DOE/FE/60765--T2

DE93 008279

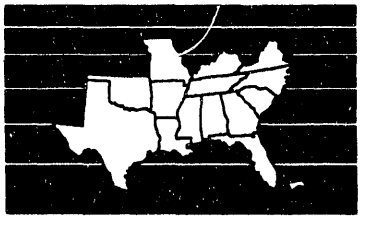
Agenda and Briefing Book

Clean Coal Technology Coordinating Committee

September 16, 1991

Louisville, Kentucky

DISCLAIMER



Southern States Energy Board
3091 Governors Lakes Drive, Suite 400
Norcross, Georgia 30071
(404) 242-7712

Table of Contents

Southern States Energy Board

Clean Coal Committee Meeting

Hyatt Regency Hotel
Louisville, Kentucky

Monday, September 16, 1991
12:00 Noon to 3:00 p.m.

AGENDA

- **Call to Order**
  - Dr. Carolyn C. Drake, Southern States Energy Board
- **Status of Coal Project**
  - Dr. Carolyn C. Drake
- **Report from Past Meeting**

  Terri Moreland, State of Illinois, Delegate Jim Almand, Commonwealth of Virginia and Thomas Holmes, Alabama Department of Economic and Community Affairs
- **Barriers to Increased Coal Use**
  - Mike Teague, Hunton and Williams
- **Impact of Clean Air Amendments - The Kentucky Experience**
  - George E. Evans, Commonwealth of Kentucky
- **U.S. Department of Energy Coal Outreach**
  - Steve Oldoerp, U.S. Department of Energy
- **Clean Coal Technology Round IV - Projects Selected**
  - Steve Oldoerp, U.S. Department of Energy
- **Clean Coal Technology Round V - Public Participation**
  - Jean Lerch, U.S. Department of Energy
- **Discussion of Future Activities**
  - All Committee Members
- **Adjournment**

History and General Background

The Southern States Energy Board (SSEB), originally founded as the Southern Interstate Nuclear Board in 1961, formally expanded its role in 1977 at the direction of southern governors and state legislators. The purview of the organization gradually evolved to include not just nuclear power alone but all sources of energy and environmental quality. The establishment of the Southern Interstate Nuclear Board (SINB) followed several years of careful planning by governors and other regional leaders. Their goal was the creation of a regional organization capable of coping with the challenges of the nuclear age.

The origins of the Southern Interstate Nuclear Compact can be traced to a resolution passed by the Southern Governors' Conference in 1955 at Point Clear, Alabama. Governor Leroy Collins of Florida proposed that a region-wide conference be held to "deal with the feasibility of united action in the development of industrial opportunities in the South through nuclear energy, research and otherwise." Following a series of regional meetings, a slate of recommendations for state and regional action was prepared by state representatives and presented to the southern governors at their 1956 conference at White Sulphur Springs, West Virginia. The recommendations were adopted, and the Southern Regional Advisory Council on Nuclear Energy was established to implement them.

The council was specifically directed to explore the advisability of establishing a compact and to report its recommendations to the 1957 meeting of the Southern Governors' Conference. The council was organized and began exercising its functions as mandated by the governors in February 1957. In order to meet the requirement that it explore the advisability of establishing a compact, the council asked the Southwestern Legal Foundation of Dallas, Texas, to undertake a study. The foundation's September 1958 report, ***The Feasibility of an Atomic Energy Compact for the Southern States***, concluded that a regional interstate compact for the development and regulation of atomic energy was indeed possible. The study further suggested some activities that seemed suitable for regional consideration and identified others that it concluded were inappropriate for action on a regional basis.

Following the drafting of compact language, Kentucky and Louisiana acted immediately by ratifying the agreement in their 1960 legislative sessions. The Southern Governors' Conference, during its September 1960 meeting at Hot Springs, Arkansas, adopted a resolution urging the remaining states of the region

to enact the compact at their next legislative sessions. Alabama, Arkansas, Florida, South Carolina, Tennessee and Texas followed suit during 1961. Ratification by these states satisfied the number of signatories (seven) required to bring the compact into effect. The Southern Interstate Nuclear Board was formally established on September 25, 1961, in Nashville, Tennessee. Other eligible states followed quickly in ratifying the agreement. Federal recognition and sanction was granted by the United States Congress with passage of Public Law 87-563, signed into law by President Kennedy on July 31, 1962.

The charter and missions of SINB were broadened to include activities in the field of space exploration by resolution of the Southern Governors' Conference on October 4, 1962. The resolution declared that SINB should give service to the member states of the Southern Governors' Conference in this area similar to the kind and scope of services provided in the nuclear energy field.

Further modifications of SINB's responsibilities were made by resolution of the Southern Governors' Conference in June 1968, which directed SINB to provide services in the fields of oceanography, environmental sciences, biomedical technology and other areas related to the applications of nuclear and space technology.

The Southern Governors' Conference did not undertake an examination of SINB's mission again until 1972. The governors expressed their appreciation to the Board for a decade of meaningful service but, at the same time, the chief executives voiced their desire to reshape the original charge given the organization. Governor Marvin Mandel of Maryland, a leader in this policy redirection, announced in May 1972:

> We in the southern cluster of states have entered a compact to stimulate the use of nuclear energy in our region. Lately, we are reexamining the Southern Interstate Nuclear Board, hoping to broaden its area of interest to help regulate the use of these resources. We might even now consider converting this Board into a compact organization to also help with the technology of reducing the waste of energy.

This speech set the stage for a restatement of SINB policy adopted by the Board in 1972. The organization would no longer function only or primarily in

the area of industrial development but would now focus its efforts toward services and programs designed to assist member states at the direct request of state officials.

Governors Mandel and Reubin Askew of Florida continued their efforts to reshape SINB's mission during the 1972 meeting of the southern governors at Hilton Head, South Carolina. Reporting as chairman of the conference's Committee on Nuclear Energy, Space and Technology, Governor Askew said:

> The Southern Interstate Nuclear Board has recast its objectives and programs during the past ten months at the direction of this Conference. ...Programs were developed reflecting state needs.... Information began to be developed objectively for decision makers at their request concerning specific state problems. The Committee concludes, therefore, that the Southern Interstate Nuclear Board has shown a fresh and imaginative response to the direction given it a year ago. SINB should be commended for so quickly responding to our individual state needs.

Governor Askew expressed his view that regional organizations should operate within a broad scope owing to the complexity of our social and economic system. With this in mind, he made the key recommendation that has since guided SSEB policy:

> The Committee recommends that SINB be directed to broaden its scope to include total relationships between science and technology with government. As a first step, it should be directed to consider the comprehensive regional impact of the energy and power crisis and the alternatives open to the public. In all its efforts, SINB should be directed to fully consider environmental efforts and alternatives as well as the economic and social.

It was the result of that 1972 meeting, and subsequent years of work, that broadened SINB's charge to include the entire energy field. Another significant redirection of the SINB charter and mission was made in 1975 when the Southern Governors' Conference approved and adopted a Special SINB Overnight

Committee Report submitted by the conference's Committee on Energy, chaired by Governor Mandel. The report made a thorough assessment of SINB activities and concluded:

> With the proliferation of energy problems that all states face today and will be confronted with for years ahead, the regional need for pooling technical capacities in the energy field takes on even greater significance. SINB has the ability to marshal varied technical resources. It has an inventory of technical competence that can provide answers quickly, on short notice. The principal benefit SINB offers a member state is that it is a single point of contact for information on technical subjects and what other states and the federal government are doing about them.

The Southern Governors' Conference began to seek a clarification of the Board's title and functions in 1977. A panel of attorneys and specialists on interstate compacts was convened and declared the agency's name and functions could be changed legally without new legislation since the compact is not regulatory in nature. The southern governors met in San Antonio, Texas, in August 1977 and adopted a resolution that recommended that the name, Southern Interstate Nuclear Board, be changed to the Southern States Energy Board. The purpose of this resolution was to provide the instrument and framework for a cooperative effort to meet responsibly the energy needs of the South and to contribute to the well-being of the region's citizens. The resolution stated:

> The Southern Interstate Nuclear Board should be continued and should be the energy arm of the Southern Governors' Conference and for the purposes of carrying out its responsibilities pursuant to this Resolution, the Conference recommends that the name of the Board should be changed to the Southern States Energy Board.

The resolution also spelled out the function the Board should have and further provided that:

> The Chairman of this Conference shall appoint a task force to determine what legal steps are necessary and to assist the Southern Interstate

Nuclear Board in taking any action necessary to implement this resolution, including modification of the membership of the Board to reflect the broader shape of the Board's activities.

Governor James B. Edwards of South Carolina, 1977-78 chairman of the Southern Governors' Conference, pursuant to the resolution, formed a task force composed of Governors Carroll of Kentucky, Boren of Oklahoma and Blanton of Tennessee. He directed SINB to provide the task force with the appropriate information so that the resolution could be put into effect quickly.

SINB established two committees: one to study the legality of a name change and the other to consider reorganization of the agency. After intensive and thorough study, the Committee on the Legal Status recommended that the Board change its name by amending the by-laws.

The executive committee of SINB met in Atlanta on December 8, 1977, and adopted a resolution to change the name of the organization officially to the Southern States Energy Board. A full Board meeting was held on February 10, 1978, where Board members unanimously amended Article I of the by-laws to reflect this name change.

At the February meeting the Board also unanimously approved the report of the Committee on Reorganization. The reorganization provided for the expansion of programs and services offered to member jurisdictions in order to meet their energy needs and problems more responsibly.

Officials of the Southern Legislative Conference began a general review of interstate organizations in late 1977 because they had become concerned by the actions of governors with respect to SSEB. This concern involved their belief that the name could not be changed without state legislation and their desire to be represented on the Board, since legislators serve on other regional groups such as the Southern Growth Policies Board and Southern Regional Education Board.

At a December 11, 1978, meeting between the executive committees of the Southern Legislation Conference and the Southern States Energy Board, the legislators recommended that SSEB activate a legislative policy advisory council and that the compact be amended through the legislative process as follows:

- To change the name of the organization from the Southern Interstate Nuclear Board to the Southern States Energy Board.

- To specify that the Board's scope of activities includes energy and environmental policy areas.
- To recommend that the states change the current membership procedure to provide for three individuals to be appointed from each state--one House member, one Senate member and one member from the executive branch.
- To provide for these changes to become effective upon enactment of the amendments by a majority of the member jurisdictions in the Southern Interstate Nuclear Compact and concurrence by Congress.

The above amendments to the compact were drafted by attorneys from the Council of State Governments, the Southern States Energy Board and the Arkansas Legislative Council. These amendments do not become effective until adopted by nine member states and accepted by the U.S. Congress.

In 1979 seven states: Arkansas, Florida, Georgia, Louisiana, Maryland, Virginia and West Virginia adopted the amendments. Alabama, Oklahoma, Puerto Rico and Tennessee adopted them in 1980 and Mississippi and South Carolina passed them in 1981. Kentucky, North Carolina and Texas adopted the amendments during the 1983 legislative sessions. To date, only Missouri has not adopted the amendments.

The Southern Governors' Association and the Southern Legislative Conference adopted a resolution on "Regional Coordination and Cooperation" in February 1981. The purpose of the resolution is to ensure a greater degree of coordination among regional organizations representing the South and to prevent duplication of effort. That resolution also provided that following the 47th Annual Meeting of the Southern Governors' Association, held in Puerto Rico September 27-30, 1981, the governors of the member states would become the SSEB board members. SSEB, meeting in conjunction with the southern governors, adopted amended by-laws to reflect the new organization of the Board.

Each year the chairman of the Southern Governors' Association appoints a lead governor for energy, who serves as the chairman of SSEB. Governor John Y. Brown of Kentucky became the first governor to serve as the Board's chairman on September 29, 1981. He was succeeded in 1982 by Governor David C. Treen of Louisiana. Subsequently, Governors Mark White, Texas; Martha Layne Collins,

Kentucky; Gerald L. Baliles, Virginia; Arch A. Moore, Jr., West Virginia; Henry Bellmon, Oklahoma; Bob Martinez, Florida; and the current chairman, Governor Carroll A. Campbell, Jr. of South Carolina, have served as chairman of SSEB.

Southern States Energy Board
Coordinating Committee on
Clean Coal Technology

as of September 6, 1991

Delegate James F. Almand
2060 N. 14th Street
Suite 206
Arlington, VA 22201

**Mr. Gregory D. Andrews
Southern States Energy Board
3091 Governors Lakes Drive
Suite 400
Norcross, Georgia 30071

Senator David Boswell
Commonwealth of Kentucky
313 Frederica Street
Owensboro, KY 42302-0927

*Mr. Bill Bowker
Governor's Office of Coal Energy Policy
Iron Works Road
P.O. Box 11888
Lexington, KY 40578-1916

Mr. Dave Burford
Southern Company
P.O. Box 2625-B872
Birmingham, AL 35202-2625

**Dr. Carolyn C. Drake
SSEB Washington Representative
444 North Capitol Street
Suite 240
Washington, D.C. 20001

Mr. George E. Evans, Jr.
Special Assistant
Governor's Office of Coal and Energy Policy
Iron Works Road
P.O. Box 11888
Lexington, KY 40578-1916

Mr. Joe Jenkins
Director of Electric and Gas
Florida Public Service Commission
Flether Building
101 East Gaines Street
Tallahassee, FL 32399-0850

Ms. Delores Kern
National Coal Association
1130 Seventeenth Street, NW
Washington, D.C. 20036

Dr. Robert K. Koger
President
North Carolina Alternative Energy Corporation
P.O. Box 12699
Research Triangle, NC 27709

Ms. Lynn LeMaster
Edison Electric Institute
1111 19th Street, NW
Washington, D.C. 20036

Ms. Jean Lerch
Office of Coal Technology
U.S. Department of Energy
1000 Independence Ave., SW
Washington, D.C. 20585

Mr. James Monk
Chairman
Utility Regulatory Commission
Room 913
State Office Building
Indianapolis, Indiana 46204

Ms. Terri Moreland
Office of the Governor
State of Illinois
444 North Capitol Street
Suite 210
Washington, D.C. 20001

Mr. Steve Moye
Southern Legislative Conference
3384 Peachtree Road, NE
Suite 830
Atlanta, GA 30326

Steve Oldoerp
Office of Coal Technology
U.S. Department of Energy
1000 Independence Ave., SW
Washington, D.C. 20585

Senator William R. Sharpe, Jr.
607 Center Avenue
Weston, West Virginia 26452

Mr. K. David Shropshire
Chief of Science, Technology and
Energy Division
Alabama Dept. of Economic and
Community Affairs
3465 Norman Bridge Road
P.O. Box 250347
Montgomery, Alabama 36125-0347

Mr. Herbert Wheary
Virginia Power
P.O. Box 26666
Richmond, VA 23261

*Alternate **SSEB Staff

Summary of Meeting

Clean Coal Technology Coordinating Committee

Eola Hotel
Natchez, Mississippi

September 9, 1990

The Southern States Energy Board's Clean Coal Technology Coordinating Committee held a meeting at the Eola Hotel, Natchez, Mississippi, on September 9, 1990. The meeting was called to order by Dr. Carolyn C. Drake. Each person was introduced and a general discussion followed concerning the effects of current affairs on energy. The disturbance in the Middle East had begun the previous month and the probable ramifications of that situation was discussed.

Delegate James Almand of Virginia, vice chairman of the Southern Legislative Conference Energy Committee (SLC), reported on a policy position he sponsored at the previous annual meeting of the SLC. Delegate Almand also reported on a clean coal technology exhibit that was held in Richmond early that year. The exhibit was followed by a breakfast session for state legislators, utility regulators, state officials and industry. Jack Siegel of the U.S. Department of Energy was the featured speaker at the breakfast meeting. During the remainder of the morning, there was a workshop for the exchange of ideas.

A considerable amount of time was spent discussing the Clean Air Act Amendments pending before Congress. Several members pointed out provisions of the legislation that would have serious impacts on the coal industry and the electric utility industry. Some dialogue centered around the legislation and how it would split Kentucky and West Virginia along the lines of high sulfur coal and low sulfur coal.

The need for increased electricity in Florida raised the question about coal fired power plants. It is generally believed that most people in Florida do not know that over 55 percent of the electricity now comes from coal-fired generators.

However, publicly, people will say they do not want coal-fired facilities built in Florida. People in Florida are concerned with the EMF issue just as much as the source of power.

It was stated that the coal industry has a very poor image and DOE should assume responsibility for improving the image of coal. It was agreed that it would take a considerable financial commitment to do this and that in addition to government the industry would have to be willing to contribute financially.

The partial results of a survey to utilities concerning the future use of clean coal technologies was reported. Utilities are not ignoring coal technologies but acknowledged that the amendments to the Clean Air Act would be the driving force in future decisions. It was learned through the survey that the DOE negotiation process in the Clean Coal Technology Program was in need of improvement. DOE had recently changed the procedure internally and it was anticipated that the procedure would be smoother in the future.

A representative from the U.S. Department of Energy reported on DOE's coal outreach program. New exhibits to be taken to conferences were in the works as well as a newsletter to better get the message out. The committee was asked to evaluate a monitor for use in an international coal project.

The meeting was concluded with the discussion of future meetings and activities suitable for the Board to undertake. SSEB will follow up on suggestions regarding a breakfast meeting in Virginia during the legislative session. Other possible activities included a joint meeting with SLC, a meeting in North Carolina and one in Tallahassee.

Legislative Breakfast and Roundtable Discussion

Sponsored by the Virginia Coal Council,
The Virginia Department of Mines, Minerals and Energy
and the
Southern States Energy Board

January 30, 1991

SUMMARY

The group was welcomed by Charles Ellis, President, Virginia Coal Council. Following Mr. Ellis' remarks, Scott Perkins, President, Virginia Mining and Reclamation Association, offered the invocation.

Delegate James Almand introduced several special guests including Steve Oldoerp and Jean Lerch of the U.S. Department of Energy, Clean Coal Technology Program and Carolyn Drake and Gregory Andrews, Southern States Energy Board.

Senator Danny Bird introduced the featured speaker for the breakfast, the Honorable Lawrence H. Framme, III, Secretary for Economic Development, State of Virginia. Mr. Framme emphasized the vital role of coal use, production and export in maintaining the economic well-being of the Commonwealth. He called for the continued research and development of coal technology as a means of insuring the future vitality of the domestic coal industry.

Following Mr. Framme's address, closing remarks were offered by Senator Bird. The meeting was adjourned.

The roundtable table discussion began immediately following the breakfast meeting. Mr. Ellis provided some opening remarks. Thereafter, Mr. Ken Price, former chairman of the Virginia Coal Council, introduced Dr. Patrick J. Michaels, Professor, Department of Environmental Science, University of Virginia. Dr. Michaels addressed the group on the issue of global warming. According to Dr. Michaels "no issue that's confronting this country right now has seen science so used for political purposes." Scientists working in this field find themselves being

pulled by very powerful political interests on both sides of this issue. Since coal is the industry that produces the most CO_2 per BTU of energy, it will be targeted first.

The concept of global climate change is nothing new; increased economic activity does have an effect on climate. A city alters the surrounding climate for a few hundred square miles due to existence of buildings and related economic activity. The climate change issue is merely a globalization of that phenomenon.

The cost of a serious attempt to mitigate CO_2 emissions will be on the order of millions of dollars and the coal industry will be affected the most. He called the desire to "ratchet down" carbon emissions "a social experiment" that will fail after it has wiped out the coal industry.

Dr. Michael noted that none of us has ever lived through a year where the temperature varied more than two degrees above normal. Satellite microwave temperature records, as opposed to land-based/city-based measurements, show nothing spectacular in term of global warming. Statistics show that 90 percent of the warming occurred prior to 1945. Moreover, no increased drought frequency has been observed. Daytime high temperatures are actually averaging their lowest values for the twentieth century.

Dr. Michaels cited the results of the NAPAP study, released after enactment of the Clean Air Act Amendments, which indicated that acid rain is not as much a problem as originally thought. He urged the audience to make sure that the true story concerning global warming gets out before legislation is adopted.

Dr. Michaels suggests that the utility industry fund research on global warming to show that the scientific community is not unanimous in the belief that there is an impending environmental catastrophe. Dr. Michaels, noting that coal will soon pass tobacco as the Virginia's principle export, stated that it is important to address the global warming issue since it will adversely affect a major component of the state's tax base. He closed by posing a counter argument to proponents of the global climate change disaster scenario. Dr. Michaels suggests that the possibility that we are creating a beneficial alteration of the environment by the introduction of CO_2 is approximately equal to the possibility that we are creating a adverse alteration of the environment.

At the conclusion of Dr. Michaels' presentation, Mr. Price introduced Paul Bailey, Special Assistant to the Assistant Secretary for Fossil Energy. Mr. Bailey stated that passage of the Clean Air Act addresses three problems: acid rain, air toxics emissions and urban air pollution. He estimated that the cost of implementing the Clean Air Act will be approximately $25 billion per year.

He noted that the acid rain provisions of the bill that will have the greatest impact on clean coal technology. These provisions are designed to reduce emissions of SO_2 and NO_X. Mr. Bailey discussed the allowance trading system established under the act. It provides that utility power plants will only be allowed to emit 8.9 million tons of SO_2 per year after the year 2000. Utility plants will be issued a set number of allowance not to exceed 8.9 million. A power plant cannot operate without these allowances.

Mr. Bailey indicated that there are two deadlines established under the acid rain provision of the act. The first applies to about 100 power plants that emit more SO_2 than the others. They will receive allowances to emit SO_2 between 1995 and the year 2000. The second deadline will apply to all power plants. Utilities will attempt to reduce emissions by switching to low sulfur coal and installing new technologies, either scrubbers or clean coal. Phase Two will allow a greater degree of choice between switching to lower sulfur fuels and implementation of clean coal technologies.

The basic question for utilities regarding deployment of clean coal is which technologies will be commercially available in the year 2000. If a repowering technology is selected as opposed to a retrofit technology, the Phase Two deadline will be extended. This provision serves as a significant incentive to the deployment of clean coal technology. By emitting less SO_2 a utility can increase the total amount of coal it is allowed to burn.

Mr. Bailey also discussed the implications of the WEPCO decision on the deployment of new technologies. He indicated that modification of an existing power plant by the addition of scrubbers or clean coal technologies may make the plant subject to more stringent environmental regulations. In addition, it may require the installation of devices to control other pollutants.

Mr. Bailey commented on the February 4th U.N. international conference on global climate change. The terms of any international accord will likely be written into U.S. law. According to Mr. Bailey, if this country stabilizes CO_2 emissions, there may be no new coal fired power plants built after 1999. He concluded by stating that the only way coal can survive is to be less polluting and more efficient.

At the conclusion of Mr. Bailey's remarks, Mr. Price introduced Steven Oldoerp, executive director of outreach services, DOE Clean Coal Program. Mr. Oldoerp discussed the status of the program, some philosophical changes in the demonstration program and the clean coal outreach effort.

There are 35 existing projects. They can be divided into three categories: projects designed to prevent acid rain, develop alternative fuel forms and mitigate CO_2 production. The clean coal program started with 46 solicitations in the first 3 rounds, 11 of which have been terminated for various reasons. Of the remaining projects, 29 are either in the operational, construction or design phase (8 operational and 21 in construction or design). Six or seven more projects will operational by the end of 1991.

Mr. Oldoerp indicated that the Clean Coal Program has begun the production of a newsletter entitled ***Clean Coal Today***. It will be released at least quarterly and will include a description of each project and a completion schedule. A comparison of the scheduled completion dates and the deadline applicable to Phases I and II of the Clean Air Act Amendments' acid rain provisions indicates that the timing is very tight for getting clean coal projects ready for commercial deployment in time to have an effect on emissions requirements established by the Clean Air Act Amendments.

Mr. Oldoerp stated that the clean coal program has been in existence since 1986. So far $2.8 billion has been appropriated for the program. At the end of calendar year 1990, $3.4 billion had been spent, 62 percent of which was provided by the private sector.

Approximately $600 million is available to conduct Round IV of the program. On February 5, 1991 a preproposal conference was held to acquaint interested parties with the applicable program requirements. The deadlines for project applications and for final selection by DOE are June 3rd and September 30th respectively.

Mr. Oldoerp also discussed the philosophical change in Round IV of the program. In Round I DOE was willing to look at any available technology. Emphasis shifted in Round II to retrofit technologies. Round III solicitations were primarily devoted to the development of new fuel forms. In response to the various global climate change initiatives, clean coal Round IV will direct its attention to repowering technologies such as pressurized fluidized bed combustors and integrated gasification combined cycle.

Mr. Oldoerp stated that the clean coal outreach program has targeted four basic audiences: users/vendors, regulators, environmental groups and the international market. The outreach program has developed information and instructional materials geared toward these audiences, including a teaching guide on the uses of fossil energy and topical reports on recent developments in the program. The department also is planning workshops for the Philippines and Thailand.

The final presentation was delivered by John Stone of Technology & Management Services, Inc., on the future of clean coal technology at the state level. Mr. Stone provided an overview of a state sponsored initiative to encourage the increased use of Virginia coal. The first phase of this initiative was to assess clean coal technologies and their applicability to the Commonwealth. The second phase will address issues associated with the future deployment.

The Coal Efficiency Assessment Study was commissioned in the spring of 1990. The study examines 24 coal technologies that have the potential for environmental and economic benefits to the state of Virginia and analyzes their suitability for utilizing Virginia coal. These technologies were divided into three major categories: advanced combustion and conversion, SO_2 and NO_X technologies and fuel upgrading technologies.

The report will discuss the technologies of greatest interest to coal users and suppliers in Virginia. Advance combustion and conversion technologies are used for new plants or repowering existing plants to significantly reduce SO_2 and NO_X emissions, improve plant efficiency and extend facility capacity. The limestone injection burner is a promising technology that is being demonstrated by Virginia Power and other utilities.

SO_2 and NO_x control technologies are used for new or retrofit applications. They are particularly important to utilities outside the state that use low sulfur Virginia coal as a strategy for compliance with the Clean Air Act Amendments.

Fuel upgrading technologies alter the composition of coal either chemically or physically before it is used as a fuel. Approximately 40 different processes have been identified. For example, coal-water mixtures have been demonstrated using Virginia coal.

The assessment shows that considerable potential exists for clean coal technology in Virginia owing to the need to refurbish aging power plants; 80 percent of the state's existing coal fired power plants will be at least 40 years old by the year 2000. In order to promote the use of coal, Mr. Stone suggested that the state develop clean coal vendors knowledgeable in Virginia coal and who will warrant their technology using Virginia coal and limestone. Mr. Stone concluded his remarks by stating that the study is scheduled to be completed in mid-spring 1991.

Dr. Carolyn Drake thanked the group for its attendance and participation and the meeting was adjourned.

Legislative Breakfast and Roundtable Discussion

Southern States Energy Board
Atlanta, Georgia
February 22, 1991

SUMMARY

The legislative breakfast was called to order by Representative H. Boyd Pettit, Vice Chairman, Southern States Energy Board (SSEB). Rep. Pettit described the critical role played by coal-fired power generation in the nation's energy mix. He also cited the role of state legislators, regulators and policy makers in determining coal's place in satisfying the state's future energy needs. In addition, Rep. Pettit praised the Board's clean coal program for helping to advance the implementation and eventual deployment of clean coal technologies.

Rep. Pettit then called upon Commissioner Cas Robinson, Georgia Public Service Commission. Mr. Robinson reiterated the need to promote greater coal use as a mean of offsetting further dependence on potentially unreliable supplies of foreign oil. He called upon the Board to develop an information service for public utility commission staffs throughout the region. Commissioner Robinson then introduced the keynote speaker, Jack S. Siegel, Deputy Assistant Secretary for Fossil Energy, U.S. Department of Energy.

Mr. Siegel reviewed the nation's projected energy needs relative to the future use of coal. It is projected that oil imports will exceed 12 billion barrels per day by the year 2010. By the 2000 the U.S. will spend approximately $186 billion per year on imported oil. Coal use is projected to at least double by the year 2030.

Mr. Siegel also discussed the status of the clean coal demonstration program. He explained that clean coal technologies are advanced systems for improved power generation and pollution control. The nation benefits from the program through a reduced reliance on imported oil, decreased energy production costs, improved environmental performance and enhanced international competitiveness. Mr. Siegel also noted the critical role of the department's

outreach program in the deployment of these technologies. The program is designed to provide users, vendors, regulators, environmental groups and international markets with the data necessary to make informed decisions regarding clean coal technologies.

At the conclusion of Mr. Siegel's address, Rep. Pettit directed the participants' attention to DOE's clean coal exhibit, located in the James H. (Sloppy) Floyd Building and invited the gathering to attend the group discussion immediately following the legislative breakfast.

He also acknowledged the contributions of several state agencies to the success of the meeting including the Office of Energy Resources, Public Service Commission and Department of Natural Resources. Rep. Pettit thanked the participants for attending and adjourned the meeting.

The group discussion was called to order by Paul R. Burks, Director, Office of Energy Resources. After some opening remarks, Mr. Burks introduced John B. Shlaes, Director of Federal and External Affairs, Edison Electric Institute. Mr. Shlaes spoke on the subject of global climate change. In describing the United Nations sponsored discussions on global warming, he stated that for the first time an international process will have a direct effect on the way we operate domestically and on how business will be conducted in Georgia. Governmental action on this issue will proceed on two tracks; domestic and international. He noted that 23 bills have already been introduced in Congress dealing with some aspect of global climate change.

Mr. Shlaes described the recent meeting of the U.N. Intergovernmental Negotiating Committee for a Framework Convention on Climate Change in Chantilly, Virginia, on February 4-14, 1991. Over 100 countries participated in 11 days of intense negotiations. There were 9 days of "bloc" negotiations, primarily between the European Community and the Group of 77 representing 160 developing nations.

The U.S. was represented by 25 delegates from numerous federal agencies including the Department of Energy, Department of Agriculture, Department of Commerce, National Oceanic and Atmospheric Administration and the State Department. The size of the American delegation was a clear reflection of the

importance being placed on this issue. Japan sent 30 delegates to the convention. In addition, 40 environmental groups and 25 business associations were represented.

This meeting is one of four, possibly five, sessions designed to develop a framework for a treaty or formal agreement dealing with global climate change. This agreement could limit world-wide emission of CO_2 and other gases believed responsible for the so-called greenhouse effect.

The conferees agreed to a statement of principles on organization of the committee including the establishment of a working group on "commitments" and on "mechanisms". They also agreed to work toward a comprehensive approach that will consider the role of other greenhouse gases in addition to CO_2. In addition, the committee will consider the role of sources and sinks (forests and other CO_2 absorbing elements).

Following Mr. Shlae's remarks, Mr. Burks introduced Jack S. Siegel, Deputy Assistant Secretary for Fossil Energy. Mr. Siegel provided an update on the status of the Clean Coal Technology Demonstration Program. Mr. Siegel indicated that the goal of the program was to gather the data necessary for industry to make informed decisions on the use of advanced coal technologies. The program funds up to 50 percent of the cost of a given project. Each industrial participant enters into a cooperative agreement which is subsequently reviewed by Congress. Congress has 30 session-days to approve or reject the project. If no action is taken, the department is authorized to execute the agreement.

He emphasized that these are not the government's projects but rather industry's projects. The program provides government cost-sharing in order to reduce the financial risk associated with building these "first of their kind" plants. The government is repaid up to the full amount of its investment if the project becomes commercially deployable. The program consists of five solicitations or rounds. Three rounds have been completed. The fourth solicitation has been issued recently.

Mr. Siegel noted that a wide variety of technologies are represented in the program including advanced combustion, pre-cleaning and new fuel forms. For example, circulating fluidized bed combustion is a technology that is ready for commercial use by electric generating utilities. Pressurized fluidized bed combustion is a step up from circulating fluidized bed combustion; it offers better

pollution control, compact size and greater efficiency. Mr. Siegel also cited integrated gasification combined cycle as a very promising new technology. These new modular combustion technologies are primarily designed for base load applications. In addition, there is a new generation of technologies being considered in the research program that will soon be ready for the demonstration program. Extremely clean and efficient technologies such as integrated gasification fuel cell have shown great promise.

According to Mr. Siegel, the clean coal outreach effort is a critical part of the program. It is designed to determine the type of information needed by various targeted groups and disseminate that data in the most useful form possible. The outreach program has a series of market managers responsible for understanding the information needs of the five market areas. These target audiences are vendors, users, regulators, environmental groups and the international market.

Additionally, the clean coal outreach program will sponsor its third conference for developing countries in the Pacific Rim. The conference will bring together vendors, utilities and financial institutions to meet and develop relationships with decision-makers in these countries. The clean coal program also is expanding into eastern Europe thereby creating the opportunity for U.S. industry to show how advanced technologies can assist them in addressing their energy and environmental problems.

Mr. Siegel concluded his presentation by describing the effect of the Clean Air Act Amendments on the clean coal program. The acid rain provisions of the act require a reduction in SO_2 emissions by the year 2000. It also requires about a two million ton reduction in NO_x emissions by the year 2000.

The act contains incentives for the development and deployment of clean coal repowering technologies such as fluidized bed combustion and combined cycle gasification. Plants employing these technologies are given an additional four years to comply with the act. Switching from high to low sulfur coal is another option available to utilities for complying with the act.

Following Mr. Siegel's presentation, Mr. Burks called upon Kenneth J. Nemeth, SSEB executive director, for closing remarks. Mr. Nemeth thanked Mr. Burks and the Office of Energy Resources for its assistance in conducting the meeting. He also expressed gratitude to Jack Siegel and Jean Lerch of DOE and to John Shlaes for their contributions to the program.

Mr. Nemeth noted the need for concerted action in the face of increasing oil imports and the resulting drain on the U.S. economy. He praised the clean coal technology program as a "true innovation" that will help the nation meet its future energy needs in an environmentally sound manner. Following Mr. Nemeth's remarks, the meeting was adjourned.

Southern States Energy Board
and
Alabama Department of Economic & Community Affairs

SUMMARY

Legislative Breakfast & Forum
Montgomery, Alabama
May 1, 1991

LEGISLATIVE BREAKFAST

The meeting was called to order by David P. Rumbarger, director, Alabama Department of Economic and Community Affairs (ADECA). Mr. Rumbarger provided opening remarks concerning the role of clean coal technology in the state's energy future. He stated that the clean coal program is directly involved in the economic viability of the state of Alabama. Any attempt to recruit industry into the state will raise the question as to the energy resources of the state. Consequently, it benefits the state to have this technology ongoing, growing and prospering.

Following his opening remarks, Mr. Rumbarger introduced Representative Pete Turnham. Mr. Turnham is treasurer of Southern States Energy Board (SSEB) and chairman of the oversight committee for ADECA. After delivering the invocation, Mr. Turnham commented on the cross-section of participants in attendance representing energy, education and government. He indicated that although significant amounts of coal are mined and used annually in Alabama, more should be done. He mentioned a recent trip by Alabama legislators to the coal loading facility at Mobile Bay and expressed the need to export more Alabama coal.

At the conclusion of Mr. Turnham's remarks, Mr. Rumbarger commented that the Clean Air Act Amendments will have serious ramifications for Alabama coal. There is a need to continue to refine coal technology generally so that coal and related products can remain competitive for the next century.

Representative Turnham then introduced Dr. C. Lowell Miller, Associate Deputy Assistant Secretary for Clean Coal, U.S. Department of Energy (DOE). Dr. Miller addressed the meeting on the status of the Clean Coal Program. Dr. Miller began his remarks by indicating that the next few years may be very frustrating for legislators, regulators and industry officials as they attempt to meet the challenges associated with using the largest available energy source in the world - coal. Coal is an extremely plentiful energy source and is widely distributed around the world and therefore will be the preferred energy resource for the U.S. as well as the developing Third World.

Alabama has rich reserves of coal. Its "high volatile A bituminous" is a good resource for the type of technologies that will be available in the future. The state also has significant deposits of lignite which will assume a new importance as an energy resource when some of the incentives proposed in the National Energy Strategy (NES) are implemented. Lignite is a good feedstock for the liquid fuels proposed in the NES.

The NES and the Clean Air Act Amendments are the two major documents impacting this legislative and regulatory scene over the next decade. The NES is the first attempt by the DOE to develop for the administration and the country an effective pathway leading to energy independence.

Increasing efficiency in electricity generation is a major goal of the NES. By the year 2010, 41 percent of the primary energy produced in the U.S. will be used to generate electricity. There is presently 700,000 MW of generating capacity in the U.S. The country will need 200,000 more MW to meet the estimated demand. The NES recognizes the role than coal must play in supplying our future energy needs.

Dr. Miller called the participants' attention to the two primary phases of the Clean Air Act Amendments relating to coal. SO_2 emissions must be reduced by 5 million tons by 1995; an additional 5 million tons of SO_2 emissions must be eliminated by the year 2000.

The clean coal program provides utilities the opportunity to move their emissions level below the emissions cap so that allowances will be available to provide for utility expansion. Through the continued development of technology SO_2 emissions can be reduced. Utilities employing high efficiency clean coal technologies can create allowances that will be available for future use.

NO_x emissions will receive more attention in the coming years. Clean coal technology will provide an opportunity to solve this problem. In addition, the next major impediment to coal utilization is CO_2. These emissions have been linked global warming which has become an international issue. Dr. Miller indicated that we may not know enough about global warming as it relate to CO_2 to make a valid judgement at this time. More information is needed before long range legislation is enacted which could definitely limit the utilization of coal. High efficiency technologies that burn less fuel to produce the same amount of energy will help reduce the total amount of CO_2 that is generated.

Water and solid waste issues will become major concerns in the future. The clean coal program has started to look at what is involved in solid waste. New clean coal technology involve more than simple boiler ash. EPA may begin to look at such wastes as a toxic substance under RCRA.

Following Dr. Miller's presentation, Mr. Rumbarger provided some final comments. He indicated that about 100,000 people or approximately 4 percent of the state's adult population derive their living in some manner from coal. It would be impossible to attract any single industry that would supply that many jobs to the state. Therefore, Alabama must keep this resource viable.

Mr. Rumbarger then introduced Mr. K. David Shropshire, chief of the Science, Technology and Energy Division, ADECA, to provide some closing remarks. Mr. Shropshire encouraged the participants to attend the forum immediately following. The meeting was adjourned.

FORUM

The meeting was called to order by K. David Shropshire, chief, Alabama Department of Economic and Community Affairs. Mr. Shropshire welcomed those

in attendance and asked each person to state his name and affiliation. Mr. Shropshire then introduced Dr. John R. Christy, University of Alabama in Huntsville, to speak on the subject of global climate change.

Dr. Christy directed his remarks to CO_2 emissions. He noted that if controls are placed on CO_2, a lot of people in the coal industry will be out of business. Since CO_2 is not a toxic gas, there are no health related reasons to limit its production; the only reason to reduce CO_2 emissions is the threat of global warming.

There are actually only four groups in the world that assemble global temperature records: Goddard Institute for Space Studies in New York, National Oceanic and Atmospheric Administration (NOAA), University of Alabama in Huntsville and Eastanglia.

Dr. Christy provided a graph showing the temperature record for the last 150,000 years. The temperature in the U.S. has not changed significantly over the last 100 years. Temperature records based on thermometers located at urban cites are unreliable. Dr. Christy's research employs polar orbitors which provide the temperature over the entire globe for each day. He stated that press accounts that described 1990 as the warmest year on record are not substantiated by global climate records. In terms of the last 12 years, 1990 was only the fourth warmest. There is no upward trend in the data. He emphasized that the only thing driving the CO_2 emissions control is the climate issue. Surface measured temperatures have shown significant warming over the last 13 years, whereas satellite measured temperatures have shown no warming trend.

Following Dr. Cristy's presentation, Mr. Shropshire introduced Tom Grahame, senior policy analyst, U.S. DOE. Mr. Grahame addressed three current issues of particular interest to utilities and to producers of fossil fuels; incentives for clean coal technologies, the WEPCO decision and environmental externalities.

The Bush administration has recommended incentives for clean coal technologies as part of the Clean Air Act Amendments proposal in 1989 including incentive rates of return, accelerated book depreciation and preapproved prudence reviews for clean coal projects.

These are mandatory incentives at the federal regulatory level for investor-owned utilities with wholesale transactions regulated at the federal level. The President's proposal also included a statement suggesting implementation of the same incentives by state utility regulators. These incentives have been included in the Senate bill being considered in Senator Johntson's energy committee.

The innovative Control Technology Advisory Panel (ICTAP), who originally devised these incentives, also identified new methods of regulation that would provide strong incentives for clean coal technologies. For example, new electric generators should be allowed to compete for the right to sign contracts that reflect their estimates of the potential risk and reward associated with a given project.

DOE believes that these incentives for investor-owned utilities are needed. DOE also believes that increasing numbers of clean coal technologies will be under the emerging competitive power procedure. In this regard, the administration supports reform of the Public Utility Holding Company Act to allow greater numbers of independent power producers, including subsidiaries of utilities, to enter bidding competitions. The administration favors a two-tiered approach including clean coal incentives for investor-owned utilities and the removal of barriers for independent power producers.

Mr. Grahame described the events surrounding the WEPCO decision. In that case, EPA determined that any physical change at a plant other than normal routine maintenance may subject the plant to new source review which in turn could result in the required addition of costly emission control equipment. The new source review requirement could be triggered by plant refurbishment, oil to gas conversions, reliability improvements or the addition of pollution control equipment.

Mr. Grahame stated that environmental externalities are intended to reflect the costs of damage done by pollutants that are not captured by pollution control equipment. Quantifying externalities requires some very difficult economic valuation. Much of the science on this subject has not been done. However, regulators in approximately 9 states have developed criteria to penalize builders of fossil plants for environmental emissions as part of the process of deciding whether to satisfy demand growth by building fossil plants or by conservation or

renewable energy options. Congress has decreed that the Federal Energy Regulatory Commission (FERC) must incorporate externality values within the next two years.

Mr. Grahame described studies concerning environmental externalities conducted by the Tellus Institute and by the Pace University as frought with error. More needs to be done to counter this "bogus science." According to Mr. Grahame, the issue of environmental externalities will not go away and industry must be ready to deal with it. In addition, the poor analysis associated with this issue is being believed by persons who could unintentionally harm the economy by the choices they promote.

DOE has reached an agreement with the Commission of the European Communities to do a joint study of total fuel cycle costs. DOE has chosen a team comprised of **Oak Ridge National Laboratory** and **Resources for the Future** to do this study. The study will be released in about one year and will hopefully correct some the bad science on this issue.

At the conclusion of Mr. Grahame's remarks, Mr. Shropshire introduced Steve Oldoerp, director, clean coal outreach program, U.S. DOE. Mr. Oldoerp discussed the technologies that are presently being demonstrated in the clean coal program and the future of the program.

Clean coal technologies can be grouped into three general categories; power generation, retrofit and other uses. Power generation applications include atmospheric and pressurized fluidized bed combustion, integrated gasification combined cycle and magnetohydrodynamics. Retrofit or pollution control technologies involve advanced scrubbers or limestone injection designed to reduce the levels of SO_2 and NO_x being generated. "Other uses" involve coal being substituted for transportation fuels and coal used in industrial processes.

The fourth round of project solicitations is now taking place; the deadline for submitting proposals is May 17th with selections to be announced by September 17, 1991. Energy efficiency is a new project criterion that is being applied to round four proposals. The fifth round is set for March 1992. The government has contributed almost $1.3 billion to the 35 projects that are presently in the clean coal program. Industrial participant have contributed over $2 billion.

Mr. Oldoerp asked Steve Wilson to provide an overview of the clean coal projects being conducted by Southern Company Services. Mr. Wilson stated that there are four clean coal round-two projects in the southern electric system and one round-one project.

Following Mr. Oldoerp's presentation, Dr. Ernest A. Mancini, state geologist, Alabama Geological Survey, addressed the group on the public sector's perspectives on clean coal technology and coal research in general. Dr. Mancini stated that while the federal government and the private sector are doing an extremely effective job in promoting clean coal, the research talent available in the public sector should be integrated into the program.

Dr. Mancini indicated his desire to see some new clean coal technology demonstration projects in Alabama. Although this would be a private sector initiative, the academic community in Alabama would lend its assistance toward achieving that goal.

Dr. Mancici expressed his concern for the future of coal in Alabama. Only one-third of the demonstrated reserve base will meet the standards for coal use. Of that third, only 13.7 percent is in the Appalachian basin. Better coal characterization may help with this problem.

In addition, coal availability is much lower than generally thought. Only about 50 percent of the demonstrated reserve base is available due to geological, cultural and geographic considerations. If economic, regulatory and legislative constraints are considered there is only 8 to 20 percent of the actual reserve available.

Dr. Mancini noted that information contained in the appendix to the NES predicted a dramatic increase in coal consumption by the year 2030. In addition, the NES is very strong in trying to improve our ability to export coal. The NES identifies certain strategies that can be implemented to improve the climate for export. Alabama exports approximately 8 million tons per year. In regard to the export of clean coal technology, Dr. Mancini suggested that we exercise caution in what we export so that we do not create problems for our domestic industry.

At the conclusion of Dr. Mancini's remarks, Mr. Shropshire introduced Kenneth J. Nemeth, executive director, Southern States Energy Board for closing

remarks. Mr. Nemeth reviewed the Board's involvement with the clean coal program and pledged to continue and expand the agency's work in this area. Following Mr. Nemeth's remarks, the meeting was adjourned.

Arkansas Mining Falls on Hard Times

Oklahoma Coal Business Booms Just 35 Miles Away

HACKETT, Ark (AP) — As the crow flies, it's less than 35 miles to Henry Comer's coal mine in Hackett from A Z. Hudson's mine west of Shady Point, Okla., but the border between them marks more than a state line.

It marks the difference between night and day.

In the shadow of coal-fired power plant AES Shady Point, coal mining in eastern Oklahoma enjoys a glowing future with production promising to increase this year up to 60 percent over last year.

But on the other side of the border, Arkansas coal mining awaits better times — an improbable surge in coal prices or coal demand.

"Ain't no future in coal," Comer said. "It's just a dying art."

Only three firms continue to work mines in Sebastian County, down from seven just two years ago. Those seven and a Johnson County mine produced nearly 61,000 tons of coal in 1989, but Comer said Arkansas would be lucky to produce 40,000 tons in 1991.

Across the border, Hudson, who along with his partner Charlie Blake operates the recently opened Hudson Blake strip mine, predicted that LeFlore County mining activity this year will increase by at least 50 percent over 1990.

"There's more mining," Hudson said. "With older ones expanding and the chance for new ones to open."

To meet AES Shady Point's demand of 3,000 tons of coal a day, Oklahoma production will roughly double to more than 2 1 million tons in 1991, with LeFlore County leading the gain. Already, the Oklahoma Department of Mines reports four companies active in LeFlore County, with the largest, Farrell-Cooper Mining Co. of Fort Smith, looking to open a second site south of Heavener, Okla.

Andy Skeith, director of mining affairs for the Association of Oklahoma General Contractors, called AES's plant the greatest boon to Oklahoma coal.

"It will add 250 to 300 direct mining jobs, with indirect employment of another 700 to 1,000 people (over the next two years)," Skeith said.

In Arkansas, job gains have been measured in ones and twos, if at all, over the last several years. Even Hudson, who plans to reopen a mine east of Hartford, said only a few jobs will be created. But he remains optimistic.

"It has to pick up," Hudson said. "Of course, I want it to produce. We own coal over there and I want it to go into production."

As recently as the late 1970s, Comer said, 135 people were employed at Sugar Loaf mine on the Arkansas side.

"But now that is all gone," he said. "There's one drag line left, but it's so vandalized it would cost more to get it running than it is worth."

With coal prices hovering between $27 and $30 a ton, many veins have been unprofitable to run or their production has switched to other uses. Rather than produce coal for power plants, local miners have been selling some or all of their mined material to charcoal producers.

Comer sells his coal to a Texas firm that uses it to make coating for heavy-gauge pipe. Hudson said that, of the hundreds of uses for coal, charcoal manufacture is one area where coal remains in high demand.

Low demand and lower-intensity uses are reflected in the size of the workforce. Hudson's site in Hartford was probably the largest in Sebastian County and, with its reopening, the four- or five-person team will again be the largest.

Across the border, Hudson-Blake's 13-man, 204-acre operation is probably the smallest mining operation sprouting from AES's demand.

Beyond the drop in price, Comer said regulation of the mining industry has been a noose around the neck of miners.

"Really and truly they (the regulations) just slowly and surely are squeezing us out," Comer said. "You just can't stand no more."

Reclamation has become a critical element in mining. Since all local mines are currently strip-mining operations, they must submit to constant water testing and meet capital requirements for bonds to ensure the site's recovery.

"I'll tell you," Hudson said. "Once you get in, it's pretty hard to get your money back out of the (bonding) business."

While mining's outlook remains sunny in Oklahoma and hazy in Arkansas, brighter days may be just a decade away for both, Hudson says. According to the National Coal Association, the United States possesses a quarter of known coal reserves in the world. Hudson said he believes that supply will some day be tapped as the nation's primary energy source. That, he said, is when mining on both sides of the border will blossom.

"Everybody's got their mind on oil, but we could make it on coal," Hudson said. "In the next five to 10 years it (coal's emergence) could happen.

"This region is blessed with coal and I've got too much money invested not to believe in coal's future."

Kentucky Governor Plans to Lead European Coal Trade Mission in Fall

By TIM SANSBURY 8/9
Journal of Commerce Staff

The state of Kentucky is gearing up for a trade mission this fall that is intended to help expand coal sales in the European market.

Gov. Wallace Wilkinson tentatively is planning to lead a delegation of Kentucky coal industry executives to Berlin on a visit that will coincide with a major international coal conference taking place in late October, according to industry and government sources.

The purpose of the mission will be to "establish more of a Kentucky presence" through meetings with German ministers of energy and environmental matters, and with German trading companies, a source said.

Kentucky produced 173.6 million tons of coal in 1990, ranking it as the second largest coal mining state. Wyoming produced 184.7 million tons last year. Wyoming coal generally is lower in heating content than coal from Kentucky mines.

• • • •

Paul Douglas, chairman of Pittston Co., Greenwich, Conn., said his company's second-quarter earnings were hurt by a coking coal market price drop of $1 a ton to $2 on shipments made after the new international coal contract year began April 1.

Prices in Japan are off somewhat more due to the expiration of previous contract agreements, he added.

Despite the softness of the coking coal market, Pittston has signed contracts covering the delivery of at least 9 million tons to overseas customers through March 1992, about 400,000 tons more than the previous contract year, Mr. Douglas noted.

Mr. Douglas said weak prices for steam coal "may have bottomed out" but cautioned that a strengthening of the market is "heavily dependent" on weather conditions and an economic upswing, among other factors.

He said that Eastern U.S. utilities are "showing a rising level of interest" in making long-term commitments to switch to low-sulfur coal from Eastern-state mines in order to comply with the tighter emission control requirements of last year's revisions to the Clean Air Act.

Journal of Commerce

'Pig Pollution' Forces Taiwan To Limit Exports of Pork

By PETER WICKENDEN 8/9
Knight-Ridder Financial

TAIPEI, Taiwan — The Taiwanese government plans to apply an "anti-pollution charge" to pork exports in an effort to discourage them and cut the island's massive pig population.

With 20 million people and 8.5 million pigs, Taiwan has the most pigs per capita in the world and is a major importer of feedgrains. But the country also has a chronic water-pollution problem, and the pigs are the No. 1 culprit.

The Council of Agriculture decided in principle to levy an initial charge of 3.75 U.S. cents (one New Taiwan dollar) a kilogram, or 2.2 pounds, of pork for whole carcasses exported, and double that per kilo of cut meat.

After a year, these charges will be doubled to pay for enforcement of tough new environmental laws and to put small pig raisers who cannot afford to comply with them out of business, said a spokesman for the council's animal industry department.

In the past, the council had a non-binding target to reduce the pig population by around 30% over the next six years. The council had hoped that overcapacity and weak domestic pork prices would cause the industry to contract without the need for coercion.

But cheap pork exports to Japan and South Korea have surged in the past two years and are expected to exceed 150,000 metric tons, or about 165,000 tons, this year. This has brought accusations of unfair trading from Denmark and exacerbated Taiwan's serious water pollution.

Premier Hau Pei-tsun recently told the cabinet that the social cost of pig raising in terms of water pollution was excessive. He ordered concrete measures to be drawn up to cut the industry back.

A final decision on the new measures is expected in a few days, the council spokesman said.

Press Clipping

Name of Publication Charleston Daily Mail

Date of Publication 6/10/91

AEP FUEL SUPPLY

There's a quiet new element in West Virginia coal politics

In the coal forum, union and industry are working together

By NORMAN KILPATRICK

WHEN I saw a United Mine Workers official offer to buy lunch for a coal industry official, and the coal industry official accepted without a thought, I knew I was seeing something different in West Virginia's coal politics.

Several months later, at a June 4 hearing before the state Public Service Commission, I saw a room full of UMW members supporting statements made jointly to the PSC by Chris Hamilton, a vice president of the West Virginia Coal Association, and Stephen Webber, the International Executive Board member from UMW District 31 in Fairmont.

KILPATRICK

The PSC hearing involved whether to approve money so Monongahela Power Company could continue work on a chemical scrubber at its Harrison Power Plant north of Clarksburg. That project, which the commission determined should have a separate hearing on Aug. 6, also drew support from Joseph Powell, head of the state AFL-CIO, and William Raney, vice president of the West Virginia Mining and Reclamation Association.

The joint appearance of Hamilton and Webber was under the auspices of what seems to be a new force on the West Virginia scene, the West Virginia Coal Forum.

The forum has been active since 1987, and yet has received virtually no notice in the state's media. It is a spinoff of the state's Coal Mine Safety and Technical Review Committee, created to aid the Board of Coal Mine Health and Safety with equal representation by union and coal industry representatives

For years, persons concerned with the long-range future of West Virginia have urged the UMW leadership and the major coal companies to look beyond their history of conflict and current issues of sharp disagreement toward cooperation, for the sake both of their industry and West Virginia.

Most people assume that is impossible, and often blame one side or the other for this sad state of affairs. The forum's three-plus years of activity suggest the opposite, and indicate that a better working relationship is possible.

The forum has sponsored a meeting to discuss the need for coke plants to help in manufacturing steel in southern West Virginia. It has published a booklet explaining the virtues of "longwall" underground mining.

Members agreed on a program for the 1991 Legislature, including a bill to require that more coal severance tax money be spent in the coal-producing parts of counties, a "reasonable" groundwater protection bill, a statewide acid mine drainage cleanup fund, and opposition to legislation to promote co-firing with natural gas.

Talking to co-chairmen Webber and Hamilton, the representatives on the Technical Review Committee as well, and you hear the words, "where we can agree," to work together. These words seem taken from the National Coal Policy Project, which worked from 1977 to 1980 to resolve industry-environmental issues on a national level. This conflict resolution effort resulted in several joint environmental/coal industry recommendations to Congress in the early 1980s.

Currently, the Coal Forum is spending its energy primarily on informing coal miners and others about the likely impact of the national legislation to reduce "acid rain." The forum has brought together utility executives, coal miner leaders, and major coal producers to speak to interested audiences and to exchange ideas.

All four UMW districts in West Virginia have been involved in at least some of the forum's activities. So have representatives from producers such as Peabody Coal, American Electric Power, U.S. Steel, Consolidation Coal and Cannelton Industries. This writer has seen both informal and formal meetings of the organization, and it seems to be working well.

The forum's goals are stated: to "improve the image of the state's coal industry, the level of competitiveness and productivity, the quality of work life, coal mine health and safety, and to find new markets (uses) for West Virginia coal."

This does not mean confrontations are gone from labor-management relations.

The union will continue to disagree with elements of the industry over whether or not sites near Blair Mountain in Logan County should be mined. Producers may disagree with efforts to raise taxes and fees.

But surely it is a major step forward for union and management people to work together on some issues, getting to know each other as human beings rather than stereotypes and hopefully increasing increasing their areas of agreement over time.

Those who are pulling for West Virginia should greet the coal forum with enthusiasm and pull for it to be the wave of the future. Persons stuck in their traditional anti-coal-management or anti-union attitudes may have to change some attitudes to do this.

But for things to change for the better in this area, old prejudices must yield to new facts. The West Virginia Coal Forum is a new fact that should be helpful to both the coal industry and the state as time goes on.

■ **Norman Kilpatrick is a Charleston coal consultant and writer.**

46

EVANSVILLE, IND.
D. 63,175

National coal production set record in 1990

WASHINGTON — U.S. coal production topped 1 billion tons for the first time in 1990 — a 200-million-ton increase over the amount of coal mined in 1980.

Most of it was mined east of the Mississippi River, and most of it stayed in the United States to make electricity.

Coal is used in some form by all 50 states. But four — Texas, Ohio, Pennsylvania and Indiana — are the largest individual coal consumers, together using about 30 percent of coal produced every year, according to the National Coal Association.

Although record levels were mined last year, the number of workers actually decreased. Since 1980, the coal work force has decreased by more than 40 percent. There now are slightly more than 131,000 coal miners in the nation.

Kentucky is the state with the most miners, 30,656. Illinois is fifth, with 10,003 coal miners. Indiana is eighth with 3,684 coal miners.

According to a Bureau of Mines survey, the average coal miner is 39 years old. He has 11 years of experience, eight with the same company. Three-fourths of coal miners have a high school or better education. And an industry once totally dominated by men now has about 3,300 women working in the mines.

Coal miners make an average of $35,000 a year. Many make considerably more with overtime and production bonuses.

Fifty-four miners died while working in 1990, compared to 68 in 1989 and 125 in 1980.

...IEW-STANDARD
...VIEW, PA
JUL 10 1991
553 ZA

New technology could ignite sparks in area coal industry

LEWISBURG — Bucknell University researchers hope to jump-start the ailing coal industry with a new computer-enhanced industrial furnace that would burn anthracite coal more efficiently and cleanly.

The new technology would eliminate the unpopular task of shoveling coal into the stoker, reduce energy waste and curb pollution, according to Peter Stryker, professor of mechanical engineering.

"It's true that oil and gas became more competitive over the past three decades but it's also the case that the coal industry allowed itself to become less competitive by failing to update its technologies", he said.

To make anthracite coal-burning furnaces viable for more commercial users, the researchers want to expand the operating range of commercial stokers to run efficiently throughout the heating season. This entails creating a furnace that can handle partial loads, as well as designing a conveyance system to feed coal to the stoker in precise measure. Such a design would eliminate the sooty task of adding the coal and removing the ash.

Improving the efficiency of the coal stoker also means creating a more environmentally sound furnace. Aside from minimizing pollutants by closely controlling combustion and ensuring the complete and efficient use of coal, fly ash collectors and scrubbers could reduce the amount of pollutants emitted, he said. Anthracite coal also burns cleaner than more sulphuric bituminous coal.

Stryker said he envisions a stoker that could be a "turn-key" operation, a unit that could be purchased and installed without the aid of an engineer.

Although the coal industry, particularly anthracite mining, has been declining for years, Stryker sees a viable future for the computer-augmented coal stoker. Research sponsor Lehigh Coal and Navigation company also has high hopes for re-expanding the market for anthracite coal.

"If we can demonstrate the design is feasible, I think they can market the furnace", Stryker said. "It is my belief that coal can be an alternative to other forms of energy, especially in Pennsylvania, which has enough anthracite to really cut down on its energy imports."

Despite challenges of rejuvenating the state's deteriorating mining operations and transportation infrastructure, price remains the most crucial factor in determining the feasibility of the commercial anthracite stoker.

"The economic success of this project depends on the price of oil and natural gas and, up to now, both have remained relatively cheap," Stryker said. "When commercial users can burn coal more economically than anything else, then they will switch to coal."

Senator John J. Hainkel, Jr.
Louisiana
Chairman

Representative Charlie Williams
Mississippi
Chairman Elect

Representative Ron Silver
Florida
Vice Chairman

Colleen Cousineau
Executive Director

Kenneth Fern, Jr.
Deputy Director

The Council of State Governments
The Lenox Building
3399 Peachtree Road, N.E., Suite 810
Atlanta, Georgia 30326
(404) 266-1271

1991

POLICY POSITIONS

TABLE OF CONTENTS

2. POLICY POSITION

POSITION STATEMENT ON SHARING THE COSTS OF COMPLIANCE OF ACID RAIN TITLE OF THE CLEAN AIR ACT AMENDMENTS OF 1990

BACKGROUND

In its closing days the 101st Congress sought to reduce acid rain by placing a permanent and absolute emissions cap of 8.9 million tons of sulfur dioxide for the year 2000 and thereafter. Congress also mandated reductions in nitrogen oxide emissions.

Congress failed, however, to provide a fair and equitable method to pay for these reductions. The burden will fall heaviest on certain utility customers and coal miners. Edison Electric Institute estimates that Title IV of the Clean Air Act of 1990, the acid rain provisions, will cost utility customers between $5 and $7 billion annually. Many coal-burning utilities will have to install new technologies to control sulfur emissions and switch to lower-sulfur coal markets. The nation, as a whole, will benefit from cleaner air but at great cost to isolated segments of the economy.

According to federal statutes, a primary mission of the Tennessee Valley Authority (TVA), the nation's largest utility and an agency of the federal government, is to develop the natural resources of the TVA area and to foster economic and social well-being of the people living within the TVA basin. Title IV of the Clean Air Act Amendments of 1990, because it contains no provision to assist TVA in the purchase of scrubbers or other clean coal technologies necessary to continue to burn local coal, threatens TVA's ability to meet both its economic development mission and the requirements of the Clean Air Amendments.

A key provision in Title IV is the awarding of 3.5 million tons of sulfur emissions bonus allowances to utility plants that scrub early. These bonus allowances are a form of cost-sharing acid rain controls. The mechanism the U. S. Environmental Protection Agency (EPA) will use to allot these bonus allowances will influence the number of utility plants which will install scrubbers or other clean coal technologies in the first phase of the acid rain program. Competition for the bonus allowances is anticipated to be heavy. The EPA has indicated that it plans to distribute the allowances via a telephone queuing system on a first-come, first-service basis. However, allowing all who apply to share allowances on a pro-rata basis would stretch the benefits to more utility consumers and would minimize regional disruption of coal economies.

RECOMMENDATIONS

The Southern Legislative Conference requests that Congress quickly take action to make the provisions of Title IV of the Clean Air Act Amendments of 1990 more workable, efficient, and equitable by adopting policies that will reduce utility costs to install scrubbers and clean coal technologies and allow utilities to achieve higher emission reductions earlier. Such action should include: (1) adoption of tax incentives and favorable bond financing for pollution control devices similar to measures contained in S1234 now before Congress; (2) urging Congress to take such steps that may be necessary to cause TVA to install other clean coal technologies; and (3) clarification that the special bonus allowances available to utilities that reduce emissions early or implement clean coal technology should be shared by all eligible applicants.

Adopted by the Southern Legislative Conference, July 23, 1991.

SO-91-PP3

END

DATE FILMED

5/3/93