discussed was the way that

Germany focuses their market concentration on specific products rather than CCBs. They have found that people care less about where the product comes from as long as the product is valuable. Germany has also been very active in educating school children and university students to better prepare for the future.

Members were encouraged to get their ash use surveys in as soon as possible. The utilization of the ECOBA group is about 50% with 67 million tons of CCBs produced annually. Material safety data sheets are also a hot topic of discussion and members were encouraged to submit their respective sheets so that CCBs can be covered.

Upcoming events for ECOBA include conferences on September 21-22 at Leeds University in England and June 24-26, 1996 in Dundee, Scotland. The next ECOBA meeting is scheduled for November 23-24, 1995 in Madrid, Spain. The summer meeting will be held July 1996 in Brussels, Belgium and the November 1996 meeting in Brindisi, Italy.

ACAA Hosts Denver Quarterly Meeting

Denver, Colorado - ACAA welcomed over 50 participants to ACAA Quarterly Committee Meetings and CCB Management & Use Workshop, July 17th -19th. Each committee session began with a look back at notes from the Memphis meeting and a look forward to the upcoming Pittsburgh meeting. The Highlights of the Committee meetings are as follows.

Communications and Marketing Committee Meeting Report

Issues covered in the Communications and Marketing meeting included discussion about the new computer system at ACAA, updates on the 1994 CCB Production and Use Survey. There was also a publications update. Members should look forward to a new video on flowable fill and a newly revised brochure is expected to come out this fall.

An update of ACAA education programs reported that full sets of 1995 Symposium Proceedings have been distributed to over 80 universities to date. The process is ongoing.

Technical Committee Meeting Report

Day number two of the Denver conference began with a meeting of the Technical Committee. Following a recap of Memphis, the status of the provisional standard for structural fill and the proposed specification for fly ash used in solidification was the first order of business. Other items on the agenda included proposals for R&D and a preparation of a legal annex attached to CCB standards of the American Society for Testing Materials (ASTM). The Technical Committee also issued calls for papers for future events.

Government Relations Committee Meeting Report

Legislative amendments to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) were the opening topics for the Government Relations Committee Meeting. A copy of the amendment was made available to members.

Naturally Occurring Radioactive Materials (NORM) and their relationship to coal ash was another important meeting topic. An EPA draft report that included NORM evaluation of ash use and

disposal sites was discussed in addition to the status of *Regulation and Licensing of Naturally Occurring Radioactive Materials*, the suggested state regulations prepared by the Conference of Radiation Control Program Directors (CRCPD).

Other topics of interest included the discussion of ACAA's *State Solid Waste Regulations Governing the Use of CCBs*, as well as EPA's *Comprehensive Procurement Guidelines for Environmentally Preferable Products*.

CCB Management & Use Workshop Update

The workshop, "Change and Challenge in the CCB Industry" followed the committee meetings. The workshop was broken into two half day sessions.

Each session began with opening introductions and remarks by ACAA Executive Director, Sam Tyson and each session featured guest speakers. The speakers and their session topics are listed on page 5.

Following the CCB Management & Use Workshop, ACAA staff and members participated in a joint meeting with the Region 8 Ash Group.

Change and Challenge in the CCB Industry Speakers and Paper Topics

Tuesday, July 18th, 1995

Jerry Bancroft
Montana State University
*Green Building Projects -
Regional and National
Perspectives*

Van Jamison
Montana Department of Natural
Resources - Energy Division
*Helping One Another Transform
"Ash to Cash"*

Kathlene Sullivan
BSW International
*Resource Management - An
Architect's Perspective*

Claudine Schneider
Chair, Renew America
Board of Directors
*National Awards for
Environmental Sustainability*

Wednesday, July 19th, 1995

Chon G. Martinez
Houston Lighting & Power
*Management of CCBs for
Revenue Enhancement*

Howard J. Humphrey
American Electric Power
Service Corporation
*Increased Utilization of CCBs
and Related Benefits to the
AEP System*

Joel Pattishall
Pennsylvania Power and Light
*A Road Map for Internal and
External Coal Ash Marketing*

Larry Harper
Duke Power
*CCBs in Structural Fill
Applications - Vision and Reality*

Department of Energy, Cooperative Power Sign Voluntary CO2 Accord

Washington, DC - A voluntary agreement to reduce CO2 emissions to 1990 levels by the year 2000 has been signed by Cooperative Power and Department of Energy. The *Climate Challenge Participation Accord Between United States Department of Energy and Cooperative Power Association* was signed by Hazel O'Leary, Secretary of Energy and Julian Brix, General Manager of Cooperative Power.

ACAA Chairman Andy Stewart is confident that Cooperative Power will be able to significantly cut GHGs with help from coal ash recycling programs. The programs, outlined by Stewart, will trim nearly half the CO2 (in tons) that the Demand Side Management Programs (DSM) hope to cut. Such programs are part of a growing trend by the industry to recycle CCBs. The DSM programs presented by Cooperative Power to the Department of Energy are meant to reduce CO2 emissions by conserving energy through the modernization and replacement of inefficient systems at residential,

commercial and industrial levels. The DSM programs focus on efficient lighting, water heater blankets, low-flow shower heads and other on-location projects.

ACAA has been actively promoting the benefits of CCB use to reduce CO2 emissions. Procedures and technical information contained in recently published papers, co-written by ACAA Executive Director Sam Tyson, was used by Cooperative Power implementing their Climate Challenge Accord. (See pg 6)

NEW ACAA PUBLICATIONS

ACAA has recently added the following publications:

- *Coal Combustion Byproduct (CCB) Production & Use: 1966 - 1993 -- Report for Coal-Burning Electric Utilities in the United States*, ACAA, March 1995.
- *Sulfate Resistance of Fly Ash Concrete: An Overview of Selected Publications*, ACAA, March 1995.
- *Solidification and Stabilization of Wastes Using Coal Fly Ash: Current Status and Direction*, ACAA, April 1995.
- *State Solid Waste Regulations Governing the Use of Coal Combustion Byproducts (CCBs)*, ACAA, April 1995.
- *Use of Fly Ash to Improve Concrete Durability by Reducing Permeability*, ACAA, May 1995.

ACAA Calender

For more information on
upcoming ACAA meetings,
see Calender on Page 10.

Papers on Coal Ash Use to Reduce CO2 Emissions Presented in Orlando and Memphis

Memphis, Tennessee - Two papers on the use of CCBs to reduce CO2 emissions were presented at ACAA meetings this year. The papers were co-authored by ACAA Executive Director, Sam Tyson and Daniel E. Klein, Senior Vice President of ICF Resources. The first paper, *Climate Change and New Opportunities for Coal Combustion Byproducts* (CCBs), was presented at ACAA's 11th International Symposium on Management and Use of Coal Combustion Byproducts in Orlando, Florida, in January 1995. The second paper, entitled *Further Opportunities for Coal Combustion Byproducts to Reduce Greenhouse Gas Emissions* was presented at ACAA's April 1995 Workshop in Memphis, Tennessee. Both papers highlight ways that CCB use in various applications will help reduce the amount of CO2 released into the environment by major portland cement and aluminum manufacturers. *Climate Change and New Opportunities for Coal Combustion Byproducts*

states that when CCBs are used in concrete mixtures to displace cement, the result is a substantial savings in CO2 emissions. The paper notes that current use of fly ash saves about 4 to 5 million tons of CO2 emissions in the US annually because the material has already been produced and is readily available. Using fly ash to displace portland cement is also suggested as a way to reduce GHGs by an additional 12 to 20 million tons per year in the US alone.

Further Opportunities for Coal Combustion Byproducts to Reduce Greenhouse Gas Emissions highlights additional ways that GHG emissions can be reduced with the use of CCBs. While the major potential for GHG reduction comes from the cement and concrete industry, savings from other industries are substantial. The use of CCBs to displace lime in soil stabilization and modification may reduce the amount of GHGs by 75,000 tons. Other areas of interest mentioned were CCB applications in flowable fill, mine reclamation, and waste stabilization/solidification. The paper also addressed the potential use of fly ash in the aluminum industry that could provide an annual GHG savings of more than

1.1 million metric tons of carbon equivalent.

The government's Climate Change Action Plan is of special interest to ACAA members. The papers support voluntary agreements between electric utilities and the Department of Energy, to reduce net emissions of GHGs to 1990 levels by the year 2000. (See pg 5)

ACAA Appoints New Communications Coordinator

Alexandria, Virginia - ACAA has named Gregg Deinhart as its new Communications Coordinator. Deinhart has a Bachelor of Science degree in Communications and Public Relations from the State University of New York at Fredonia. He has been living in the Washington, DC area for the past three and a half years working for a graphic design firm.

While in Washington, he has done public relations consulting for small businesses. Prior to moving to the Washington area, Deinhart was a marketing assistant with an independent record label based in Buffalo, New York.

Fifth CANMET/ACI International Conference on Fly Ash, Silica Fume, Slag and Natural Pozzolans in Concrete Held in US

Milwaukee, WI - ACAA's Director of Technical Services, Tom Blackstock, presented a paper and chaired a technical session at the Fifth CANMET/ACI International Conference on Fly Ash, Silica Fume, Slag and Natural Pozzolans in Concrete. The Canadian Centre for Mineral and Energy Technology (CANMET) and the American Concrete Institute (ACI) have co-sponsored each of the conferences to date and have brought the conference to the United States for the first time. ACAA was a member of the Local Committee that helped with the event held in Milwaukee, Wisconsin June 4-9, 1995.

Blackstock presented a paper and also chaired a technical session. The paper, *Coal Combustion Byproducts (CCBs) - Flowable Fill Applications in the U.S.A.*, summarized the production and use of CCBs and various applications with an emphasis on flowable fill. Blackstock also commented on several prominent

regulatory and legislative issues that are important to the CCB industry.

Blackstock's session featured three papers; *Byproduct Lightweight Aggregates - Assessment of Technology; Performance of Sintered Fly Ash Lightweight Aggregate in Structural Concrete; and Use of Fly Ash to Improve Concrete Durability by Reducing Permeability*. The last of the three papers, on concrete durability, was sponsored by ACAA and presented by J.M. Scanlon of Wiss, Janney, Elstner Associates, Inc. The conference provided an opportunity for ACAA to meet with industry leaders and researchers from around the world.

The first CANMET/ACI International Conference was held in Quebec, Canada in 1983. The second conference was held in Madrid, Spain in 1986; the third was held in Trondheim, Norway in 1989; and in 1992, the fourth conference was held in Istanbul, Turkey. Each of the conferences to date has been jointly sponsored by CANMET and ACI, with additional sponsorship provided by organizations from the host nation. This year, the two volume conference proceedings contain 62 papers from 23 countries.

New FHWA Fly Ash Handbook Nears Completion With Assistance From ACAA

Alexandria, Virginia - ACAA and the Federal Highway Administration are finalizing the update to the 1986 publication, *Fly Ash Facts for Highway Engineers*.

The FHWA recently completed a review of ACAA's preliminary draft. Following the initial review, ACAA's Director of Technical Services, Tom Blackstock and newly appointed Communications Coordinator, Gregg Deinhart, met with representatives from FHWA, bringing the project close to completion and distribution.

The updated version of the publication reflects current uses of fly ash in a variety of applications. Topics highlighted in the updated publication include fly ash as an engineering material and the frequent applications of fly ash: Use in Portland Cement Concrete; Use in Stabilized Road Bases; Use in Flowable Fill Applications; Use in Grouts for Concrete Pavement Subsealing; Use in Fast Track Concrete Pavement; and Use in Structural Fills/Embankments.

ACAA Members Looking to Hold ASTM Posts

Philadelphia, Pennsylvania - ACAA members Mike Italiano and Gwen Eklund, Chair and Vice Chair respectively, are seeking reelection in the ASTM Committee E50 on Environmental Assessment. The committee is involved with the development of practices, test methods, definitions and other standards. The new term of office will be effective from January 1, 1996 to December 31, 1997.

Committee E-50 is composed of six subcommittees. Each subcommittee deals with a specific area of committee interest; E50.01, Storage Tanks; E50.02, Commercial Real Estate Transactions; E50.03, Pollution Prevention, Reuse, Recycling, and Environmental Efficiency; E50.04, Performance Standards Related to Environmental Regulatory Programs; E50.05, Wetlands and; E50.06, Green Buildings. The E50.06 Green Building Subcommittee Meeting was held August 12, in Big Sky, Montana and ACAA Executive Director Sam Tyson attended the meeting. (See pg 9)

Eklund is the acting Chairman of Subcommittee E50.03. Subcommittee E50.03 is

currently finalizing a new standard, *Guide for the Use of Coal Combustion Ash in Structural Fills*.

Three additional topics; Coal Ash in Waste Stabilization, Test Method for Moisture-Density Relationship CCBs and, Test Method for Unconfined Compressive Strength Measurement of CCBs are being considered by members of the ASTM E50.03 committee.

National Concrete and Masonry Engineering Conference III

San Francisco, CA - NCMEC III '95, the third National Concrete and Masonry Engineering Conference (NCMEC) gathered an international group of participants in San Francisco, California June 15-17. The event, held every three years, featured sessions on all aspects of design and construction of concrete structures. NCMEC III was attended by a diverse group of designers and specifiers from throughout the USA and abroad. NCMEC III was cosponsored by 17 trade and professional associations, including ACAA. Tom Blackstock, Technical Director of ACAA, represented members at the conference.

ACAA's recently published research report, *Use of Fly Ash to Improve Concrete Durability by Reducing Permeability*, was presented by John Scanlon, project manager with Wiss, Janney, Elstner Associates. The research was commissioned by ACAA to more accurately assess the performance of fly ash as a "mineral admixture that decreases the permeability of hydraulic cement concrete." Scanlon also recently presented the paper at the Fifth CANMET/ACI International Conference on Fly Ash, Silica Fume, Slag and Natural Pozzolans in Concrete. (See pg 7)

This year, for the first time, three international sessions were developed on high rise buildings and seismic retrofit and strengthening of concrete and masonry buildings. Presenters for these sessions came largely from South American and Pacific Rim countries.

**For more information
about ACAA and
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CCBs contact--**

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ASTM Green Building Subcommittee Meets to Discuss Life Cycle Assessment (LCA)

Big Sky, Montana - ACAA Executive Director Sam Tyson attended the ASTM Green Building Subcommittee Meeting - E50.06 in Big Sky, Montana on August 12, 1995. The E50.06 Subcommittee presented information from eight task groups and a topic of particular interest to ACAA members, Life Cycle Assessment (LCA), was the focus of Task Group E50.06.01 business.

The subcommittee heard discussion and presented a ballot on three new standards regarding LCA; *Standard Guide for Environmental Life Cycle Assessment of Building Products Materials*; *Standard Guide for Conducting a Life Cycle Assessment and Inventory of Building Materials and; Standard Terminology for Life Cycle Assessment of Building Products and Building Materials*.

Many aspects of Life Cycle Assessment are still in the developmental stages and these documents will

advance the use of this tool. *New Standard Guide for Environmental Life Cycle Assessment of Building Products Materials* is a general guide broken down to major topics of; Goal Definition and Scope, Inventory Analysis, Impact Assessment, and Improvement.

Assessment of Building Products Materials - Standard Guide for Conducting a Life Cycle is a guideline for gathering a LCA inventory of raw materials and energy use and understanding the impact on the environment. The guide recommends a procedure from the time raw materials are gathered from the earth to the time that all residual materials are returned to the earth.

New Standard Terminology for Life Cycle Assessment, of Building Products and Building Materials is designed to develop a standard vocabulary on LCA. Each of the three new ASTM documents will help to more clearly define this rapidly developing science.

The task groups that met in Montana are: LCA - E50.06.01; Green Building Standards - E50.06.02; Residential New

Building - E50.06.03; Residential Existing Building - E50.06.04; Sustainable Harvested Wood - E50.06.05; Environmentally Preferable Cleaners - E50.06.06; Recycling Mercury Blasters - E50.06.07; and Sustainable Site Planning - E50.06.08.

ACAA Supports Conference for University Faculty

Cincinnati, Ohio - The third Annual Undergraduate Faculty Enhancement Symposium on Advanced Cement-Based Materials was held July 9-12 1995.

The event is organized by the NSF Center for Science and Technology of Advanced Cement-Based Materials (ACBM), located at the McCormick School of Engineering and Applied Sciences at Northwestern University located in Evanston, Illinois.

ACAA helped to sponsor the event along with ACAA member Monex Resources and other industry leaders including; Grace Construction Products, Master Builders, Inc., National Ready Mix Concrete Association and Portland Cement Association.

ACAA Meeting Calendar September - October, 1995

September

11-13 National Recycling Coalition
14th Annual Congress & Exposition
Kansas City, MO

[ACAA represents members & sponsors exhibit booth]

11-15 Twelfth Pittsburgh Coal Conference
Pittsburgh Green Tree Marriott - Pittsburgh, PA

[ACAA represents members & chairs session]

26-27 DOE Project Review/R&D for CCB Utilization
Carbondale, IL

[ACAA represents members & makes presentation]

October

9-11 ASTM Committee D34 Main Meeting
Marriott Waterside Hotel - Norfolk, VA

[ACAA represents members]

16-18 Eastern Region Committee Meetings & Workshop
American Coal Ash Association
Sheraton Hotel - Pittsburgh, PA

23-25 University of Kentucky Ash Utilization Symposium
Hyatt Regency - Lexington, KY

[ACAA represents members & sponsors exhibit booth]

23-27 ASTM Committee E50 Main Meeting
Amelia Island Plantation - Amelia Island, FL

[ACAA represents members]

Message to Members We want to hear from you!

Ash at Work wants to hear from you. We welcome all news from our members. If you have an article or idea to submit to Ash at Work, send it to us at:

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ACAA Announces Call for Papers for 1997 Symposium

Alexandria, Virginia - ACAA Executive Director Sam Tyson and Manager of Finance & Administration, Lisa Harrington have finalized a hotel contract with the Buena Vista Palace in Orlando, Florida for the 12th International Symposium on Management and Use of Coal Combustion Byproducts (CCBs). Communications Coordinator Gregg Deinhart has sent the announcement to the printer. Over 5000 announcements will be sent out in September. Similar to the 1995 event, ACAA expects to have some 100 technical papers plus exhibitors and various other events and activities, January 26-30, 1997. Attendance at the symposium is expected

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