

UWM-CBU Concrete Materials Technology Series Program No. 71
Workshop on GREEN CONSTRUCTION MATERIALS USING COAL-COMBUSTION PRODUCTS



Center for By-Products Utilization
3200 North Cramer Street, Room W309
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Milwaukee, WI 53201

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UWM-CBU Concrete Materials Technology Series Program No. 71
**Workshop on GREEN CONSTRUCTION MATERIALS
USING COAL-COMBUSTION PRODUCTS**

Sponsored By

UWM Center for By-Products Utilization, Milwaukee, WI
We Energies, Milwaukee, WI

Co-Sponsored By

American Coal Ash Association Educational Foundation; Lafarge; Headwaters, Inc.; A. W. Oakes & Son, Incorporated;
Wisconsin Chapter, American Concrete Institute; Wisconsin Concrete Pavement Association; and
Wisconsin Ready-Mixed Concrete Association

May 1 - 2, 2008, DoubleTree Hotel, Milwaukee, WI

Workshop Description

The purpose of the workshop is to bring to attendees the latest information available regarding LEED ratings established by USGBC and how to increase this rating with the use of coal combustion products and other recyclable materials in green construction. The program will include presentations showing important technical, energy, environmental, and economic advantages of using coal ash and other recyclable materials in ordinary, everyday construction applications. The workshop should be of interest to those associated with the construction industry, including design and materials engineers; architects; engineering technicians; engineers working in governmental agencies, industry, and private practice; engineering faculty and students; as well as ready-mixed concrete producers, concrete products manufacturers, and concrete contractors. The workshop will also provide significant help to people from utilities and other industries producing coal ash and other recyclable materials. The program will cover basic information, application case histories, as well as the latest developments in increasing LEED rating. Knowledgeable professionals engaged in specifying, approving, marketing, and using these materials will present state-of-the-art information. Handout materials will be provided.

**UWM-CBU Workshop on
GREEN CONSTRUCTION MATERIALS USING COAL-COMBUSTION PRODUCTS
PROGRAM**

Thursday, May 1, 2008

- 8:00 a. m. Registration and Coffee.
- 8:30 Introduction. Tarun R. Naik
- 8:40 Benefits of green buildings and the LEED rating system established by the US Green Building Council; and, how recyclable materials help improve the LEED rating.
Connie Lindholm
- 9:30 Use of Coal Ash in Concrete and Concrete Products: Classification (Class F, Class C, Class N, and SDA & Clean-Coal Ash); Chemical Composition; Physical and Mechanical Properties; Ready Mixed Concrete; Precast/Prestressed Concrete; and, Concrete Bricks, Blocks, and Paving Stones.
Tarun R. Naik
- 11:00 Coffee Break
- 11:20 Placing, Compacting, and Finishing Concrete Containing Fly Ash.
Jack Gibbons
- 12:00 p.m. Lunch
- 1:00 Contractors' Experience in the Use of Fly Ash in Concrete Pavements: A Competitive Advantage.
Kevin McMullen
- 1:45 Bottom Ash Utilization, Recovered Ash Utilization from Monofills, Controlled Low Strength Materials (Flowable Backfill), and Composite Metal Alloys.
Bruce W. Ramme
- 3:00 Break
- 3:20 Carbon Dioxide Sequestration and Noise Abatement Using Materials Containing Coal-Combustion Products.
Tarun R. Naik
- 4:10 Base and Sub-base Stabilization with Self-Cementing Class C Fly Ash.
Tim Muehlfeld
- 4:55 Adjourn
- 5:15 Reception – Cash Bar
- 6:15 Dinner

Friday, May 2, 2008

- 8:00 a. m. Registration and Coffee.
- 8:30 Recycling of Coal-Combustion Products, a Producers Perspective: We Energies CCP Utilization Program Overview, Quality Management, and Ash Fuel Reburn & other Beneficiation Technologies.
Art Covi and Bob Meidl
- 9:45 Quality Control and Transportation of CCPs.
Dave Diedrick
- 10:20 Coffee Break
- 10:40 Environmental Considerations for the Use of CCPs: Wisconsin Department of Natural Resources Guidelines.
Bizhan Sheikholeslami
- 11:25 FGD Gypsum Utilization: Wallboard, Cement Manufacturing, and Agricultural Applications.
Bruce Ramme
- 12:15 p.m. Lunch
- 1:15 Use of Fly Ash in Concrete and Flowable Slurry – A Ready-Mixed Concrete Manufacturer's Perspective.
Steve Pozza
- 1:50 25-Year History of Structural Concrete with High Amounts of Class C and Class F Fly Ash – Experimental and Construction Applications.
Tarun R. Naik
- 2:30 Break
- 2:50 Use of Fly Ash in Ready-Mixed Concrete – The WRMCA Perspective.
Pat Bauer
- 3:25 General Discussion - Special Applications & Local Needs; and, Where do we go from here?
- 4:00 Adjourn

SPEAKER INFORMATION

The program is currently scheduled to include the following speakers:

Pat Bauer, Technical Marketing Director, Wisconsin Ready Mixed Concrete Association, Madison, WI.

Prior to his work with WRMCA, he was Regional Sales Manager for Indiana Phoenix, Inc.; W.R. Grace and Company as Field Technical Sales and Engineering Sales Representative; and with Central Ready Mixed Concrete as Director of R&D. He is past president of the Wisconsin Chapter of ACI and has been an associate and producer board member of WRMCA.

Art Covi, P. E., Principal Engineer, Coal-Combustion Products Team Leader, We Energies, Milwaukee, WI.

Mr. Covi has over 28 years of experience with We Energies. He has managed a variety of MGP, PCB, Ash Landfill, and other site investigations and remediation projects including budgeting, risk assessment and contractor management. He holds a BS in Civil Engineering degree from UW-Milwaukee.

Dave Diedrick, Utility Service Manager, Lakes & Seaway Business Unit, Lafarge.

Mr. Diedrick has worked for Lafarge in a number of different positions. He has a B.S. in Construction Engineering from Lawrence Technological University and a MBA in Marketing from DePaul University. Prior to joining Lafarge, he worked for Holloway Construction Company and the Michigan Department of Transportation.

Jack Gibbons, Central Regional Manager, Concrete Reinforcing Steel Institute, Chicago, IL.

Prior to joining CRSI, Mr. Gibbons was Director of Technical Services for Central Ready Mix, Milwaukee, and at Prairie Materials in Chicago. He is a member of the ACI, serving on Committee 302, Guide for Concrete Floor and Slab Construction; 360, Design of Slabs on Grade; and 362, Parking Structures. Mr. Gibbons is Past President of the Wisconsin Chapter of ACI.

Connie Lindholm, Executive Director, Wisconsin Green Building Alliance, Milwaukee, WI.

Ms. Lindholm has an educational and professional background in civil and environmental engineering and in public works engineering. She worked for the Milwaukee Metropolitan Sewerage District and the City of Milwaukee before operating her own business for five years. Ms. Lindholm has a strong commitment for building the interdisciplinary nature of WGBA.

Kevin W. McMullen, P. E, President, Wisconsin Concrete Pavement Association, Madison, WI.

Mr. McMullen has many years of work experience in the paving industry, the last 13 years as President of the Wisconsin Concrete Pavement Association. His previous position was as the Central Office Pavement Engineer for the Wisconsin DOT. He is a member of ASCE, ACI, ACPA, APWA, ISCP, IPRF, NCOA and TRB's Committee on Concrete Durability.

Bob Meidl, Senior Engineer, Coal-Combustion Products Group, We Energies, Milwaukee, WI.

Mr. Meidl graduated with a B.S. in Mechanical Engineering from Marquette University. He has worked as an engineer for We Energies since 1991. He has worked as a plant engineer at We Energies southeast Wisconsin coal plants focusing on plant efficiency and system improvement projects. He is currently managing contracts for utilization of the coal-combustion products.

Tim Muehlfeld, Senior Engineer, We Energies, Milwaukee, WI.

Mr. Muehlfeld received his BSCE from Michigan Technological University. He worked for many years as a structural engineer before joining We Energies in 1992. Mr. Muehlfeld manages We Energies ash landfills and construction and remediation projects at active and historical ash landfill sites.

Tarun R. Naik, Ph. D., P. E., Research Professor and Academic Program Director, UWM Center for By-Products Utilization, Milwaukee, WI.

Dr. Naik has many years of experience with concrete. His contribution in teaching and research has been well recognized nationally and internationally. His research has resulted in over 250 technical reports and papers in ACI, ASCE, ASTM, RILEM, and other publications. He is a member of ACI, ASCE, ASEE, ASTM, RILEM, NSPE, and WSPE, and is a member of many technical committees. He has served as a president of Wisconsin-ACI and WSPE.

Steve Pozza, Sales & Technical Support Representative, New Berlin Redi-Mix, New Berlin, WI.

Mr. Pozza has been working over many years with New Berlin Redi-Mix. He is a member of ACI and is trained through the ACI Certification program as a Concrete Construction Inspector, and is currently certified as an ACI Field Testing Technician - Grade I, ACI Concrete Flatwork Technician, and is certified with the NRMCA as a Pervious Concrete Technician.

Bruce W. Ramme, MSCE, MBA, P. E., Manager, Environmental Department - Land Quality, We Energies, Milwaukee, WI.

Mr. Ramme has worked for many years at We Energies. He is a member of ACI, ASCE, NSPE, and other organizations. He was chairman of ACI Committee 229, CLSM; and 213B, By-Product Lightweight Aggregate, and a member of other committees of ACI. Currently, he also serves as a Secretary for the ACI Committee 555, Recycled Materials for Concrete. He is a past-president of the Wisconsin Chapter of ACI and the Southeast Branch of the WI Section of ASCE.

Bizhan Sheikholeslami, Environmental Engineer, Wisconsin Department of Natural Resources, Waukesha, WI.

Mr. Sheikholeslami has worked with the WI-DNR for many years. He has been involved with by-products recycling and development of the administrative code related to by-product beneficial use. He received his M.S. in Environmental Engineering from UW-Milwaukee and B.S. in Geological Engineering from Pahlavi University. He is a member of the Solid Waste Association of North America and Federation of Environmental Technologists.

