The symposium is only a year away and that time will pass quickly for the various committee chairmen and for anyone preparing a technical session paper and presentation. The call for papers has been issued by Jack Weber, general chairman and Allan Babcock, technical papers chairman. A copy of the call is provided on page 4 of this publication.

The theme for the 1987 Symposium is Twenty Years of Progress following the October 1967 meeting in New York of more than fifty representatives of coal companies, electric utilities and others interested in establishing a trade association. Today the American Coal Ash Association has an active membership representing over seventy organizations and its mission into the next twenty years continues undiminished; to provide a central clearing house for information on use and re-use options, disseminate this information particularly to potential user industries, provide case-by-case technical assistance to help utilities and potential customers determine the suitability of ash use in specific instances, and promote the desirability of ash use to industry and the interested public.

The papers solicited for the 1987 Symposium will stress the utilization of power plant coal ash with priority given to authors who can document field applications and those who can provide examples and guidance related to manufactured products. Concepts that are purely in the research stage will be given lower priority as contrasted with those already implemented based on previous research and performance evaluations. The value of both basic and applied research to a healthy industry cannot be overstated, however, and we hope to find that the thrust of the 1987 Symposium will serve to retain faithful registrants, including presenters in all disciplines from prior years as well as to attract attendees from a broader base of designers, specifiers, users and owners of end products.

The 1987 Symposium will be a success if all firms, agencies and individuals active in any aspect of production, handling, marketing and utilization of power plant coal ash will remember that they have a positive and essential role in creating that success. If you can present a paper and presentation, begin now to submit an abstract. If you know someone who can submit a paper make sure they hear about the 1987 Symposium now. Do not be concerned about duplications and overlaps in mailing lists when contacting busy people who may need and appreciate a reminder.

The time is right for another Twenty Years of Progress if we work together with enthusiasm to achieve this and other goals throughout the coming year.

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**Ash At Work Nameplate Revised**

This edition of Ash At Work premieres its new logo which incorporates the ACAA's Phoenix which was adopted in 1985 as the new symbol of the industry's renamed trade association (Vol. XVII, No. 1). The ancient Egyptian legend provides a 21st century beacon of silver light on coal ash utilization for the rebuilding of our cities and roads, our farms and industry. It serves as a vital and youthful reminder that coal ash is this nation's fourth largest readily available mineral resource, after crushed stone, coal, and sand and gravel, with current annual production approaching 70 million tons and over 800 million tons stored and ready to be used.

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**ACAA President To Chair Session At Lignite Symposium**

Toby Anthony will chair a session on by-product marketing as the 14th Biennial Lignite Symposium comes to Dallas to make this symposium convenient to the many people who work in lignite-related industries. It also provides an opportunity for you to visit mines and power generation plants in this major lignite producing region. The focus is on providing valuable information related to low-rank coal utilization. The Symposium will feature technical sessions on R&D, commercial utilization, and market and policy along with short courses, poster sessions and exhibits.
FLY ASH AND HISTORIC PRESERVATION/TWENTY YEARS OF PROGRESS

The October 1986 issue of Preservation News, the monthly publication of the National Trust for Historic Preservation, contains a special supplement in celebration of the 20th anniversary of the National Historic Preservation Act of 1966. The lead article by William Penn Mott, Director of the National Park Service, provides a perspective for reviewing the progress made in that twenty years and introduces a series of articles by other authors which "...talk about early decisions and directions, about lobbying and legislation, and about technical assistance and tax incentives. But most of all, they reveal the true importance of partnership, and how essential this partnership is to the future of cultural resources in this country."

Along with the cultural resources of our nation we must always be mindful of the appropriate utilization of our natural and recoverable resources. An example of the use of a recoverable resource in a project complementing the preservation of a cultural resource occurred in Washington, DC in a building constructed for George Washington University in 1982. The facades of historic buildings known as Red Lion Row at 2000 Pennsylvania Avenue, NW were preserved and integrated with the offices and shops provided by a modern structure. The new structure is a reinforced concrete design with below grade walls, slabs and parking decks, and ten floors of column and slab construction above grade. All concrete except for a small percentage for which the architect selected white cement, contained normal portland cement and 15-20% fly ash by weight of total cementitious material.

The structure consumed approximately 40,000 cubic yards of concrete containing fly ash. Construction schedules required concrete forms to be removed for reuse at...
FLY ASH CAN BE EFFECTIVE FOR SOIL AMENDMENT

Strip mine reclamation is difficult and costly, particularly for sites mined long ago. Lack of topsoil plus steep grades, poor drainage, acidic material, and overcompacted traffic paths all discourage vegetation. Fly ash is an effective and economical additive for improving the properties of strip mine spoil.

Fly ash is predominantly silt-sized, with some sand-sized particles. Thus, it physically improves the properties of strip mine spoil. Chemically, fly ash is often alkaline and provides neutralizing properties as well as useful trace elements.

Most plants can survive in only a limited pH range, generally near 7. Also, availability of toxic trace metals to plants is largely dependent on soil pH, making neutralization of the soil doubly important.

Fly ash is also a useful amendment in heavily trafficked clay. Compacted fine-grained soil, especially if compacted wet, lacks the pore spaces which allow rainfall and roots to penetrate. Any gardener knows the benefit of adding a little sand to “lighten” heavy clay. Fly ash can be used in a similar manner.

While clay may be too water-tight, rocky soil may be too free-draining to sustain plant life. The addition of fly ash creates a well-graded mix with numerous but smaller pore spaces, increasing the soil’s water holding capacity.

Fly ash may also provide nutrients essential to plant life. Normally this does not eliminate the need for fertilizer, although quantities may be reduced.

Overall, fly ash is generally applicable as a soil amendment throughout the midwestern and eastern US. In these areas, mine spoil is usually acidic and the fly ash non-self-hardening. Western soil, however, is predominantly alkaline and western fly ash is often very high in lime. Fly ash reclamation is only beneficial in specific locations in the West.

Once the acid soil, alkaline fly ash criterion has been satisfied, a leachate analysis of the flyash-soil mix should be performed. Another source of fly ash must be considered if the leachate is too high in soluble salts or toxic metals. While the elemental composition of fly ash depends on the coal source, lagooning, stockpiling and leaching considerably reduce the soluble salt and boron contents in the ash. Therefore older, stored ash should be considered before investigating a further source. Fly ash should also be monitored for CaO (lime) content. Some CaO is beneficial, as it supplies alkalinity, but high CaO fly ash and soil, under the proper conditions, creates a firm surface more appropriate for a road base than a root medium. Again, while fresh ash may be unacceptable for soil amendment, older

(continued on next page)
ash may be satisfactory. Lagoon storage leaches out reactive oxides, while weathering is believed to convert CaO and MgO to less reactive forms.

Accurate physical and chemical testing is the first step in the reclamation process. In order to determine the amount of fly ash required to raise the pH of the acidic material from 6.5 to 7.0, it is necessary to obtain representative samples of the mine spoil and the ash and subject these samples to tests. These tests are usually available from the USDA-SCS County Extension Agency or the State Land Grant University.

In addition, the ash/soil mixtures should be analyzed with regard to bulk density, moisture holding capacity, particle size and porosity. All of these parameters are related to plant-available moisture and root penetration and all are inter-related. A low bulk density can increase seed germination, root penetration and growth. The major reason behind most tillage operations is to loosen and aerate the soil thereby decreasing its bulk density. Moisture holding capacity, particle size and porosity are all related to plant-available moisture. Particle size distribution should ideally approach that of a loam for optimum plant growth. Both moisture holding capacity and porosity should be kept at a maximum in order to provide plants with the necessary amount of water and to minimize run-off and erosion. These physical parameters are of special concern in the western US where water is often the limiting factor for successful reclamation.

The above article was excerpted from a feature article entitled “Fly Ash Use in Strip Mine Reclamation” which appeared on pages 25-29 of the August 1986 issue of the periodical, Coal Mining. Typical quantities of fly ash cited in four case histories were from 50 to 200 tons per acre. Chisel plowing was recommended to incorporate the fly ash into a 6 to 12 inch depth of soil.

Dusting was most effectively controlled through the use of conditioned (moistened) fly ash with moisture contents on the order of 15%. This method may not be possible with Class C fly ashes which exhibit rapid setting characteristics in the presence of moisture. For this reason it may be advisable to extend the physical testing discussed above to include time of setting and strength gain characteristics.

Additional information on soil amendment can be obtained by writing to the ACAA.

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**CALL FOR PAPERS**

**Meeting:** The Eighth International Ash Utilization Symposium to be held October 27-November 1, 1987 at the Hyatt Regency on Capitol Hill, Washington, D.C. will consist of half-day sessions coordinated with panel discussions and related activities.

**Solicited:** Papers and presentations for sessions on utilization of power plant coal ash including fly ash, bottom ash, boiler slag, cenospheres and scrubber sludge. Priority will be given to papers documenting field applications and manufactured products. Topics may include land development, building construction, highway and transportation construction and maintenance, flowable fill, grouting and injection, concrete pipe, precast elements, masonry, brick, and other products and specialized applications.

**Requirements:** (1) Paper and presentation title, (2) 200 word abstract, and (3) author(s) name, title, organization, address and telephone number.

**Deadlines:** Abstracts are due no later than February 1, 1987; notification of acceptance will be by March 1, 1987; final manuscripts will be due May 1, 1987 to permit inclusion of all papers in a symposium volume to be distributed to meeting registrants. Presentations may be accompanied by either slides or overhead transparencies; a total time limit of 15 minutes should be observed for the presentation and a brief question-answer period.

**Send to:** Samuel S. Tyson, Director of Technical Services, American Coal Ash Association, Inc., 1819 H Street, N.W., Suite 510, Washington, D.C. 20006, 202-659-2303. (continued from page 1)

If you would like to receive detailed information contained in the forthcoming call to this meeting sponsored by the University of North Dakota Energy Research Center and the U.S. Department of Energy please write to: David M. Watt, Lignite Symposium Director, UND Energy Research Center, Box 8213, University Station, Grand Forks, ND 58202. The meeting is scheduled for May 18-21, 1987.