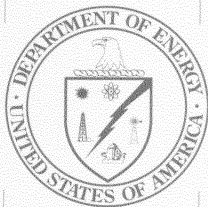




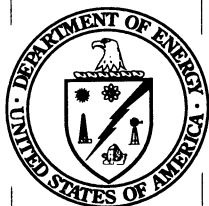
CCT Program Bibliography of Publications, Papers, and Presentations



U. S. Department of Energy
Assistant Secretary for Fossil Energy
Office of Clean Coal Technology

November 1996

**CLEAN
COAL**
TECHNOLOGY



CCT Program Bibliography of Publications, Papers, and Presentations



**U. S. Department of Energy
Assistant Secretary for Fossil Energy
Office of Clean Coal Technology**

Table of Contents

Foreword	viii
CCT Program Publications Bibliography	1-15
Annual Program Updates	1
Advanced Electric Power Generation	
<i>Fluidized-Bed Combustion</i>	2
The Appalachian Power Company -- PFBC Utility Demonstration Project.....	2
DMEC-1 Limited Partnership -- PCFB Project	2
Four Rivers Energy Partners, L.P. -- Four Rivers Energy Modernization Project.....	2
The Ohio Power Company -- Tidd PFBC Demonstration Project	2
Tri-State Generation and Transmission Association, Inc. -- Nucla CFB Demonstration Project	2
York County Energy Partners, L.P. -- ACFB Demonstration Project.....	3
<i>Integrated Gasification Combined Cycle</i>	3
ABB Combustion Engineering, Inc. -- Combustion Engineering IGCC Repowering Project.....	3
Clean Energy Partners Limited Partnership -- Clean Energy Demonstration Project	3
Sierra Pacific Power Company -- Piñon Pine IGCC Power Project	4
Tampa Electric Company -- Tampa Electric Integrated Gasification Combined-Cycle Project	4
Wabash River Coal Gasification Repowering Project Joint Venture -- Wabash River Coal Gasification Repowering Project	4
<i>Advanced Combustion/Heat Engines</i>	5
Alaska Industrial Development and Export Authority -- Healy Clean Coal Project.....	5
Arthur D. Little, Inc. -- Coal Diesel Combined-Cycle Project	5
Pennsylvania Electric Company -- Warren Station Externally Fired Combined-Cycle Demonstration Project	5
Environmental Control Devices	
<i>NO_x Control Technologies</i>	6
The Babcock & Wilcox Company -- Demonstration of Coal Reburning for Cyclone Boiler NO _x Control	6
The Babcock & Wilcox Company -- Full-Scale Demonstration of Low-NO _x Cell Burner Retrofit.....	6
Energy and Environmental Research Corporation -- Evaluation of Gas Reburning and Low-NO _x Burners on a Wall-Fired Boiler	6
New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO _x Control	6

Southern Company Services, Inc. -- Demonstration of Advanced Combustion Techniques for a Wall-Fired Boiler . 6

Southern Company Services, Inc. -- 180-MWe Demonstration of Advanced Tangentially Fired Combustion
Techniques for the Reduction of NO_x Emissions from Coal-Fired Boilers..... 7

Southern Company Services, Inc.-- Demonstration of Selective Catalytic Reduction Technology for the
Control of NO_x Emissions from High-Sulfur-Coal-Fired Boilers 8

SO₂ Control Technologies 8

AirPol, Inc. -- 10-MWe Demonstration of Gas Suspension Absorption 8

Bechtel Corporation -- Confined Zone Dispersion Flue Gas Desulfurization Demonstration 8

LIFAC-North America -- LIFAC Sorbent Injection Desulfurization Demonstration Project 8

Pure Air on the Lake, L.P. -- Advanced Flue Gas Desulfurization Demonstration Project 9

Southern Company Services, Inc. -- Demonstration of Innovative Applications of Technology for the
CT-121 FGD Process..... 9

Combined SO₂/NO_x Control Technologies 9

ABB Environmental Systems -- SNOXTM Flue Gas Cleaning Demonstration Project..... 9

The Babcock & Wilcox Company -- LIMB Demonstration Project Extension and Coolside Demonstration 10

The Babcock & Wilcox Company -- SO_x-NO_x-Rox BOXTM Flue Gas Cleanup Demonstration Project 10

Energy and Environmental Research Corporation -- Enhancing the Use of Coals by Gas Reburning and
Sorbent Injection 10

New York State Electric & Gas Corporation -- Milliken Clean Coal Technology Demonstration Project 11

NOXSO Corporation -- Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas
Cleanup System..... 11

Public Service Company of Colorado -- Integrated Dry NO_x/SO₂ Emissions Control System 11

Coal Processing for Clean Fuels

Coal Preparation Technologies..... 11

ABB Combustion Engineering, Inc., and CQ Inc. -- Development of the Coal Quality Expert 11

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the
Liquid Phase Methanol (LPMEOHTM) Process..... 11

Custom Coals International -- Self-Scrubbing CoalTM: An Integrated Approach to Clean Air 11

Rosebud SynCoal Partnership -- Advanced Coal Conversion Process Demonstration..... 11

Mild Gasification 11

ENCOAL Corporation -- ENCOAL Mild Coal Gasification Project..... 11

Indirect Liquefaction..... 12

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid-
Phase Methanol (LPMEOHII) Process 12

<i>Industrial Applications</i>	12
Bethlehem Steel Corporation -- Blast Furnace Granulated-Coal Injection System Demonstration Project.....	12
Bethlehem Steel Corporation -- Innovative Coke Oven Gas Cleaning System for Retrofit Applications	12
Centerior Energy Corporation -- Clean Power from Integrated Coal/Ore Reduction (COREX®).....	13
Coal Tech Corporation -- Advanced Cyclone Combustor with Internal Sulfur, Nitrogen, and Ash Control	13
Passamaquoddy Tribe -- Cement Kiln Flue Gas Recovery Scrubber	13
ThermoChem, Inc. -- Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal.....	13
Reports on Withdrawn and Terminated Projects	13
Reports on CCT Solicitations	14
<i>Informational Solicitations</i>	14
CCT-1 Solicitation	14
CCT-11 Solicitation	14
CCT-111 Solicitation	14
CCT-IV Solicitation	14
CCT-V Solicitation	15
Other Publications	15
CCT Papers and Presentations Bibliography	17-43
Advanced Electric Power Generation	
<i>Fluidized-Bed Combustion</i>	17
DMEC- I Limited Partnership -- PCFB Project.....	18
Four Rivers Energy Partners, L.P. -- Energy Modernization Project.....	18
The Ohio Power Company -- Tidd PFBC Demonstration Project	18
Tri-State Generation and Transmission Association, Inc. -- Nucla CFB Demonstration Project	19
York County Energy Partners, L.P. -- ACFB Demonstration Project.....	20
<i>Integrated Gasification Combined Cycle</i>	20
ABB Combustion Engineering, Inc. -- Combustion Engineering IGCC Repowering Project	20
Clean Energy Partners Limited Partnership -- Clean Energy Demonstration Project	21
Sierra Pacific Power Company -- Piñon Pine IGCC Power Project	21
TAMCO Power Partners -- Toms Creek IGCC Demonstration Project.....	22
Tampa Electric Company -- Tampa Electric Integrated Gasification Combined-Cycle Project	22

Wabash River Coal Gasification Repowering Project Joint Venture -- Wabash River Coal Gasification	
Repowering Project.....	23
<i>Advanced Combustion/Heat Engines</i>	24
Alaska Industrial Development and Export Authority -- Healy Clean Coal Project.....	24
Arthur D. Little, Inc. -- Coal Diesel Combined-Cycle Demonstration Project.....	24
Pennsylvania Electric Company -- Warren Station Externally Fired Combined-Cycle Demonstration Project	25
Environmental Control Devices	
<i>NO_x Control Technologies</i>	25
The Babcock & Wilcox Company -- Demonstration of Coal Reburning for Cyclone Boiler NO _x Control	25
The Babcock & Wilcox Company -- Full-Scale Demonstration of Low-NO _x Cell Burner Retrofit.....	25
Energy and Environmental Research Corporation -- Evaluation of Gas Reburning and Low-NO _x Burners on a	
Wall-Fired Boiler	26
Southern Company Services, Inc. -- Demonstration of Advanced Combustion Techniques for a Wall-Fired	
Boiler	26
Southern Company Services, Inc. -- Demonstration of Selective Catalytic Reduction Technology	
for the Control of NO _x Emissions from High-Sulfur-Coal-Fired Boilers	27
Southern Company Services, Inc. -- 180-MWe Demonstration of Advanced Tangentially Fired	
Combustion Techniques for the Reduction of NO _x Emissions from Coal-Fired Boilers	28
Tennessee Valley Authority -- Micronized Coal Reburning Demonstration for NO _x Control on a 175-Mwe	
Wall-Fired Unit, Renamed Summer 1996 to:	
New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO Control.....	29
<i>SO₂ Control Technologies</i>	30
AirPol, Inc. -- 10-MWe Demonstration of Gas Suspension Absorption	30
Bechtel Corporation -- Confined Zone Dispersion Flue Gas Desulfurization Demonstration	30
LIFAC-North America -- LIFAC Sorbent Injection Desulfurization Demonstration Project	31
Pure Air on the Lake, L.P. -- Advanced Flue Gas Desulfurization Demonstration Project	31
Southern Company Services, Inc. -- Demonstration of Innovative Applications of Technology for the CT-121	
FGD Process.....	32
<i>Combined SO₂/NO_x Control Technologies</i>	32
ABB Environmental Systems -- SNOX™ Flue Gas Cleaning Demonstration Project.....	33
The Babcock & Wilcox Company -- LIMB Demonstration Project Extension and Coolside Demonstration	33
The Babcock & Wilcox Company -- SO _x -NO _x -Rox BOX™ Flue Gas Cleanup Demonstration Project	34
Energy and Environmental Research Corporation -- Enhancing the Use of Coals by Gas Reburning and	
Sorbent Injection	34

New York State Electric & Gas Corporation -- Milliken Clean Coal Technology Demonstration Project	35
NOXSO Corporation -- Commercial Demonstration of the NOXSO SO ₂ /NO _x Removal Flue Gas Cleanup System.....	36
Public Service Company of Colorado -- Integrated Dry NO _x /SO ₂ Emissions Control System	36
Union Carbide Chemicals and Plastics Co., Inc. -- Demonstration of the Union Carbide CANSOLV™ at the ALCOA Generating Corporation Warrick Power Plant.....	37
Coal Processing for Clean Fuels	
<i>Coal Preparation Technologies</i>	37
ABB Combustion Engineering, Inc., and CQ Inc. -- Development of the Coal Quality Expert	37
Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOH™) Process	38
Custom Coals International -- Self-Scrubbing Coal™: An Integrated Approach to Clean Air	38
Rosebud SynCoal Partnership -- Advanced Coal Conversion Process Demonstration.....	38
<i>Mild Gasification</i>	38
ENCOAL Corporation -- ENCOAL Mild Coal Gasification Project.....	38
<i>Indirect Liquefaction</i>	39
Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of Liquid-Phase Methanol (LPMEOH™) Process.....	39
<i>Industrial Applications</i>	39
Bethlehem Steel Corporation -- Blast Furnace Granulated-Coal Injection System Demonstration Project.....	39
Bethlehem Steel Corporation -- Innovative Coke Oven Gas Cleaning System for Retrofit Applications	40
Centerior Energy Corporation -- Clean Power from Integrated Coal/Ore Reduction (COREX®).....	40
Coal Tech Corporation -- Advanced Cyclone Combustor with Internal Sulfur, Nitrogen, and Ash Control	40
Passamaquoddy Tribe -- Cement Kiln Flue Gas Recovery Scrubber	40
ThermoChem, Inc. -- Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal.....	41
Other Papers and Presentations	41
CCT Bibliography Index	44

Foreword

Together, the U.S. Department of Energy and our industrial partners launched in 1986 a unique government/industrial partnership to develop and demonstrate a new generation of innovative coal utilization processes. This partnership, the Clean Coal Technology Demonstration Program, focused on the development of clean coal technologies and serves a vital role in ensuring that coal will continue to contribute to the nation's energy well-being, enhancing opportunities for economic growth and employment, while meeting the national commitment to a clean and healthy global environment.

The CCT Program has been celebrating its 10 year anniversary. The industry/government relationship forged during the 10 years has put into place technological assets and capabilities that are enabling the resolution of the competitive, interrelated demands for energy, economic viability, and environmental sensitivity.

With over 40 percent of the projects completed, the CCT Program has achieved several significant accomplishments that will have a lasting impact on the continued use of coal, namely: 1) the development of a portfolio of technologies that expand coal utilization capabilities, improve economics of coal use, and achieve strict environmental compliance goal for acid rain and other global environmental concerns; 2) extension of the technical, economic, and environmental performance envelope of coal technologies; 3) establishment of commercial credibility of advanced coal technologies in the domestic and international marketplaces; and 4) demonstration of a model program for government/industry cooperation in technology development.

The volume of materials published during the 10 years of the CCT Program is yet another measure of the effort surrounding and supporting the development of clean coal technologies. To assist you in your access to the large volume of data generated in the program, we have made an effort to put together a comprehensive bibliography of all publications, papers, and presentations that have been prepared about the projects, within the context of accomplishments in research, design, engineering, and operational testing.

To the industrial participants and other organizations that have been involved in the 10 years of the Clean Coal Technology Demonstration Program, congratulations. It is with pleasure that I present this Bibliography, a testament to the hard work that has led to the successes of the CCT Program.

Patricia Fry Godley
Assistant Secretary for Fossil Energy
U.S. Department of Energy

CCT Program Publications Bibliography

Numerous publications are available on the major activities of the DOE Clean Coal Technology Demonstration (CCT) Program. The most comprehensive report published is the *Clean Coal Technology Demonstration Program, Program Update*, published annually. Detailed information about each project selected for award of a cooperative agreement may be found in the project's *Comprehensive Report to Congress on the Clean Coal Technology Program*. When a project is completed, the technical, environmental, and economic performance, as well as other key results, are reported and disseminated by the participant and the CCT Program. Key CCT Program publications that are available are listed in this Bibliography. Project-specific reports and articles are listed by application category, and within each category by project name.

The CCT Program reports are available through the National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600.

Other articles and status reports are published in the quarterly newsletter *Clean Coal Today* (see the *Clean Coal Today Index* for those writeups). To receive issues of the newsletter, or the *Clean Coal Today Index*, send your name and address to: U.S. Department of Energy, FE-22, Washington, DC 20585, Attention Phoebe Hamill.

Access to CCT data and other information can be made via the Internet. The Fossil Energy Home Page, which can be accessed through <http://www.fe.doe.gov>, offers general information and a gateway to more detailed information about Projects in the CCT Program.

A computer bulletin board provides CCT Program updates; call (202) 586-6495 via modem. For additional information, call Bob Porter or Hattie Wolfe, FE Office of Communications, at (202) 586-6503.

ANNUAL PROGRAM UPDATES

Clean Coal Technology Demonstration Program: Program Update 1995 (As of December 31, 1995). Report No. DOE/FE-0346. U.S. Department of Energy. April 1996.

Clean Coal Technology Demonstration Program: Project Fact Sheets. Report No. DOE/FE-0339. U.S. Department of Energy. July 1995.

Clean Coal Technology Demonstration Program: Program Update 1994 (As of December 31, 1994). Report No. DOE/FE-0330. U.S. Department of Energy. April 1995. (Available from NTIS as DE95012257.)

Clean Coal Technology Demonstration Program: Program Update 1993 (As of December 31, 1993). Report No. DOE/FE-0299P. U.S. Department of Energy. March 1994. (Available from NTIS as DE94012389.)

Clean Coal Technology Demonstration Program: Program Update 1992 (As of December 31, 1992). Report No. DOE/FE-0272. U.S. Department of Energy. February 1993. (Available from NTIS as DE93011403.)

Clean Coal Technology Demonstration Program: Program Update 1991 (As of December 31, 1991). Report No. DOE/FE-0247P. U.S. Department of Energy. February 1992. (Available from NTIS as DE92008451.)

Clean Coal Technology Demonstration Program: Project Status (As of June 30, 1991). Report No. DOE/FE-0221P. U.S. Department of Energy. June 1991. (Available from NTIS as DE91018648.)

Clean Coal Technology Demonstration Program: Program Update 1990 (As of December 31, 1990). Report No. DOE/FE-0219P. U.S. Department of Energy. February 1991. (Available from NTIS as DE91008636.)

Clean Coal Technology Demonstration Program: Annual Report to Congress (As of December 31, 1989). Report No. DOE/FE-0195P. U.S. Department of Energy. March 1990. (Available from NTIS as DE90013603.)

Clean Coal Technology Demonstration Program: Annual Report to Congress (As of December 31, 1988). Report No. DOE/FE-0125. U.S. Department of Energy. February 1989. (Available from NTIS as DE89009636.)

Clean Coal Technology Demonstration Program: Annual Report to Congress (As of December 31, 1987). Report No. DOE/FE-0107. U.S. Department of Energy. 1988. (Available from NTIS as DE88012672.)

ADVANCED ELECTRIC POWER GENERATION

Fluidized-Bed Combustion

The Appalachian Power Company - PFBC Utility Demonstration Project

Clean Coal II -- PFBC Utility Demonstration Project: 1992 Annual Report. Report No. DOE/MC/26304-3497. The Appalachian Power Company. December 1992. (Available from NTIS as DE94000029.)

PFBC Utility Demonstration Project: 1991 Annual Report. Report No. DOE/MC/26304-3194. The Appalachian Power Company. November, 1992. (Available from NTIS as DE93000233.)

Comprehensive Report to Congress on the Clean, Coal Technology Program: PFBC Utility Demonstration Project. The Appalachian Power Company and The Ohio Power Company. Report No. DOE/FE-0159. U.S. Department of Energy. February 1990. (Available from NTIS as DE90008094.)

DMEC-1 Limited Partnership -- PCFB Project

Karhula Hot Gas Cleanup Test Results. Report No. DOE/MC/26042-94/CO383. Westinghouse Electric Corporation. June 1994. (Available from NTIS as DE95000652.)

PCFB Repowering Project 80 MW Plant Description. Report No. DOE/MC/27364-3998. Midwest Power Systems, Inc. May 1994. (Available from NTIS as DE95000073.)

Pressurized Circulating Fluidized Bed (PCFB) Repowering Project: Annual Report/January-December 1993. DMEC-1 Limited Partnership. April 1994. (Available from NTIS as DE94014920.)

Pressurized Circulating Fluidized Bed (PCFB) Repowering Project: Annual Report/August 1991-December 1992. Report No. DOE/MC/27364-3468. DMEC-1 Limited Partnership. April 1993. (Available from NTIS as DE94000007.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Pressurized Circulating Fluidized Bed Demonstration Project. Dairyland Power Cooperative and Iowa Power Inc. Report No. DOE/FE-0236P. U.S. Department of Energy. June 1991. (Available from NTIS as DE91018504.)

Four Rivers Energy Partners, L.P. -- Four Rivers Energy Modernization Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Four Rivers Energy Modernization Project. Air Products and Chemicals, Inc. Report No. DOE/FE-0295P. U.S. Department of Energy. June 1994. (Available from NTIS as DE94017563.)

The Ohio Power Company -- Tidd PFBC Demonstration Project

Tidd PFBC Hot Gas Clean Up Program Final Report. Report No. DOE/MC/26042-5130. The Ohio Power Company. October 1995. (Available from NTIS as DE96000650.)

Tidd PFBC Demonstration Project Final Report, Including Fourth Year of Operation. Report No. DOE/MC/34132-5091. The Ohio Power Company. August 1995. (Available from NTIS as DE96000623.)

Tidd PFBC Demonstration Project Final Report, March 1, 1994-March 30, 1995. Report No. DOE/MC/24132-T8. The Ohio Power Company. August 1995. (Available from NTIS as DE96004973.)

Tidd PFBC Demonstration Project - First Three Years of Operation Topical Report. Report No. DOE/MC/24132-5037 (two volumes). The Ohio Power Company. April 1995. (Available from NTIS as DE96000559 for vol. 1 and DE96003781 for vol. 2.)

A Study of Hazardous Air Pollutants at the Tidd PFBC Demonstration Plant. Report No. DOE/MC/26042-4083. American Electric Power Service Corporation. October 1994. (Available from NTIS as DE95009729.)

Tidd PFBC Hot Gas Filter Operating Experience: July 1993-April 1994. Report No. DOE/MC/26042-94/CO3 82. The Ohio Power Company. June 1994. (Available from NTIS as DE95000653.)

Tidd PFBC Demonstration Project Topical Report -- First Eight Months of Operation. Report No. DOE/MC/24132-3746. The Ohio Power Company. March 1994. (Available from NTIS as DE94004120.)

Tidd PFBC Demonstration Project: Public Final Design Report. Report No. DOE/MC/24132-3195. The Ohio Power Company. October 1992. (Available from NTIS as DE93000234.)

Tidd: The Nations First PFBC Combined-Cycle Demonstration. Topical Report No. 1. U.S. Department of Energy and American Electric Power Service Corporation. March 1990.

Comprehensive Report to Congress on the Clean Coal Technology Program: Tidd PFBC Demonstration Project. The Ohio Power Company. Report No. DOE/FE-0078. U.S. Department of Energy. February 1987. (Available from NTIS as DE987005803.)

Tri-State Generation and Transmission Association, Inc. -- Nucla CFB Demonstration Project

Clean Coal Reference Plants: Atmospheric CFB (Topical Report, Task 1). Report No. DOE/MC/25177-3307. Gilbert/Commonwealth, Inc. June 1992. (Available from NTIS as DE93000251.)

Demonstration Program Performance Test: Summary Reports. Report No. DOE/MC/25137-3104. Colorado-Ute Electric Association, Inc. March 1992. (Available from NTIS as DE92001299.)

Economic Evaluation Report: Topical Report. Report No. DOE/MC/25137-3127. Colorado-Ute Electric Association, Inc. March 1992. (Available from NTIS as DE93000212.)

Nucla Circulation Atmospheric Fluidized Bed Demonstration Project: 1990 Annual Report. Report No. DOE/MC/25137-3089. Colorado-Ute Electric Association, Inc. February 1992. (Available from NTIS as DE92001275.)

Nucla Circulation Atmospheric Fluidized Bed Demonstration Project: Final Technical Report for the Period February 1987 through January 1991. Report No. DOE/MC/25137-3046. Colorado-Ute Electric Association, Inc. October 1991. (Available from NTIS as DE92001122.)

Nucla CFB Demonstration Project: Detailed Public Design Report. Report No. DOE/MC/25137-2999. Colorado-Ute Electric Association, Inc. December 1990. (Available from NTIS as DE9100208 1.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Nucla CFB Demonstration Project. Colorado-Ute Electric Association, Inc. Report No. DOE/FE-0106. U.S. Department of Energy. July 1988.

York County Energy Partners, L.P. -- ACFB Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Arvah B. Hopkins Circulating Fluidized Bed Repowering Project. The City of Tallahassee. Report No. DOE/FE-0208P. U.S. Department of Energy. October 1990. (Available from NTIS as DE91001076.)

Integrated Gasification Combined Cycle

IGCC -- Integrated Gasification Combined Cycle. Morgantown Energy Technology Center. June 1994.

Integrated Gasification Combined-Cycle Research and Development Activities in the U.S. Report No. DOE/METC/C95/7193. Morgantown Energy Technology Center. 1994. (Available from NTIS as DE96002566.)

Isles, J. "Clean Coal Vote for IGCC." *Modern Power Systems* 11 (November 1991): 19-23.

"DOE Chooses Tampella Power to Build IGCC Demonstration Facility." *POWERlines* (Winter 1991/1992): 4-6.

ABB Combustion Engineering, Inc. -- Combustion Engineering IGCC Repowering Project

CE IGCC Repowering Project Topical Report: Use of the Lockheed Kinetic Extruder for Coal Feeding. Report No. DOE/MC/26308-3646. ABB Combustion Engineering, Inc. February 1994. (Available from NTIS as DE94004066.)

CE IGCC Repowering Project; Topical Report: Controls and Instrumentation. Report No. DOE/MC/26308-3648. ABB Combustion Engineering, Inc. December 1993. (Available from NTIS as DE94004068.)

CE IGCC Repowering Project; Annual Report/January-December 1992. Report No. DOE/MC/26308-3645. ABB Combustion Engineering, Inc., December 1993. (Available from NTIS as DE94004063.)

CE IGCC Repowering Project; Topical Report: Sulfuric Acid Plant. Report No. DOE/MC/26308-3640. ABB Combustion Engineering, Inc. December 1993. (Available from NTIS as DE94004061.)

CE IGCC Repowering Project; Topical Report: Bins and Lockhoppers. Report No. DOE/MC/26308-3647. ABB Combustion Engineering, Inc. October 1993. (Available from NTIS as DE94004067.)

CE IGCC Repowering Project; Topical Report.- Materials for Coal Gasification Environment. Report No. DOE/MC/26308-3628. ABB Combustion Engineering, Inc. October 1993. (Available from NTIS as DE94000097.)

CE IGCC Repowering Project; Topical Report: Hot Gas Clean Up System. Report No. DOE/MC/26308-3545. ABB Combustion Engineering, Inc. September 1993. (Available from NTIS as DE94000070.)

CE IGCC Repowering Project; Topical Report: Preliminary Hazard Analysis. Report No. DOE/MC/26308-3637. ABB Combustion Engineering, Inc. June 1993. (Available from NTIS as DE94004056.)

CE IGCC Repowering Project; Topical Report Char Filters. Report No. DOE/MC/26308-3639. ABB Combustion Engineering, Inc. May 1993, (Available from NTIS as DE94004060.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Combustion Engineering IGCC Repowering Project. ABB Combustion Engineering, Inc. Report No. DOE/FE-020 I P. U.S. Department of Energy. October 1990. (Available from NTIS as DE91001054.)

Clean Energy Partners Limited Partnership -- Clean Energy Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Combustion Engineering IGCC Repowering Project. Clean Energy Demonstration Project. Clean Energy Partners, L.P. Report No. DOE/FE-0319P. U.S. Department of Energy. October 1994.

Sierra Pacific Power Company -- Piñon Pine IGCC Power Project

Piñon Pine IGCC Plant Construction on Schedule. Clean Coal Today, Summer 1996. Office of Fossil Energy, U.S. Department of Energy. June 1996.

Swanekamp, R. "Startup of Large-Scale Projects Casts Spotlight on IGCC." *Power Magazine.* June 1996.

IGCC's Provide High Efficiencies, Ultra-Low Flue-Gas Emissions: Piñon Pine IGCC Project. Private Power Executive, May-June 1996. Sierra Pacific Power Company. May 1996.

Piñon Pine Power Project Annual Report, January 1995-December 1995. U.S. Department of Energy, Morgantown, WV, 1996. Sierra Pacific Power Company. April 1996.

Stambler, I. "Progress in IGCC and Advanced Cycles Outlined at EPRI Meeting." *Gas Turbine World, January-February* 1996 February 1996.

Campbell, W.M. "Desulfurization of Hot Fuel Gas with Z-Sorb III Sorbent." *Power Magazine.* 1995.

Kuehn, S.E. "Combined Cycle Leads Efficiency Race." *Power Engineering.* 1995.

Todd, D.M., H.G. Stoll, and C.M. Veitch. "IGCC Proves Competitive with Conventional Coal Technology." *Private Power Executive, July-August* 1995. August 1995.

Burrow, J.D., and J.W. Motter. "Integration of an Advanced Technology Gas Turbine in an Air Blown Gasifier." *Western Energy Magazine, Spring* 1995. April 1995.

Piñon Pine Power Project; Annual Report, January-December 1994. Report No. DOE/MC/29309-4054. Sierra Pacific Power Company. January 1995. (Available from NTIS as DE95009707.)

Final Environmental Impact Statement for the Proposed Piñon Pine Power Project, Tracy Station, Nevada, Volume I: Report, Volume II: Appendices. U.S. Department of Energy. Sierra Pacific Power Company. 1994.

Tracy Power Station-Unit No. 4, Piñon Pine Power Project Public Design Report. Report No. DOE/MC/29309-4056. Sierra Pacific Power Company. December 1994. (Available from NTIS as DE95009708.)

Piñon Pine Power Project; Annual Report, August 1992-December 1993. Report No. DOE/MC/29309-4063. Sierra Pacific Power Company. November 1994. (Available from NTIS as DE95009709.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Piñon Pine IGCC Power Project. Sierra Pacific Power Company. Report No. DOE/FE-0255P. U.S. Department of Energy. June 1992. (Available from NTIS as DE92015632.)

McAllester, P. "Piñon Pine Set to Demonstrate IGCC." *Modern Power Systems* 11 (December 1991): 19-23.

Robin, A.M., L.A. Davis, J.S. Kassman, W.L. Lafferty, T.F. Leiningee, J.S. Stevenson, P.P. Yang, and Chi-Ming Wu. "Integration and Testing of Hot Desulfurization and Entrained Flow Gasification for Power Generation Systems." December 1991.

Bajura, R.A., and H.A. Webb. "Advanced Energy Systems, The Marriage of Gas Turbines and Coal." *Mechanical Engineering.* September 1991.

GaIlaspy, D.T., R.B. Hinshaw, J.D. Maxwell, T.E. Pinkston, and R.E. Sears. "Cost and Performance of Air-Blown Gasification-Based Power Plant with Hot Gas Cleanup." 1990.

Lippert, T.E., M.A. Alvin, D.M. Bachovchin, G.B. Haidipur, R.A. Newby, and E.E. Smeltzer. "Development and Commercialization of Hot Gas Filtration Systems." 1990.

Tampa Electric Company --Tampa Electric Integrated Gasification Combined-Cycle Project

Integrated Gasification Combined Cycle (IGCC) Demonstration Project, Polk Power Station-Unit No. 1; Annual Report, October 1993-September 1994. Report No. DOE/MC/27363-5012. Tampa Electric Company. May 1995. (Available from NTIS as DE95009742.)

Tampa Electric Company Polk Power Station Unit No. 1; Annual Report, January-December 1993. Report No. DOE/MC/27363-3870. Tampa Electric Company. August 1994. (Available from NTIS as DE95000042.)

Tampa Electric Company, Polk Power Station Unit No. 1, Preliminary Public Design Report. Report No. DOE/MC/27363-3966. Tampa Electric Company. June 1994. (Available from NTIS as DE95000051.)

Tampa Electric Company Polk Power Station Unit No.1; Annual Report, January-December 1992. Report No. DOE/MC/27363-3629. Tampa Electric Company. October 1993. (Available from NTIS as DE94000098.)

Brady, J.M. "Tampa Electric Opts for IGCC in Florida." *Modern Power Systems.* August 1992.

Comprehensive Report to Congress on the Clean Coal Technology Program: Air-Blown Integrated Gasification Combined-Cycle Demonstration Project. Clean Power Cogeneration Limited Partnership. Report No. DOE/FE-0216P. U.S. Department of Energy. January 1991. (Available from NTIS as DE91009355.)

Wabash River Coal Gasification Repowering Project Joint Venture -- Wabash River Coal Gasification Repowering Project

Cook, J.J., and L.A. Lednický (PSI Energy, Inc.). "IGCC Repowering Nears Commercial Startup." *Power Engineering;* 99 (6): 26-29. June 1995.

Wabash River Coal Gasification Repowering Project Topical Report, July 1992-December 1993. Report No. DOE/MC/29310-3840. Wabash River Coal Gasification Repowering Project Joint Venture. January 1994. (Available from NTIS as DE94012272.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Wabash River Coal Gasification Repowering Project. Wabash River Coal Gasification Repowering Project Joint Venture. Report No. DOE/FE-0257P. U.S. Department of Energy. June 1992. (Available from NTIS as DE92015634.)

Advanced Combustion/Heat Engines

Alaska Industrial Development and Export Authority -- Healy Clean Coal Project

Healy Clean Coal Project, Quarterly Technical Progress Report No. 20, October 1, 1994-December 31, 1995. January 1996. Report No. DOE/PC/90544-T18. Alaska Industrial Development and Export Authority. (Available from NTIS as DE96010950.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 16-19, October 1, 1994-September 30, 1995. October 1995. Report No. DOE/PC/90544-T17. Alaska Industrial Development and Export Authority. (Available from NTIS as DE96004798.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 14, April 1-June 30, 1994. July 1994. Report No. DOE/PC/90544-T15. Stone and Webster Engineering Corporation. (Available from NTIS as DE95000359.)

Healy Clean Coal Project, 1993 Annual Technical Progress Report. Report No. DOE/PC/90544-T13. Stone and Webster Engineering Corporation. January 1994. (Available from NTIS as DE94016034.)

Final Environmental Impact Statement for the Proposed Healy Clean Coal Project. Report No. DOE/EIS-0186. U.S. Department of Energy. December 1993.

Healy Clean Coal Project, Final Environmental Monitoring Plan. Report No. DOE/PC/90544-T14. Stone and Webster Engineering Corporation. (Available from NTIS as DE94016052.)

Healy Clean Coal Project, Design Verification and Cold-Flow Modeling Test Report. Report No. DOE/PC/90544-T9. TRW Space and Technology Group. July 1993. (Available from NTIS as DE94002026.)

Healy Clean Coal Project Healy FCM Testing at Niro Air Pollution Pilot Facility. Report No. DOE/PC/90544-T6. U.S. Department of Energy. October 1992. (Available from NTIS as DE93014937.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 6, April-June 30, 1992. July 1992. Report No. DOE/PC/90544-T5. Stone and Webster Engineering Corporation. (Available from NTIS as DE93006483.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 5, January 1-March 31, 1992. Report No. DOE/PC/90544-T4. Stone and Webster Engineering Corporation. April 1992. (Available from NTIS as DE92017970.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 4, October 1-December 31, 1991. Report No. DOE/PC/90544-T3. Stone and Webster Engineering Corporation. January 1992. (Available from NTIS as DE92013723.)

Healy Clean Coal Project Healy Coal Firing at TRW Cleveland Test Facility. Report No. DOE/PC/90544-T2. TRW Space and Technology Group, TRW, Inc. August 1991. (Available from NTIS as DE92007602.)

Healy Clean Coal Project, Quarterly Technical Progress Report No. 1 and 2, January 1-June 30, 1991. Report No. DOE/PC/90544-T1. Stone and Webster Engineering Corporation. July 1991. (Available from NTIS as DE92002828.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Healy Clean Coal Project. Alaska Industrial Development and Export Authority. Report No. DOE/FE-0211P. U.S. Department of Energy. January 1991. (Available from NTIS as DE91008637.)

Arthur D. Little, Inc. -- Coal Diesel Combined-Cycle Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Coal Diesel Combined-Cycle Project. Arthur D. Little, Inc. Report No. DOE/FE-0296P. U.S. Department of Energy. May 1994. (Available from NTIS as DE94012984.)

Pennsylvania Electric Company -- Warren Station Externally Fired Combined-Cycle Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Warren Station EFCC Demonstration Project. Pennsylvania Electric Company. Report No. DOE/FE-0316P. U.S. Department of Energy. June 1994. (Available from NTIS as DE94017288.)

ENVIRONMENTAL CONTROL DEVICES

NO_x Control Technologies

"NO Reduction by SCR/SNCR." *PETC Review: A Global Role for Energy*. Issue 10. Summer 1994. (Available from NTIS as DE95000411.)

The Babcock & Wilcox Company -- Demonstration of Coal Reburning for Cyclone Boiler NO_x Control

Demonstration of Coal Reburning for Cyclone Boiler NO_x Control: Final Project Report. Report No. DOE/PC/89659-T16. The Babcock & Wilcox Company. February 1994. (Available from NTIS as DE94013052, Appendix 1 as DE94013053, Appendix 2 as DE94013054.)

"Reburning for NO_x Reduction-Demonstration of Coal Reburning for Cyclone Boiler NO_x Control." *PETC Review*. Issue 9. Fall 1993. (Available from NTIS as DE94005180.)

Public Design Report: Coal Reburning for Cyclone Boiler NO_x Control. The Babcock & Wilcox Company. August 1991. (Available from NTIS as DE92012554.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Demonstration of Coal Reburning for Cyclone Boiler NO_x Control. The Babcock & Wilcox Company. Report No. DOE/FE-0157. U.S. Department of Energy. February 1990. (Available from NTIS as DE90008111.)

The Babcock & Wilcox Company -- Full-Scale Demonstration of Low-NO_x Cell Burner Retrofit

Final Report: Full-Scale Demonstration of Low-NO_x Cell Burner Retrofit. Report No. DOE/PC/90545-2. The Babcock & Wilcox Company. December 1995. (Available from NTIS as DE96003766/LL.)

Public Design Report Full-Scale Demonstration of Low-NO_x Cell Burner Retrofit. Report No. DOE/PC/9545-T4. The Babcock & Wilcox Company. August 1991. (Available from NTIS as DE92009768.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Full-Scale Demonstration of Low-NO_x Cell Burner Retrofit. The Babcock & Wilcox Company. Report No. DOE/FE-0197P. U.S. Department of Energy. July 1990. (Available from NTIS as DE90018026.)

Energy and Environmental Research Corporation -- Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler

Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler [Long-Term Testing, April 1993-January 1995]. Report No. DOE/PC/90547-T20. Energy and Environmental Research Corporation. June 1995. (Available from NTIS as DE95017755.)

Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler [Optimization Testing, November 1992-April 1993]. Report No. DOE/PC/90547-T19. Energy and Environmental Research Corporation. June 1995. (Available from NTIS as DE95017754.)

Reduction of NO_x and SO₂ Using Gas Reburning, Sorbent Injection and Integrated Technologies. Topical Report No. 3. Revision 1. Report No. DOE/FE-94007444. U.S. Department of Energy and Energy and Environmental Research Corporation. September 1993. (Available from NTIS as DE94007444.)

"Reburning for NO_x Reduction-Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler." *PETC Review*. Issue 9. Fall 1993. (Available from NTIS as DE94005180.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler. Energy and Environmental Research Corporation. Report No. DOE/FE-0204P. U.S. Department of Energy. September 1990. (Available from NTIS as DE9100253.)

Tennessee Valley Authority -- Micronized Coal Reburning Demonstration for NO_x Control on a 175-MWe Wall-Fired Unit, Renamed in Summer 1996 to:

New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO_x Control

"Reburning for NO Reduction--Micronized Coal Reburning for NO Control." *PETC Review*. Issue 9. Fall 1993. (Available from NTIS as DE94005180.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Micronized Coal Reburning Demonstration for NO_x Control on a 175-MWe Wall-Fired Unit. Tennessee Valley Authority. Report No. DOE/FE-0256P. U.S. Department of Energy. June 1992. (Available from NTIS as DE92015633.)

Southern Company Services, Inc. -- Demonstration of Advanced Combustion Techniques for a Wall-Fired Boiler

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers--Public Design Report (Preliminary and Final). Southern Company Services. Submitted to DOE on May 24, 1996.

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide Emissions from Coal-Fired Boilers [Advanced Digital Control/Optimization Phase]. Report No. DOE/PC/89651-T22. Southern Company Services, Inc. January 1995. (Available from NTIS as DE95017742.)

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers-Phase 3A Low NO_x Burner Tests Topical Report. Southern Company Services and Energy Technology Consultants. Submitted to DOE on August 15, 1994.

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of NO_x Emissions from Coal-Fired Boilers; Phase 3B LNB AOFA Tests. Report No. DOE/PC/89651-T17. Woodward Clyde Consultants and Southern Company Services, Inc. December 1993. (Available from NTIS as DE95010619.)

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of NO_x Emissions from Coal-Fired Boilers; Phase 3A, Low-NO_x Burner Tests. Report No. DOE/PC/89651-T17. Woodward Clyde Consultants and Southern Company Services, Inc. March 1993. (Available from NTIS as DE95002388.)

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers; Field Chemical Emissions Monitoring; Overfire Air and Overfire Air/Low-NO_x Burner Operation: Final Report. Report No. DOE/PC/89651-T16. Southern Company Services, Inc. January 1993. (Available from NTIS as DE95006352.)

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers--Phase 2 Overfire Air Tests. Southern Company Services and Energy Technology Consultants. Submitted to DOE on August 27, 1992.

500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers--Phase I Baseline Tests Report. Southern Company Services and Energy Technology Consultants. Submitted to DOE on September 9, 1991.

Comprehensive Report to Congress on the Clean Coal Technology Program: Demonstration of Advanced Combustion Techniques for a Wall-Fired Boiler. Southern Company Services, Inc. Report No. DOE/FE-0146. U.S. Department of Energy. November 1989. (Available from NTIS as DE90004459.)

Southern Company Services, Inc.-- 180-Mwe Demonstration of Advanced Tangentially Fired Combustion Techniques for the Reduction of NO_x Emissions from Coal-Fired Boilers

180-MW Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers: Final Report and Key Project Findings. Report No. DOE/PC/89653-T14. Southern Company Services, Inc. February 1994. (Available from NTIS as DE94011174.)

180 MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers--Plant Lansing Smith-Phase III and Final Environmental Monitoring Program Report. Prepared by Radian Corporation for Southern Company Services. Submitted to DOE on December 16, 1993.

180 MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers-Topical Report LNCFS Levels I and III Tests Results. Southern Company Services and Energy Technology Consultants. Submitted to DOE on October 18, 1993.

Measurement of Chemical Emissions under the Influence of Low-NO_x Combustion Modifications. Report No. DOE/PC/89653-T12. Southern Company Services, Inc. October 1993. (Available from NTIS as DE94005038.)

180-MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers: Public Design Report. Report No. DOE/PC/89652-T13. Southern Company Services, Inc. September 1993. (Available from NTIS as DE94000218.)

ESP Performance Analysis during the 180-MW Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers. Report No. DOE/PC/89653-T13. Southern Company Services, Inc. September 1993. (Available from NTIS as DE94010218.)

180-MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers-Final Public Design Report. Southern Company Services and ABB C-E Services. Submitted to DOE on September 21, 1993.

Advanced Tangentially-Fired Low-NO Combustion Demonstration--Phase II LNCFS Level II Tests. Southern Company Services and Energy Technology Consultants. Submitted to DOE on September 2, 1993.

180-MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers--Topical Report-Phase I: Baseline Tests. Southern Company Services and Energy Technology Consultants. Submitted to DOE on March 9, 1992.

Quarterly Technical Progress Reports. Southern Company Services. Ten (10) reports covering the Fourth Quarter 1990 through the First Quarter 1993.

Comprehensive Report to Congress on the Clean Coal Technology Program: 180-MWe Demonstration of Advanced Tangentially Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions for Coal-Fired Boilers. Southern Company Services, Inc. Report No. DOE/FE-0191P. U.S. Department of Energy. July 1990. (Available from NTIS as DE9001359.)

Southern Company Services, Inc. -- Demonstration of Selective Catalytic Reduction Technology for the Control of NO_x Emissions from High-Sulfur-Coal-Fired Boilers

Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxide (NO_x) Emissions from High-Sulfur Coal-Fired Boilers-Final Report. Southern Company Services. Submitted to the U.S. Department of Energy in November 1996.

Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxide (NO_x) Emissions from High-Sulfur Coal-Fired Boilers: Environmental Monitoring Program (EMP) Final Report. This report prepared by Radian International LLC for Southern Company Services. Submitted to the U.S. Department of Energy on September 30, 1996.

United States Department of Energy's and Southern Company Services, Inc.'s September 28-October 12, 1991, Visit to Japanese (Hitachi Zosen, Nippon Shokubai K.K., and Mitsubishi Heavy Industries) Selective Catalytic Reduction Catalyst Suppliers. Pittsburgh Energy Technology Center, Southern Company Services. 1991.

United States Department of Energy's and Southern Company Services, Inc.'s August 24-September 1, 1991, Visit to European (Haldor Topsoe A/S, Siemens AG and Simmering-Graz-Pauker VA) Selective Catalytic Reduction Catalyst Suppliers. Pittsburgh Energy Technology Center, Southern Company Services. 1991.

Design Bases, Volume 1 and 2, Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxide (NO) Emissions from High-Sulfur, Coal-Fired Boilers, (Preliminary and Final) Public Design Report. Southern Company Services. June 1991.

Comprehensive Report to Congress on the Clean Coal Technology Program: Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxide (NO_x) Emissions from High-Sulfur-Coal-Fired Boilers. Southern Company Services, Inc. Report No. DOE/FE-0161P. U.S. Department of Energy. April 1990. (Available from NTIS as DE90010360.)

Quarterly Technical Progress Reports. Southern Company Services. Twenty-five (25) reports covering the First Quarter 1990 through the First Quarter 1996.

SO₂ Control Technologies

"Scrubbers are Good!" *PETC Review*. Issue 5. Spring 1992.

AirPol, Inc. -- 10-MWe Demonstration of Gas Suspension Absorption

Clean Coal Technology III: 10-MW Demonstration of Gas Suspension Absorption Final Project Performance and Economics Report. Report No. DOE/PC/90542-T9. AirPol, Inc. June 1995. (Available from NTIS as DE95016681.)

10-MW Demonstration of the Gas Suspension Absorption Final Public Design Report. Report No. DOE/PC190542-T10. AirPol, Inc. June 1995. (Available from NTIS as DE960003270.)

SO₂ Removal Using Gas Suspension Absorption Technology. Topical Report No.4. U.S. Department of Energy and AirPol, Inc. April 1995.

10-MW Demonstration of the Gas Suspension Absorption Process at TVA's Center for Emissions Research: Final Report. Report No. DOE/PC/90542-T10. Tennessee Valley Authority. March 1995. (Available from NTIS as DE96000327.)

Comprehensive Report to Congress on the Clean Coal Technology Program: 10-MW Demonstration of Gas Suspension Absorption. AirPol, Inc. Report No. DOE/FE-0198P. U.S. Department of Energy. July 1990. (Available from NTIS as DE90016669.)

Bechtel Corporation -- Confined Zone Dispersion Flue Gas Desulfurization Demonstration

Confined Zone Dispersion Project Final Technical Report. Bechtel Corporation. June 1994.

Confined Zone Dispersion Project Public Design Report. Bechtel Corporation. October 1993.

Comprehensive Report to Congress on the Clean Coal Technology Program: Confined Zone Dispersion Flue Gas Desulfurization Demonstration. Bechtel Corporation. Report No. DOE/FE-0203P. U.S. Department of Energy. September 1990. (Available from NTIS as DE91002564.)

LIFAC-North America -- LIFAC Sorbent Injection Desulfurization Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: LIFAC Sorbent Injection Desulfurization Demonstration Project. LIFAC-North America. Report No. DOE/FE-0207P. U.S. Department of Energy. October 1990. (Available from NTIS as DE91001077.)

Pure Air on the Lake, L.P. -- Advanced Flue Gas Desulfurization Demonstration Project

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project: Final Technical Report. Pure on the Lake, L.P. April 1996.

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project: DOE Test Report No. 6. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. September 1995.

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project DOE Test Report No. 5. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. June 1995.

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project: DOE Test Report No. 4. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. May 1995.

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project: DOE Test Report No. 3. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. May 1995.

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project: DOE Test Report No. 2. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. October 1994.

Characterizing Toxic Emissions from a Coal-Fired Power Plant Demonstrating the AFGD ICCT Project and a Plant Utilizing a Dry Scrubber/Baghouse System: Bailly Station Units 7 and 8 and AFGD ICCT Project. Final Report. Report No. DOE/PC/93254-T1. Southern Research Institute. October 1994. (Available from NTIS as DE95005662.)

Advanced Flue Gas Desulfurization (AFGD) Demonstration Project DOE Test Report No. 1. Pure Air on the Lake, L.P. Under Cooperative Agreement No. DE-FC22-90PC89660 for the U.S. Department of Energy/Pittsburgh Energy Technology Center. October 1993.

Advanced Flue Gas Desulfurization Project Public Design Report. Pure Air on the Lake, L.P. March 1990.

Comprehensive Report to Congress on the Clean Coal Technology Program: Advanced Flue Gas Desulfurization (AFGD) Demonstration Project. Pure Air on the Lake, L.P. Report No. DOE/FE-0150. U.S. Department of Energy. November 1989. (Available from NTIS as DE90004460.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Advanced Flue Gas Desulfurization (AFGD) Demonstration Project. Pure Air on the Lake, L.P. Report No. DOE/FE-0150. U.S. Department of Energy, November 1989.

Southern Company Services, Inc. -- Demonstration of Innovative Applications of Technology for the CT-121 FGD Process

A Study of Toxic Emissions from a Coal-Fired Power Plant Utilizing an ESP while Demonstrating the ICCTCT-121 FGD Project. Final Report. Report No. DOE/PC/93253-T1. Radian Corporation. June 1994. (Available from NTIS as DE90008110.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Demonstration of Innovative Applications of Technology for the CT-121 FGD Process. Southern Company Services, Inc. Report No. DOE/FE-0158. U.S. Department of Energy. February 1990. (Available from NTIS as DE90008110.)

Combined SO₂/NO_x Control Technologies

"NO_x Reduction by SCR/SNCR." *PETC Review*. Issue 10. Summer 1994. (Available from NTIS as DE95000411.)

ABB Environmental Systems -- SNOX™ Flue Gas Cleaning Demonstration Project

A Study of Toxic Emissions from a Coal-Fired Power Plant Utilizing the SNOX™ Innovative Clean Coal Technology Demonstration. Volume 1, Sampling/Results/Special Topics: Final Report. Report No. DOE/PC/93251-T3-Vol. 1. Battelle Columbus Operations. July 1994. (Available from NTIS as DE9401 8832.)

A Study of Toxic Emissions from a Coal-Fired Power Plant Utilizing the SNOX™ Innovative Clean Coal Technology Demonstration. Volume 2, Appendices: Final Report. Report No. DOE/PC/93251-T3-Vol. 2. Battelle Columbus Operations. July 1994. (Available from NTIS as DE9401 8833.)

A Study of Toxic Emissions from a Coal-Fired Power Plant Niles Station Boiler No.2. Volume 2, Appendices: Final Report. Report No. DOE/PC/93251-T1-Vol. 2. Battelle Columbus Operations. July 1994. (Available from NTIS as DE9401605 1.)

Comprehensive Report to Congress on the Clean Coal Technology Program: WSA~SNOX™ Flue Gas Cleaning Demonstration Project. ABB Combustion Engineering, Inc. Report No. DOE/FE-0151. U.S. Department of Energy. November 1989. (Available from NTIS as DE90004461/LL.)

The Babcock & Wilcox Company – LIMB Demonstration Project Extension and Coolside Demonstration

T.R. Goots, M.J. DePero, and P.S. Nolan. *LIMB Demonstration Project Extension and Coolside Demonstration: Final Report*. Report No. DOE/PC/79798-T27. The Babcock & Wilcox Company. November 1992. (Available from NTIS as DE93005979.)

D.C. McCoy, *et al.* *The Edgewater Coolside Process Demonstration: A Topical Report*. Report No. DOE/PC/79798-T26. CONSOL, Inc. February 1992. (Available from NTIS as DE93001722.)

Coolside and LIMB: Sorbent Injection Demonstrations Nearing Completion. Topical Report No.2. U.S. Department of Energy and The Babcock & Wilcox Company. September 1990.

Public Design Report. Report No. DOE/PC/79798-T2. The Babcock & Wilcox Company. December 1988. (LIMB/Coolside.) (Available from NTIS as DE92016131.)

Comprehensive Report to Congress on the Clean Coal Technology Program: LIMB Demonstration Project Extension. The Babcock & Wilcox Company. Report No. DOE/FE-0085. U.S. Department of Energy. April 1987. (Available from NTIS as DE87009793.)

The Babcock & Wilcox Company – SO₂-NO_x-Rox Box™ Flue Gas Cleanup Demonstration Project

SO₂-NO_x-Rox Box™ Flue Gas Cleanup Demonstration Final Report. Report No. DOE/PC/89656-T1. The Babcock & Wilcox Company. September 1995. (Available from NTIS as DE96003839.)

SNRB™ Air Toxics Monitoring. Final Report. Report No. OCDO-94014782. Battelle Columbus Operations. January 1994. (Available from the Ohio Coal Development Office as TI94014782.) (Available from DOE-OSTI.)

5 MWe SNRB™ Demonstration Facility: Detailed Design Report. IB. The Babcock & Wilcox Company. November 1992.

Comprehensive Report to Congress on the Clean Coal Technology Program: SO₂-NO_x-Rox Box™ Flue Gas Cleanup Demonstration Project. The Babcock & Wilcox Company. Report No. DOE/FE-0145. U.S. Department of Energy. November 1989. (Available from NTIS as DE90004458.)

Energy and Environmental Research Corporation -- Enhancing the Use of Coals by Gas Reburning and Sorbent Injection

Enhancing the Use of Coals by Gas Reburning-Sorbent Injection; Long Term Testing Period, September 1, 1991-January 15, 1993. Report No. DOE/PC/79796-T40. Energy and Environmental Research Corporation. February 1995. (Available from NTIS as DE95011481.)

Enhancing the Use of Coals by Gas Reburning and Sorbent Injection; Volume 2: Gas Reburning-Sorbent Injection at Hennepin Unit 1, Illinois Power Company. Report No. DOE/PC/79796-T38-Vol. 2. Energy and Environmental Research Corporation. October 1994. (Available from NTIS as DE95009448.)

Enhancing the Use of Coals by Gas Reburning and Sorbent Injection; Volume 3: Gas Reburning-Sorbent Injection at Edwards Unit 1, Central Illinois Light Company. Report No. DOE/PC/79796-T38-Vol. 3. Energy and Environmental Research Corporation. October 1994. (Available from NTIS as DE95009447.)

Clean Coal Technology: Reduction of NO_x and SO₂ Using Gas Reburning, Sorbent Injection, and Integrated Technologies. Topical Report No.3, Revision 1. Report No. DOE/FE-94007444. Department of Energy and Energy and Environmental Research Corporation. September 1993. (Available from NTIS as DE94007444.)

Reduction of NO_x and SO₂ Using Gas Reburning, Sorbent Injection and Integrated Technologies. Topical Report No.3. U.S. Department of Energy and Energy and Environmental Research Corporation. September 1993.

"Reburning for NO_x Reduction--Enhancing the Use of Coals by Gas Reburning and Sorbent Injection." *PETC Review*. Issue 9. Fall 1993. (Available from NTIS as DE94005180.)

Bartok, W., B.A. Folsom, R. Payne, and K.T. Wu (Energy and Environmental Research Corporation). "Gas Reburning-Sorbent Injection-Design Modeling of a Nitrogen Oxide-Sulphur Dioxide Emission Control Process." *Journal of Environmental Science and Health A26* (1991): 1267-1286.

Comprehensive Report to Congress on the Clean Coal Technology Program: Enhancing the Use of Coals by Gas Reburning and Sorbent Injection. Energy and Environmental Research Corporation. Report No. DOE/FE-0087. U.S. Department of Energy. May 1987. (Available from NTIS as DE87010815.)

New York State Electric & Gas Corporation -- Milliken Clean Coal Technology Demonstration Project

Comprehensive Report to Congress on the Clean Coal Technology Program: Milliken Clean Coal Technology Demonstration Project. New York State Electric & Gas Corporation. Report No. DOE/FE-0265P. U.S. Department of Energy. September 1992. (Available from NTIS as DE93001756.)

NOXSO Corporation -- Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System

Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System. Report No. DOE/EA-1080. Pittsburgh Energy Technology Center. June 1995. (Available from NTIS as DE96000179.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System. MK-Ferguson Company. Report No. DOE/FE-0213P. U.S. Department of Energy. January 1991. (Available from NTIS as DE91008638.)

Public Service Company of Colorado -- Integrated Dry NO_x/SO₂ Emissions Control System

Integrated Dry NO_x/SO₂ Emissions Control System Calcium-Based Dry Sorbent Injection; Test Report, April 30-November 2, 1993. Report No. DOE/PC/90550-T14. Fossil Energy Research Corporation and Public Service Company of Colorado. December 1994. (Available from NTIS as DE95007932.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Integrated Dry NO_x/SO₂ Emission Control System. Public Service Company of Colorado. Report No. DOE/FE-0212P. U.S. Department of Energy. January 1991. (Available from NTIS as DE91008624.)

COAL PROCESSING FOR CLEAN FUELS

Coal Preparation Technologies

ABB Combustion Engineering, Inc., and CQ Inc. -- Development of the Coal Quality Expert

Comprehensive Report to Congress on the Clean Coal Technology Program: Development of the Coal Quality Expert. ABB Combustion Engineering, Inc., and CQ Inc. Report No. DOE/FE-0174P. U.S. Department of Energy. May 1990. (Available from NTIS as DE9001038.)

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOH™) Process

Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOH™) Process, Quarterly Technical Progress Report No.4, April 1-June 30, 1995. July 1995. Report No. DOE/PC-90543-T1. Air Products and Chemicals, Inc. (Available from NTIS as DE96009826.)

Final Environmental Assessment for the Liquid Phase Methanol (LPMEOH™) Project Report No. DOE/EA-1029. U.S. Department of Energy. June 1995.

Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOH™) Process, Quarterly Technical Progress Report No.3, October 1, 1994-March 31, 1995. April 1995. Report No. DOE/PC/90543-T2. Air Products and Chemicals, Inc. (Available from NTIS as DE96009827.)

Custom Coals International -- Self-Scrubbing Coal™: An Integrated Approach to Clean Air

Comprehensive Report to Congress on the Clean Coal Technology Program: Self Scrubbing Coal™: An Integrated Approach to Clean Air. Custom Coals International. Report No. DOE/FE-0266P. U.S. Department of Energy. October 1992. (Available from NTIS as DE93001270.)

Rosebud SynCoal Partnership -- Advanced Coal Conversion Process Demonstration

Advanced Coal Conversion Process Demonstration; Progress Report, January 1, 1992-December 31, 1992. Report No. DOE/PC/89664-T11. Power Environmental Services, Inc. December 1993. (Available from NTIS as DE95017741.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Advanced Coal Conversion Process Demonstration. Western Energy Company. Report No. DOE/FE-0192P. U.S. Department of Energy. July 1990. (Available from NTIS as DE90013559.)

Mild Gasification

ENCOAL Corporation -- ENCOAL Mild Coal Gasification Project

The ENCOAL Project Initial Commercial Shipment and Utilization of Both Solid and Liquid Products; Topical Report. Report No. DOE/MC/27339-4088. ENCOAL Corporation. March 1995. (Available from NTIS as DE95009735.)

ENCOAL Mild Coal Gasification Demonstration Project; Annual Report, October 1993-September 1994. Report No. DOE/MC/27339-4064. ENCOAL Corporation. March 1995. (Available from NTIS as DE95009710.)

ENCOAL Mild Coal Gasification Demonstration Project Public Design and Construction Report. Report No. DOE/MCI 27339-4065. ENCOAL Corporation. December 1994. (Available from NTIS as DE950097 11.)

ENCOAL Mild Coal Gasification Demonstration Project; Annual Report. Report No. DOE/MC/27339-3842. ENCOAL Corporation. October 1993. (Available from NTIS as DE94012274.)

ENCOAL Mild Coal Gasification Project Annual Report (October 1990-September 1991). Report No. DOE/MC/27339-3087. ENCOAL Corporation. February 1992. (Available from NTIS as DE92001273.)

Comprehensive Report to Congress on the Clean Coal Technology Program: ENCOAL Mild Coal Gasification Project. ENCOAL Corporation. Report No. DOE/FE-0194P. U.S. Department of Energy. June 1990. (Available from NTIS as DE91004624.)

Indirect Liquefaction

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid-Phase Methanol (LPMEOH™) Process

Kornosky, R.M. "Liquid-Phase Methanol-Fuel for the Future." *PETC Review*. Issue 6. Summer 1992: Pp. 3-35.

Comprehensive Report to Congress on the Clean Coal Technology Program: Commercial-Scale Demonstration of the Liquid-Phase Methanol (LPMEOH™) Process. Air Products and Chemi-cals, Inc. Report No. DOE/FE-0243P. U.S. Department of En-ergy. August 1992.

INDUSTRIAL APPLICATIONS

Bethlehem Steel Corporation -- Blast Furnace Granulated-Coal Injection System Demonstration Project

Blast Furnace Granular Coal Injection Project; Annual Report, January-December 1994. Report No. DOE/MC/27362-4089. Bethlehem Steel Corporation. July 1995. (Available from NTIS as DE95009736.)

Blast Furnace Granular Coal Injection System Demonstration Project Public Design Report. Report No. DOE/MC/27362-4073. Bethlehem Steel Corporation. March 1995. (Available from NTIS as DE95009719.)

Blast Furnace Granular Coal Injection Project; Annual Report, January-December 1993. Report No. DOE/MC/27362-3860. Bethlehem Steel Corporation. June 1994. (Available from NTIS as DE94012286.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Blast Furnace Granulated-Coal In-jection System Demonstration Project. Bethlehem Steel Corporation. Report No. DOE/FE-0206P. U.S. Department of Energy. October 1990. (Available from NTIS as DE91001069.)

Bethlehem Steel Corporation -- Innovative Coke Oven Gas Cleaning System for Retrofit Applications

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Environmental Monitoring Program, Volume 1--Baseline Sampling Report. Report No. DOE/PC/89658-T8-Vol.1. Bethlehem Steel Corporation. 1993. (Available from NTIS as DE94014525.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Environmental Monitoring Program, Volume 3--Appendix Sections 1-7. Report No. DOE/PC/89658-T8-Vol. 2. Bethlehem Steel Corporation. 1993. (Available from NTIS as DE94014525.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Environmental Monitoring Program, Volume 2--Appendix Sections 8-14. Report No. DOE/PC/89658-T8-Vol. 3. Bethlehem Steel Corporation. 1993. (Available from NTIS as DE94014526.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Final Report, Volume 1--Public Design Report. Report No. DOE/PC/89658-T7. Bethlehem Steel Corporation. 1993. (Available from NTIS as DE94014360.)

Cleaning Up Coke Oven Fuel Gas. 33 Metal Producing, p.26, February 1992.

Innovative Coke Oven Gas Cleaning System fo rRetrofit Applications, Quarterly Environmental Monitoring Report No. 3, January 1-December 31, 1991. January 1992. Report No. DOE/PC/89658-T3. Bethlehem Steel Corporation. (Available from NTIS as DE93004944.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Quarterly Environmental Monitoring Report No. 2, July 1-September 30, 1991. October 1991. Report No. DOE/PC/89658-T5. Bethlehem Steel Corporation. (Available from NTIS as DE93004942.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Quarterly Environmental Monitoring Report No. 1, January 1-June 30, 1991. July 1991. Report No. DOE/PC/89658-T4. Bethlehem Steel Corporation. (Available from NTIS as DE93004943.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Quarterly Technical Progress Report No. 6, April 1-June 30, 1991. July 1991. Report No. DOE/PC/89658-T10. Bethlehem Steel Corporation. (Available from NTIS as DE95010643.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Quarterly Technical Progress Report No. 4, October 1-December 31, 1990. January 1991. Report No. DOE/PC/89658-T6. Bethlehem Steel Corporation. (Available from NTIS as DE94004516.)

Innovative Coke Oven Gas Cleaning System for Retrofit Applications, Quarterly Technical Progress Report No. 2, April 1-June 30, 1990. July 1990. Report No. DOE/PC/89658-T2. Bethlehem Steel Corporation. (Available from NTIS as DE91008365.)

Innovative Clean Coal Technology Program: Coke Oven Gas Cleaning Demonstration Project, Bethlehem Steel Corporation Sparrow's Point Plant, Baltimore County, MD.: Environmental Assessment. Report No. DOE/EA-0404. U.S. Department of Energy. December 1989. (Available from NTIS as DE90008995.)

Final Environmental Information Volume for the Coke Oven Gas Cleaning Project at the Bethlehem Steel Corporation Sparrows Point Plant. Report No. DOE/PC/89659-T1. Bethlehem Steel Corporation. (Available from NTIS as DE91000014.)

Coal Tech Corporation -- Advanced Cyclone Combustor with Internal Sulfur, Nitrogen, and Ash Control

The Coal Tech Advanced Cyclone Combustor Demonstration Project--A DOE Assessment. Report No. DOE/PC/79799-T1. U.S. Department of Energy. May 1993.

B. Zauderer and E.S. Fleming. *The Demonstration of an Advanced Cyclone Coal Combustor, with Internal Sulfur Nitrogen, and Ash Control for the Conversion of a 23 MMBtu/Hour Oil Fired Boiler to Pulverized Coal; Volume 1: Final Technical Report; Volume 2: Appendixes I, II, III, IV, and V; Volume 3: Appendix VI.* Coal Tech Corporation. August 1991. (Available from NTIS as DE92002587 and DE92002588T-7.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Advanced Cyclone Combustor with Integral Sulfur, Nitrogen, and Ash Control. Coal Tech Corporation. Report No. DOE/FE-0077. U.S. Department of Energy. February 1987. (Available from NTIS as DE87005804.)

Passamaquoddy Tribe -- Cement Kiln Flue Gas Recovery Scrubber

Passamaquoddy Technology Recovery Scrubber™: Final Report. Volumes 1 and 2. Passamaquoddy Tribe. February 1994. (Volume 1 available from NTIS as DE94011175-T3, Volume 2 as DE94011176-T3.)

Passamaquoddy Technology Recovery Scrubber™: Public Design Report. Report No. DOE/PC/89657-T2. Passamaquoddy Tribe. October 1993. (Available from NTIS as DE94008316.)

Passamaquoddy Technology Recovery Scrubber™: Topical Report. Report No. DOE/PC/89657-T1. Passamaquoddy Tribe. March 1992. (Available from NTIS as DE92019868.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Cement Kiln Flue Gas Recovery Scrubber. Passamaquoddy Tribe. Report No. DOE/FE-0152. U.S. Department of Energy. November 1989. (Available from NTIS as DE90004462.)

ThermoChem, Inc. -- Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal

Comprehensive Report to Congress on the Clean Coal Technology Program: Demonstration of Pulse Combustion in an Application for Steam Gasification. ThermoChem, Inc. Report No. DOE/FE-0267P. U.S. Department of Energy. October 1992. (Available from NTIS as DE93000959.)

REPORTS ON WITHDRAWN AND TERMINATED PROJECTS

Comprehensive Report to Congress on the Clean Coal Technology Program: Toms Creek IGCC Demonstration Project. TAMCO Power Partners. Report No. DOE/FE-0264P. U.S. Department of Energy. September 1992. (Available from NTIS as DE93000960.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Low-NO_x/SO₂ Burner Retrofit for Utility Cyclone Boilers. TransAlta Resources Investment Corporation. Report No. DOE/FE-0160P. U.S. Department of Energy. April 1990. (Available from NTIS as DE90010359.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Innovative Coke Oven Gas Cleaning System for Retrofit Applications. Bethlehem Steel Corporation. Report No. DOE/FE-0137. U.S. Department of Energy. August 1989. (Available from NTIS as DE90000952.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Advanced Slagging Combustor Utility Demonstration Project. TRW, Inc. Report No. DOE/FE-0108. U.S. Department of Energy. October 1988. (Available from NTIS as DE89001276.)

Comprehensive Report to Congress: The Appalachian Project. The M.W. Kellogg Company. Report No. DOE/FE-0095. U.S. Department of Energy. December 1987. (Available from NTIS as DE88004630.)

Comprehensive Report to Congress on the Clean Coal Technology Program: UCG/Clean Fuels Proof of Concept Project. Energy International, Inc. Report No. DOE/FE-0093. U.S. Department of Energy. November 1987. (Available from NTIS as DE88002571.)

Comprehensive Report to Congress on the Clean Coal Technology Program: Prototype Commercial Coal/Oil Co-Processing Plant. Ohio Clean Fuels, Inc. Report No. DOE/FE-0092. U.S. Department of Energy. October 1987. (Available from NTIS as DE88002370.)

REPORTS ON CCT SOLICITATIONS

Informational Solicitations

Report to Congress: Expressions of Interest in Commercial Clean Coal Technology Projects in Foreign Countries. Report No. DOE/FE-0334. U.S. Department of Energy. June 1995. (Available from NTIS as DE95015939.)

Second Report to Congress on Emerging Clean Coal Technologies Capable of Retrofitting, Repowering, or Modernizing Existing Facilities. Report No. DOE/FE-0086. U.S. Department of Energy. May 1987. (Available from NTIS as DE87009348.)

Summary Report to Congress on Emerging Clean Coal Technologies Capable of Retrofitting, Repowering, or Modernizing Existing Facilities. Report No. DOE/FE-0082. U.S. Department of Energy. March 1987. (Available from NTIS as DE87006604.)

Supplemental Report to Congress on Emerging Clean Coal Technologies. Report No. DOE/MC/22121-1. U.S. Department of Energy. August 1985. (Available from NTIS as DE85018356.)

Report to Congress on Emerging Clean Coal Technologies. Report No. DOE/S-0034. U.S. Department of Energy. May 1985. (Available from NTIS as DE85015420/LL.)

CCT-I Solicitation

Report to Congress on the Relationships between Projects Selected for the Clean Coal Technology Program and the Recommendations of the Joint Report of the Special Envoys on Acid Rain. Report No. DOE/FE-0072. U.S. Department of Energy. October 1986. (Available from NTIS as DE87000865.)

Comprehensive Report to Congress on Proposals Received in Response to the Clean Coal Technology Program Opportunity Notice. Report No. DOE/FE-0070. U.S. Department of Energy. August 1986. (Available from NTIS as DE8700005 1.)

CCT-II Solicitation

Comprehensive Report to Congress: Proposals Received in Response to the Innovative Clean Coal Technology Program Opportunity Notice. Report No. DOE/FE-0114. U.S. Department of Energy. October 1988. (Available from NTIS as DE89006384.)

Summary Proceedings: Public Meetings for Views and Comments on the Conduct of the Innovative Clean Coal Technologies Solicitation. Report No. DOE/FE-0094. U.S. Department of Energy. November 1987. (Available from NTIS as DE88003238.)

Background Information: Public Meetings for Views and Comments on the Conduct of the Innovative Clean Coal Technologies Solicitation. Report No. DOE/FE-0090. U.S. Department of Energy. July 1987. (Available from NTIS as DE8701 3416.)

CCT-III Solicitation

Comprehensive Report to Congress: Proposals Received in Response to the Clean Coal Technology III Program Opportunity Notice. Report No. DOE/FE-0163. U.S. Department of Energy. February 1990. (Available from NTIS as DE90006448.)

Summary Proceedings: Public Meetings for Views and Comments on the Conduct of the 1989 Clean Coal Technology Solicitation. Report No. DOE/FE-0140. U.S. Department of Energy. July 1989. (Available from NTIS as DE89016685.)

Background Information: Public Meetings for Views and Comments on the Conduct of the 1989 Clean Coal Technology Solicitation. Report No. DOE/FE-01 12. U.S. Department of Energy. December 1988. (Available from NTIS as DE890055 11.)

Summary Proceedings: Public Meetings on Increasing Western Participation in the 1989 Clean Coal Technology Solicitation. Report No. DOE/FE-0113. U.S. Department of Energy. December 1988. (Available from NTIS as DE890055 12.)

CCT-IV Solicitation

Comprehensive Report to Congress: Proposals Received in Response to Clean Coal Technology IV Program Opportunity Notice. Report No. DOE/FE-0242P. U.S. Department of Energy. December 1991. (Available from NTIS as DE91O1 8648.)

Summary Proceedings: Public Meetings for Views and Comments on the Conduct of the 1990 Clean Coal Technology Solicitation. Report No. DOE/FE-0171. U.S. Department of Energy. April 1990. (Available from NTIS as DE90008197.)

Background Information: Public Meetings for Views and Comments on the Conduct of the 1990 Clean Coal Technology Solicitation. Report No. DOE/FE-0157. U.S. Department of Energy. February 1990. (Available from NTIS as DE900081 11.)

CCT-V Solicitation

Comprehensive Report to Congress: Proposals Received in Response to the Clean Coal Technology V Program Opportunity Notice. Report No. DOE/FE-0277. U.S. Department of Energy. June 1993. (Available from NTIS as DE93016084.)

Summary Proceedings: Public Meetings for Views and Comments on the Conduct of the 1992 Clean Coal Technology Solicitation. Report No. DOE/FE-0246P. U.S. Department of Energy. December 1991. (Available from NTIS as DE92006425.)

Background Information Public Meetings for Views and Comments on the Conduct of the 1992 Clean Coal Technology Solicitation. U.S. Department of Energy. October 1991.

OTHER PUBLICATIONS

Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Proceedings. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Clean Coal Technology: The Investment Pays Off. Report No. DOE/FE-0291 (Revised). U.S. Department of Energy. July 1995.

Third Annual Clean Coal Technology Conference: Technical Papers. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

The Clean Coal Technology Program Lessons Learned. Report No. DOE/FE-0315P. U.S. Department of Energy. July 1994. (Available from NTIS as DE94017777.)

Comprehensive Report to Congress: Clean Coal Technology Program Completing the Mission. Report No. DOE/FE-0309P. U.S. Department of Energy. May 1994. (Available from NTIS as DE94014065.)

Report to the United States Congress: Clean Coal Technology Export Markets and Financing Mechanisms. Report No. DOE/FE-0307P. U.S. Department of Energy. May 1994. (Available from NTIS as DE94014093.)

Foreign Markets for U.S. Clean Coal Technologies. Report No. DOE/FE-0317. U.S. Department of Energy. May 1994. (Available from NTIS as DE94018421.)

Clean Coal Technology for Sustainable Development. The National Coal Council. February 1994.

Clean Coal Technology: The Investment Pays Off. Report No. DOE/FE-0291. U.S. Department of Energy. January 1994. (Available from NTIS as DE94008697.)

Clean Coal Technology: The New Coal Era. Report No. DOE/FE-0217P. U.S. Department of Energy. January 1994. (Available from NTIS as DE94015886.)

Clean Coal Technologies: Research, Development, and Demonstration Program Plan. Report No. DOE/FE-0284. U.S. Department of Energy. November 1993. (Available from NTIS as DE94004382.)

Clean Coal Technology: Export Finance Programs. Report No. DOE/FE-0286. U.S. Department of Energy. September 1993. (Available from NTIS as DE94004242.)

Region 3 Market Description Summary-Mid-Atlantic. Report No. DOE/FE-62046 H-1. U.S. Department of Energy. September 1993. (Available from NTIS as DE94000431.)

Region 4 Market Description Summary--South Atlantic. Report No. DOE/FE-62046 H-2. U.S. Department of Energy. September 1993. (Available from NTIS as DE94000430.)

Second Annual Clean Coal Conference Proceedings, Volumes I and II. Report No. CONF-9309152. U.S. Department of Energy and Southern States Energy Board. September 1993. (Available from NTIS as DE94004378.)

Saroff, L. (U.S. DOE) and R. Robey (Burns and Roe). "Solid Waste Mitigation for Clean Coal Technology." *1993 Power Generation Technology.* Sterling Publications International Ltd., London, UK. 1993.

Export of Coal and Coal Technology. The National Coal Council. 1993.

Fossil Energy Review. Report No. DOE/FE-0223P-4. U.S. Department of Energy. January-June 1992. (Available from NTIS as DE92018656.)

First Annual Clean Coal Conference Proceedings. Report No. CONF-920979. U.S. Department of Energy. September 1992. (Available from NTIS as DE93004314/LL.)

Moskowitz, P.D., M., DePhillips, V.M. Fthenakis, T. Butcher, C.R. Krishna, and B. Manowitz. "The Clean Air Act Amendments of 1990: Hazardous Air Pollutant Requirements and the DOE Clean Coal Technology Program." Prepared for the Office of Fossil Energy, U.S. Department of Energy, Washington, DC. 1991.

Moskowitz, P.D., J.C. Lee, M.P. DePhillips, C.R. Krishna, M. Steinberg, and G. Goldstein. "Suggested Performance Assessment Parameters for U.S. DOE Clean Coal Technology Demonstration Projects." Prepared for the Office of Fossil Energy, U.S. Department of Energy, Washington, DC. 1991

Final Programmatic Environmental Impact Statement, Clean Coal Technology Demonstration Program. Report No. DOE/EIS-0146. U.S. Department of Energy. November 1989. (Available from NTIS as DE90001890.)

Innovative Clean Coal Technology Program: Programmatic Environmental Impact Analysis (PEIA). Report No. DOE/PEIA-0002. U.S. Department of Energy. September 1988. (Available from NTIS as DE89008582.)

Innovative Clean Coal Technology Deployment. The National Coal Council. 1988.

Clean Coal Technology. The National Coal Council. 1986.

CCT Papers and Presentations Bibliography

As design, construction, and operational data are generated by the various CCT projects, the information is being reported in a number of ways. One of the most available and up-to-date ways is through papers presented at technical conferences held at various locations throughout the United States and abroad.

Several annual conferences at which papers on clean coal technologies are usually presented include:

- Annual American Power Conference
- Annual Clean Coal Technology Conference (U.S. Department of Energy)
- Annual Conference on Gasification Power Plants
- Annual International Pittsburgh Coal Conference (Pittsburgh Energy Technology Center)
- Annual METC Gasification and Gas Stream Cleanup Contractors Review Meeting (Morgantown Energy Technology Center)
- International Conference on Fluidized-Bed Combustion
- International Joint Power Generation Conference
- Power-Gen: International Conference and Exhibition for the Power Generating Industries

Because conference papers are generally available through the authors and may report data well in advance of the release of a formal project report, selected recent papers are listed below as an additional source of information on the CCT Program. Copies can be obtained from the authors or, in most cases, through the resources of a technical library. They are listed in reverse chronological order (most recent first), then alphabetically by author.

ADVANCED ELECTRIC POWER GENERATION

Fluidized-Bed Combustion

Lipfert, F.W., S.C. Morris, P.D. Moskowitz, and L. Saroff. "Environmental Security Implications of Advanced Coal Combustion Technologies." *13th Annual International Pittsburgh Coal Conference*. September 3-7, 1996

Swanekamp, R. "Tracy Station Showcases DLN, IGCC Technologies." *Power*; 139 (3): 64, 66, 68. March 1995.

Carpenter, L.K., and R.J. Dellefield (DOEIMETC). "The U.S. Department of Energy PFBC Perspective-1994 Update." *Electric Power Research Institute Conference: Fluidized-Bed Combustion for Power Generation*, Atlanta, GA. May 1994.

Bonk, D.L., T.J. Hand, and M. Freier (Morgantown Energy Technology Center). "Industrial Pressurized, Fluidized-Bed Combustors, 1992." *American Power Conference*, Chicago, IL. April 1992.

Kinsinger, F.L. (The Babcock & Wilcox Company). "PFBC Plant Operations." *American Power Conference*, Chicago, IL. April 1992.

"PFBC Plants Set for Commercialization." *Modern Power Systems* 11 (November 1991): 41-44.

Anderson, J., and S.A. Jansson (ABB Carbon AB). "Commissioning Experience from Three PFBC Plants." *Proceedings. Eleventh International Conference on Fluidized-Bed Combustion*. Montreal, Quebec, Canada. April 1991. New York: American Society of Mechanical Engineers, 1991, 787-794.

Carpenter, L., W. Langan, R. Dellefield, G. Nelkin, and T. Hand. "Pressurized Fluidized-Bed Combustion: A Commercially Available Clean Coal Technology." *Proceedings. Eleventh International Conference on Fluidized-Bed Combustion*. New York: American Society of Mechanical Engineers, 1991, 467-474 Report No. CONF-910424.

Caudle, W.T. (Bechtel Corporation), J.M. Hobday (U.S. Department of Energy), and G.S. Brinkworth (City of Tallahassee, FL). "Integrating a CFB Boiler into an Existing Central Station." *ASME International Joint Power Generation Conference*. San Diego, CA. October 1991.

Gawlicki, S.M. "FBC: Gaining Acceptance." *Independent Energy* 21 (April 1991): 42-6.

Weth, G., and J. Geffken (U.S. Department of Energy), and D.A. Ruber (Burns & Roe Industrial Services). "The Relationship of Fluidized-Bed Technology to the U.S. Clean Coal Technology Demonstration Program." *11th International Conference on Fluidized-Bed Combustion*. April 1991.

Brinkworth, G.S. (City of Tallahassee), J.M. Hobday (U.S. Department of Energy), K.S. Mazur (Bechtel Corporation), B.L. Sturdevant (R.W. Beck & Associates), and S.J. Goidich (Foster Wheeler Energy Corporation). "The Hopkins Repowering Project: A Utility Scale Circulating Fluidized-Bed Boiler," *American Power Conference*. April 1991.

Carpenter, L. (Morgantown Energy Technology Center), *et al.* "Pressurized Fluidized-Bed Combustion: A Commercially Available Clean Coal Technology," *11th International Conference on Fluidized-Bed Combustion*, Montreal, Quebec, Canada. April 1991.

DMEC-1 Limited Partnership -- PCFB Project

Kruempel, G.E. (Midwest Power), and R. Dryden Pyropower Corporation. "DMEC- 1 Pressurized Circulating Fluidized Bed Demonstration Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Isakson, J. (Ahlstrom), *et al.* "Efficiency and Emission Improvement through Ahlstrom PCFB Technology." *Proceedings of Power-Gen Europe: Where the Industry Connects*, Cologne, Germany. Book III, Volume 7. May 1994.

Licht, P. (Midwest Power Company). "Midwest Power's Perspective of Circulating PFBC." *Electric Power Research Institute Conference: Fluidized-Bed Combustion for Power Generation*, Atlanta, GA. May 1994.

Provol, S.J. (PyroPower Corporation), *et al.* "The Midwest Power PCFB Demonstration Project Ahlstrom Pyroflow Pressurized Circulating Fluidized-Bed Technology." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-II. April 1994.

Dryden, R. (Pyropower Corporation) and S.J. Ambrose (Midwest Power). "PCFB Repowering Options for Utilities." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book IV, Volume X. November 1993.

Kruempel, G.E. (Midwest Power), *et al.* "DMEC-1 Pressurized Circulating Fluidized-Bed Demonstration Project." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Sellakumar, K.M., J. Isaksson, and J. Tiensuu (Midwest Power). "Process Performance of Ahlstrom Pyroflow PCFB Pilot Plant." *Twelfth International Conference on Fluidized-Bed Combustion*. May 1993.

Ambrose, S.J. (Midwest Power), C.L. Green (Pyropower Inc.), *et al.* "The Midwest Power PCFB Demonstration Projects/Ahlstrom Pyroflow First and Second Generation Pressurized Circulating Fluidized-Bed (PCFB) Technology." *Proceedings of the American Power Conference*. April 1993.

Ambrose, S.J., G.E. Kruempel (Midwest Power), and R. Dryden (Pyropower Corporation). "Des Moines Energy Center Repowering with PFBC Technology." *Electric Power Research Institute Application of Fluidized-Bed Combustion for Power Generation Utility Conference*, Boston, MA. September 1992.

Kruempel, G.E. (Midwest Power Company), S.J. Ambrose, and S.J. Provol (Pyropower Corporation). "DMEC-1 Pressurized Circulating Fluidized-Bed Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Provol, S.J., and R.J. Dryden (Pyropower Corp.). "Pilot Plant Test Results and Demonstration of the Ahlstrom Pyropower Pressurized CFB Technology." *Power Generation Utility Conference*. September 1992.

Provol, S.J. (Pyropower Corporation), G. Kruempel, and S. Ambrose (Iowa Power). "The Iowa Power PCFB Demonstration Project/Ahlstrom Pyroflow Pressurized Circulating Fluidized-Bed Technology." *American Power Conference*, Chicago, IL. April 1992.

Ambrose, S.J., and G.E. Kruempel (Iowa Power) and N. Kennebeck (Dairyland Power). "Des Moines Energy Center PCFB Repowering Project." *ASME International Joint Power Generation Conference*, San Diego, CA. October 1991.

Four Rivers Energy Partners, L.P. -- Energy Modernization Project

Holley, E.P. (Air Products and Chemicals, Inc.), J.J. Lewnard, *et al.* (Four Rivers Energy Partners, L.P.). "Four Rivers Second Generation Pressurized Circulating Fluidized-Bed Combustion Project." *13th International Conference on Fluidized-Bed Combustion; Conference Proceedings*. Report No. CONF-950522-3 and DOE/MC/31261-95/C0448. U.S. Department of Energy. May 1995. (Available from NTIS as DE95008946.)

Holley, E.P. (Air Products and Chemicals, Inc.), *et al.* "Four Rivers Energy Modernization Project; Advanced Pressurized Circulating Fluidized-Bed Combustion Process: Project Overview and Status." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

The Ohio Power Company -- Tidd PFBC Demonstration Project

Marrocco, M., (American Electric Power Service Corporation). "Tidd Pressurized Fluidized-Bed Combustion Demonstration Plant Assessment." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

- Judkins, R.R., *et al.* (Oak Ridge National Laboratory). "Development of Ceramic Composite Hot-Gas Filters." *ASME International Gas Turbine and Aeroengine Congress and Exposition: Land, Sea, and Air*. Report No. CONF-950629-7. June 1995. (Available from NTIS as DE95010290.)
- Roberts, B. (Lincoln Electric Co.). "Monster Pressure Vessel Proves Low-Emission Power Plant Technology." *Welding Journal*; 74: (4): 65-67. April 1995.
- Marrocco, M., and D.A. Bauer (American Electric Power Service Corporation). "American Electric Power Pressurized Fluidized-Bed Combined Cycle Technology Status." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.
- Bauer, D.A. (American Electric Power Service Corporation), *et al.* "Update on the Operation and Performance Testing of the Tidd PFBC Demonstration Plant." *Electric Power Research Institute Conference: Fluidized-Bed Combustion for Power Generation*, Atlanta, GA. May 1994.
- Zando, M.E., and D.A. Bauer (American Electric Power Service Corporation). "Baseline Performance of a 200 MWe Pressurized Fluidized-Bed Combustor." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago IL. Volume 56-II. April 1994.
- Mudd, M. I. (American Electric Power Service Corporation). "The Economics of Pressurized Fluidized-Bed Combustion Technology." *Conference on Comparative Economics of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.
- Whitney, S., and P. Wertz (The Babcock & Wilcox Company). "Design Characteristics of Coal Plants for PFBC Repowering." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book IV, Volume X. November 1993.
- Marrocco, M. (American Electric Power). "American Electric Power Pressurized Fluidized-Bed Combustion Technology Status." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.
- Mudd, M.I., D.R. Hafer, and M. Zando (American Electric Power Service Corporation). "Test Results from the 70 MW Tidd PFBC Demonstration Plant." *Twelfth International Conference on Fluidized-Bed Combustion*. May 1993.
- Hafer, D.R., and D.A. Bauer (American Electric Power). "AEP' 5 Program for Enhanced Environmental Performance of PFBC Plants." *Proceedings of the American Power Conference*. April 1993.
- Marrocco, M., and D.R. Hafer (American Electric Power Service Corporation). "Tidd PFBC Demonstration Plant Operation and Testing." *Symposium on Energy and Environmental Management*. March 1993.
- Bauer, D.A., and H.K. Stogran (American Electric Power Service Corporation). "Second Year of Operation of the Tidd PFBC Demonstration Plant." *Proceedings: Coal-Energy and the Environment*. Ninth Annual International Pittsburgh Coal Conference, Pittsburgh, PA. October 1992.
- Hafer, D.R., M.I. Mudd, D.A. Bauer, and H.K. Stogran (American Electric Power Service Corporation). "AEP's Tidd PFBC Demonstration Plant: Start-Up and Operating Experience." *Electric Power Research Institute Application of Fluidized-Bed Combustion for Power Generation Utility Conference*, Boston, MA. September 1992.
- Marrocco, M., and D.R. Hafer (American Electric Power Service Corporation). "American Electric Power Pressurized Fluidized-Bed Combustion Technology Update." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.
- Hollback, J.E., and D.A. Bauer (American Electric Power Service Corporation). "Initial Operation of the Tidd PFBC Demonstration Plant." *Pittsburgh Coal Conference*, Pittsburgh, PA. October 1991.
- Marrocco, M. (American Electric Power Service Corporation), *et al.* "Tidd PFBC Demonstration Plant Start-Up," *11th International Conference on Fluidized-Bed Combustion*. April 1991.
- Mudd, M.I. (American Electric Power Service Corporation). "Status of AEP's Tidd PFBC Demonstration Plant," *International Conference on Fluidized-Bed Combustion: FBC-Technology for Today*, San Francisco, CA. April 1989.

Tri-State Generation and Transmission Association, Inc. -- Nucla CFB Demonstration Project

- Bush, S.A., and M.L. Pendergrass (Tri-State Generation and Transmission Association, Inc.), and M.A. Friedman (Combustion Systems Inc.). "Tri-State's Nucla CFB Demonstrates Benefits of Clean Coal Technology Program." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.
- Bush, S.A. (Tri-State Generation and Transmission Association, Inc.), *et al.* "Tri-State's Nucla Station: Demonstration to Commercialization." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-II. April 1994.

Buck, J., S.A. Bush (Tri-State Generation and Transmission Association, Inc.), and N. Rekos (U.S. Department of Energy). "Operating Costs for the 110 MWe Nucla CFB." *Twelfth International Conference on Fluidized-Bed Combustion*. May 1993.

Bush, S.A., and T.J. Heller (Tri-State Generation and Transmission Association, Inc.), M.A. Friedman (Combustion Systems, Inc.), and N.F. Rekos (Morgantown Energy Technology Center). "Nucla CFB Demonstration CCT Program Summary: Project Origins through Test Completion." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Friedman, M.A. (Combustion Systems, Inc.), *et al.* "Update on the Nucla CFB Clean Coal Demonstration Project," *ASME International Joint Power Generation Conference*, San Diego, CA. October 1991.

Friedman, M.A. (Combustion Systems, Inc.), T.J. Heller (Colorado-Ute Electric Association), and T.J. Boyd (Electric Power Research Institute). "Operational Data from 110 MWe Nucla CFB," *11th International Conference on Fluidized-Bed Combustion*. April 1991.

York County Energy Partners, L.P. -- ACFB Demonstration Project

Diamond, B.W. (Air Products and Chemicals, Inc.). "Environmental Design Considerations for the York County Energy Partners Circulating Fluidized-Bed Boiler." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Wolfson, D.C., and B.F. Hahn (Air Products and Chemicals, Inc.), "The Future of Atmospheric Circulating Fluidized-Bed Combustion: York County Energy Partners, L.P., 250 MW Single Train CFB Cogeneration Facility." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Hahn, B.F. (York County Energy Partners). "CFB Cogeneration Project: An Economic Discussion." *Conference on Comparative Economics of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Wang, S.I., and F.T. Bolinsky (Air Products and Chemicals, Inc.). "York County Energy Partners ACFB Demonstration Project Status." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Wang, S.I. (Air Products and Chemicals, Inc.), H.E. Andrus, Jr., and P.R. Thibeault (ABB Combustion Engineering, Inc.). "York County Energy Partners DOECCTACFB Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Integrated Gasification Combined Cycle

Ness, H.M. "Integrated Gasification Combined-Cycle Research Development and Demonstration Activities in the U.S." *Korea-U.S. Joint Workshop on Coal Utilization Technology (10th)*, Taejon, Republic of Korea. Report No. DOE/METC/C-9517193, CONF-9410396-1. October 1994. (Available from NTIS as DE96002566.)

Brdar, R.D., and G.R. Friggens (DOE/METC). "Taking Steps Forward-The IGCC Demos." *Eleventh Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. September 1994.

Ghate, M.R., N.F. Rekos, Jr., and B.J. Buvinger (Morgantown Energy Technology Center). "Status Report on U.S. DOE-Sponsored Coal-Fired Repowering Projects." *World Clean Air Congress and Exhibition: Towards the Year 2000-Critical Issues in the Global Environment*, Montreal, Canada. August-September 1992, Report No. CONF-920814-2.

Schmidt, D.K., and L.H. Rogers (Morgantown Energy Technology Center). "Integrated Gasification Combined Cycle Projects in the Clean Coal Technology Program," *ASME International Joint Power Generation Conference*, San Diego, CA. October 1991.

Hester, J.C. (CRSS Capital, Inc.). "Coal Gasification Based Combined Cycle Power Generation System Design," *Power-Gen '90 Conference*, Orlando, FL. December 1990.

ABB Combustion Engineering, Inc. -- Combustion Engineering IGCC Repowering Project

Peletz, L.J. (ABB Combustion Engineering Systems). "Combustion Engineering IGCC Repowering Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Grusha, J. (ABB Combustion Engineering Services, Inc.). "Operating Results from ABB C-E Services' (LNCFS) Low-NO_x Concentric Firing System Retrofit Installations-1993 Update." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book V, Volume XIII. November 1993.

Glamuzina, R.W., R.J. Allen, and L.J. Peletz (ABB Combustion Engineering Systems). "IGCC Demonstration Project Status: Combustion Engineering IGCC Repowering Project." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Peletz, L.J., P.R. Thibeault, and H.E. Andrus, Jr. (ABB Combustion Engineering). "ABB Combustion Engineering's Coal Gasification System for Combined Cycle Power Generation." *Proceedings of the American Power Conference*. April 1993.

Andrus, Jr., H.E. (ABB Combustion Engineering Inc.). "ABB Combustion Engineering Systems' Coal Gasification System for Combined Cycle Power Generation." *ASME International Joint Power Generation Conference*, Atlanta, GA. October 1992.

Thibeault, P.R., L.J. Peletz, Jr., and H.E. Andrus, Jr., (ABB Combustion Engineering, Inc.). "Coal Gasification-Environmentally Acceptable Coal-Burning Technology for Electric Power Generation." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Gogineni, M.R., H.E. Andrus, Jr., and P.R. Thibeault (ABB Combustion Engineering, Inc.); and L.A. Frasco (City of Springfield, IL). "Coal Gasification for Power Generation," Pittsburgh Coal Conference, Pittsburgh, PA. October 1991. (Also presented at the Tenth EPRI Annual Conference on Gasification Power Plants, San Francisco, CA. October 1991.)

Andrus, Jr., H.E. "Combustion Engineering IGCC Repowering Project," *Eleventh Annual Gasification and Gas Stream Cleanup Systems Contractors Review Meeting*, Morgantown, WV. August 1991.

Thibeault, P.R. (ABB Combustion Engineering, Inc.), *et al.* "Second Generation IGCC for Springfield," *Modern Power Systems*. February 1991.

Clean Energy Partners Limited Partnership -- Clean Energy Demonstration Project

Johnson, K.S. (Duke Energy). "Application of British Gas/Lurgi Gasification Process in the U.S. DOE Clean Coal Technology Program-Round Five." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Sierra Pacific Power Company -- Piñon Pine IGCC Power Project

Bruck, G.J., T.E. Lippert, and W.F. Domeracki. "Advanced Hot Gas Filter for the Piñon Pine Coal Gasification Power Plant." *Thirteenth Annual Pittsburgh Coal Conference*. Pittsburgh, PA. September 1996.

Freier, M.D., D.M. Jewell, and J.W. Motter. "Piñon Pine: An Advanced IGCC Demonstration." *American Power Conference*. Chicago, IL. April 1996.

Lippert, T.E., W.F. Domeracki, and V.L. Debski. "The Status of Westinghouse Hot Gas Particle Filters and Testing Results." *Power-Gen Americas '95*. Anaheim, CA. December 1995.

Motter, J.W., and C. Kane, P.E., Esq. "Risk Management in Delivering Advanced Generation Technology." *Power-Gen '95 Conference*. Anaheim, CA. December 1995.

Simons, H., and W.M. Campbell. "Status of Kellogg's Fluid Bed and Transport Gasification Processes." *Institution of Chemical Engineers Conference*. London, England. November 1995.

Motter, J.W. "The Piñon Pine IGCC Project: Advanced Coal-Fired Power Generation Systems." *EPRI Conference on New Power Generation Technology*. San Francisco, CA. October 1995.

Hot Gas Desulfurization Using Transport Reactors. Twelfth Annual International Pittsburgh Coal Conference. Pittsburgh, PA. September 1995.

Motter, J.W. "The Piñon Pine IGCC Project: Advanced Coal-Fired Power Generation Systems." *U.S. Department of Energy Fourth Annual Clean Coal Technology Conference*. Denver, CO. September 1995.

Motter, J.W. (Sierra Pacific Power Company). "The Piñon Pine IGCC Project: Advanced Coal-Fired Power Generation Systems." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Tatar, G., M. Gonzalez, and M. Fankhanel (Sierra Pacific Power Company). "An Update on the Piñon Pine IGCC Project." *Proceedings of the 57th American Power Conference: Volume 57-I*. Report No. CONF-950414. Pages 60-64. April 1995.

Swanekamp, R. "Tracy Station Showcases DLN, IGCC Technologies." *Power*; 139 (3): 64, 66, 68. March 1995.

Burrow, J.D., *et al.* (Sierra Pacific Power Company). "Integration of an Advanced Technology Gas Turbine in an Air Blown Gasifier." *Power Generation Conference*. Report No. CONF-941210-1. U.S. Department of Energy. December 1994. (Available from NTIS as DE95004233.)

Campbell, W.M. "Coal and Its Place in Indonesia's Future." *Indonesian American Business Conference*. Houston, TX. December 1994.

Higginbotham, E.B., and J.W. Motter. "Piñon Pine Power Project Status." *Thirteenth EPRI Conference on Gasification Power Plants*. October 1994.

Motter, J.W. (Sierra Pacific Power Company), *et al.* "Piñon Pine Power Project--An Update." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Motter, J.W. (Sierra Pacific Power Company). "The Piñon Pine IGCC Project Economic Issues." *Conference on Comparative Economies of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Gasper-Galvin, L.D., J.S. Mei, C.E. Everitt, and S. Katta. "Fixed Bed Testing of a Molybdenum-Promoted Zinc Titanate for Hot Gas Desulfurization." *AIChE 1993 Annual Meeting*. St. Louis, MO. November 1993.

Battista, R.A., C.S. Cook, J.C. Corman, and T.E. Ekstrom. "Coal Gas Combustion Studies for IGCC Power Plants." *EPRI 12th Conference on Coal Gasification*. San Francisco, CA. October 1993.

Motter, J.W., and E.B. Higginbotham. "Sierra Pacific Power Company's Piñon Pine Project." *Twelfth EPRI Conference on Gasification Power Plants*. San Francisco, CA. October 1993.

Higginbotham, E.B. (Sierra Pacific Power Company), L.J. Lamarre (Foster Wheeler USA Corporation), and M. Glazer (The M.K. Kellogg Company). "Piñon Pine IGCC Project Status." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Katta, S., and G. Henningsen. "LASH Oxidation, Waste Management." *METC Conference*. June 1993.

Motter, J.W. (Sierra Pacific Power Company), J.D. Pitcher (Foster Wheeler USA Corporation), and W.M. Campbell (The M.W. Kellogg Company). "The Piñon Pine IGCC Project/Design and Permitting Issues." *Proceedings of the American Power Conference*. April 1993.

Motter, J.W. "Status of the Piñon Pine IGCC Project." *1992 DOE Clean Coal Technology Conference*. Cleveland, OH. 1992.

Poole, D.N., J.W. Motter, W.M. Campbell, M. Fankhanal, and J.D. Pitcher. "Piñon Pine IGCC Project Overview and Update." *Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1992.

Fankhanal, M., W. Campbell, and G. Henningsen (The M.W. Kellogg Company). "Piñon Pine Power Project Status Report." *Eleventh EPRI Conference on Gasification Power Plants*, San Francisco, CA. October 1992.

Motter, J.W. (Sierra Pacific Power Company). "Status of the Piñon Pine IGCC Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Lippert, T.E., R.A. Newby, M.A. Alvin, D.M. Bachovchin, G.J. Bruck, and E.E. Smeltzer. "Development of Hot Gas Cleaning Systems for Advanced, Coal Based Gas Turbine Cycles." *Gas Turbine and Aeroengine Congress and Exposition*. Cologne, Germany June 1992.

Pitcher, J.D. (Foster Wheeler Energy Corporation) and J.W. Motter (Sierra Pacific Power Company). "The Piñon Pine Power Project." *American Power Conference*, Chicago, IL. April 1992.

Banchik, I.N., and S.K. Jam. "A Comparison of Air and Oxygen Blown KRW Gasifiers for an IGCC Facility." *American Institute of Chemical Engineers*. San Francisco, CA. November 1989.

TAMCO Power Partners -- Toms Creek IGCC Demonstration Project

Schmid, M.R. (Tampella Power Corporation). "The Toms Creek Clean Coal IGCC Demonstration Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Schmid, M.R. (Tampella Power Inc.) "The Simplified IGCC Process--Clean Coal Technology for Power Generation." *Conference on Comparative Economies of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Schmid, M.R. (TAMCO Power Partners). "Clean Coal Power at Toms Creek." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Silvonen, R.T. (Tampella Power Corporation), J.G. Patel (Tampella Power Corporation), G.A. Chirdon, and M.J. Hobson (Coastal Power Production Company). "Toms Creek IGCC Demonstration Project." *Proceedings: Coal-Energy and the Environment*. Ninth Annual International Pittsburgh Coal Conference, Pittsburgh, PA. October 1992.

Chirdon, G.A., and M.J. Hobson (Coastal Power Production Company), J.G. Patel and R.T. Silvonen (Tampella Power Corporation). "Toms Creek IGCC Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Tampa Electric Company -- Tampa Electric Integrated Gasification Combined-Cycle Project

Pless, D.E. (TECO Power Services Corporation). "Status Update--Polk Power Station IGCC." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Phillips, J.L. (Radian Corporation), S. Gray, and D. Dekraker (Pittsburgh Energy Technology Center). "High-Efficiency SO₂ Removal in Utility FGD Systems." *Eleventh Annual Coal Preparation, Utilization, and Environmental Control Contractors Conference: Proceedings*. Report No. CONF-9507159. Pages 221-228. July 1995. (Available from NTIS as DE95017240.)

Jenkins, S.D., and L.A. Schmoie (Tampa Electric Company). "Tampa Electric Company Polk Power Station IGCC Project." *Power Generation Conference*. Report No. CONF-941210-5. U.S. Department of Energy. December 1994. (Available from NTIS as DE95005406.)

Pless, D.E. (TECO Power Services). "Tampa Electric Company Integrated Gasification Combined Cycle Project: Current Status." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Jenkins, S.D. (TECO Power Services Corporation). "Tampa Electric Company, Polk Power Station IGCC Project." *Conference on Comparative Economies of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Pless, D.E. (TECO Power Services, Inc.). "Tampa Electric Company: Integrated Gasification Combined-Cycle System." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Pless, D.E. (TECO Power Services, Inc.), and G.J. Starheim (GE Power Generation). "Application of an Advanced Power System in the Tampa Electric Polk Power IGCC Project." *PowerGen '93 Conference*. May 1993.

Jenkins, S.D. (TECO Power Services). "Tampa Electric Company Polk Power Station Unit #1 IGCC Project." *Proceedings of the American Power Conference*. April 1993.

Black, C.R. (Tampa Electric Company). "A Utility's Perspective on the Commercialization of Gasification Power Plants." *Eleventh EPRI Conference on Gasification Power Plants*. San Francisco, CA. October 1992.

Pless, D.E. (TECO Power Services, Inc.). "Status of Tampa Electric Company's Polk Unit #1 IGCC Power Plant." *Ninth Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. October 1992.

Jenkins, S.D. (TECO Power Services). "Status of the Tampa Electric Company IGCC Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Wabash River Coal Gasification Repowering Project Joint Venture -- Wabash River Coal Gasification Repowering Project

Woodruff, M.R. (Destec Energy, Inc.). "Wabash River Project Moves into Commercial Operation." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Cook, J.J., and J. Bott (PSI Energy, Inc.). "Wabash River Nears Completion." *Modern Power Systems*; 15 (5): 83, 85, 87. May 1995.

Roll, M.W. (Destec Energy, Inc.). "Coal Gasification Passes Another Strategic Milestone." *Power*; 139: (4): 81-83. April 1995.

Stultz, J., R.E. Maurer, and C. Troxclair (PSI Energy, Inc.). "Pre-Operation Activities Leading to the Start-Up of the Wabash River Repowering Project." *Proceedings of the American Power Conference: Volume 57-I*. Report No. CONF-950414. Pages 54-59. April 1995.

Cook, J.J. (PSI Energy, Inc.), and L.A. Lednicky (Destec Energy, Inc.). "The Wabash River Coal Gasification Repowering Project; An Investment in the Future." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Foster, M.D. (PSI Energy, Inc.). "Wabash River Coal Gasification Repowering Project." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-II. April 1994.

Roll, M.W. (Destec Energy, Inc.). "Repowering with Coal Gasification Technology." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-II. April 1994.

Sundstrom, D.G. (Destec Energy, Inc.). "The Wabash River Coal Gasification Repowering Project Challenges." *Alternate Energy '94*, La Quinta, CA. April 1994.

Lessig, W.S., and J. Frederick (Destec Energy, Inc.). "Environmental Considerations of Coal Gasification Technology and the Wabash River Repowering Project." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book IV, Volume X. November 1993.

Amick, P. (Destec Energy, Inc.), and J.J. Cook (PSI Energy, Inc.). "The Wabash River Coal Gasification Repowering Project: Program Update." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Amick, P. (Destec Energy, Inc.), D.M. Zupan (PSI Energy), and R.E. Herbster (Sargent & Lundy). "Integration of Coal Gasification and Combined Cycle Facilities on the Wabash River Coal Gasification Repowering Project." *Proceedings of the American Power Conference*. April 1993.

Lessig, W.S. (Destec Energy, Inc.), and M. Judd (PSI Energy). "Environmental Considerations of Coal Gasification Technology and the Wabash River Repowering Project." *Proceedings of the American Power Conference*. April 1993.

Maurer, R.E., M.W. Roll, and N.W. Janway (Destec Energy, Inc.). "PSI Energy Uses Coal Gasification for Repowering." *Power Engineering* (April 1993).

Cook, J. (PSI Energy). "The Destec/PSI 265MW Repowering Project." *Eleventh EPRI Conference on Gasification Power Plants*, San Francisco, CA. October 1992.

Amick, P. (Destec Energy, Inc.). "Wabash River Coal Gas Repowering Project." Twelfth Annual METC Gasification and Gas Stream Cleanup Contractors Review Meeting, Morgantown, WV. September 1992.

Sundstrom, D.G. (Destec Energy, Inc.). "The Wabash River Coal Gasification Repowering Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Bott, J.U. (PSI Energy, Inc.) and D.G. Sundstrom, (Destec Energy, Inc.). "The PSI Energy Wabash River Coal Gasification Repowering Project." *American Power Conference*, Chicago, IL, April 1992.

Sundstrom, D.G. (Destec Energy, Inc.), and J.U. Bott (PSI Energy, Inc.). "The Wabash River Coal Gasification Repowering Project," *Tenth EPRI Annual Conference on Gasification Power Plants*, San Francisco, CA. October 1991.

Advanced Combustion/Heat Engines

Alaska Industrial Development and Export Authority -- Healy Clean Coal Project

Ubhayakar, S.K. (TRW Space & Technology Division). "Healy Clean Coal Project: Fabrication and Construction Status." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Gleiser, R., (Joy Technologies). "The Healy Clean Coal Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Kornosky, R.M., and G.R. Sirukonis, "Healy Celebrates a Successful Groundbreaking." *Eleventh Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. September 12-16, 1994.

Miller, R.L., T.C. Ruppel, E.W. Evans, and S.J. Heintz, "Reaching an Agreement to Build a New Coal-Fired Power Plant Near a National Park by Mitigating Potential Environmental Impacts." *Eleventh Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. September 12-16, 1994.

Ubhayaker, S.K., *et al.* "Completion of Hardware Design of the Healy Clean Coal Project." *Eleventh Annual International Pittsburgh Coal Conference Proceedings: Volume 2*. Pittsburgh, PA. September 1994.

Ubhayakar, S.K. (TRW Applied Technology Division), *et al.* "The Healy Clean Coal Project: Design Verification Tests." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Bland, V.V., S.M. Rosendahl, and D.M. Shattuck (Stone & Webster Engineering Corp.). "The Healy Clean Coal Project Air Quality Control System." *EPRI Distribution Center*. Report No. CONF-911226-Vol. 3.

Rosendahl, S.M. (Stone and Webster Engineering Corporation), and D.V. McCrohan (Alaska Industrial Development and Export Authority). "The Healy Clean Coal Project." *Twelfth Annual METC Gasification and Gas Stream Cleanup Contractors Review Meeting*. Morgantown, WV. September 1992.

Olson, J.B., F. Abegg, and J.T. Wilbur (Alaska Industrial Development and Export Authority). "The Healy Clean Coal Project-A DOE Clean Coal Demonstration, Round III." *Proceedings of the 16th International Conference on Coal and Slurry Technologies*. Report No. CONF-910442-1. (Available from NTIS as DE91016799.) Clearwater, FL. April 1991.

Arthur D. Little, Inc. -- Coal Diesel Combined-Cycle Demonstration Project

Benedek, K.R., C.E. Benson, and R.P. Wilson (Arthur D. Little, Inc.), J.W. Parkinson (CQ, Inc.), and A.K. Rao (Cooper-Bessemer Reciprocating). "Coal Diesel Combined-Cycle Demonstration Update." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Wilson, Jr., R.P. (Arthur D. Little, Inc.). "Coal-Fueled Diesels for Modular Power Generation." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Wilson, Jr., R.P. (Arthur D. Little, Inc.), *et al.* "Coal-Fueled Diesels for Modular Power Generation Performance and Emissions Characteristics Based on 1.8 MW System Test." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-I. April 1994.

Rao, A.K. (Cooper-Bessemer Reciprocating Products Division), and R.P. Wilson (Arthur D. Little, Inc.). "Coal-Diesel Technology Looks Good for Clean Coal Five." *Modern Power Systems*. February 1994.

Pennsylvania Electric Company -- Warren Station Externally Fired Combined-Cycle Demonstration Project

Stoddard, L.E., *et al.* (Black and Veatch). "Externally Fired Combined Cycle: An Effective Coal-Fueled Technology for Repowering and New Generation." *20th International Technical Conference on Coal Utilization and Fuels Systems*. Report No. CONF-950313-2 and DOE/MC/31327-95/C0451. U.S. Department of Energy. March 1995. (Available from NTIS as DE95012295.)

Gray, K.M. (Pennsylvania Electric Company), *et al.* "Warren Station Clean Coal Technology Project: DOE Clean Coal Five Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

ENVIRONMENTAL CONTROL DEVICES

NO_x Control Technologies

"Update on NO_x Control Technologies." *PETC Review*; (11): 28-39. Spring 1995.

Santore, R.R., S. Friedman, J. Reiss, and M.J. Waehner. (Department of Energy, Pittsburgh Energy Technology Center.) "PETC Review: Issue 9." Report No. PETC-94005180. 1993. (Available from NTIS as DE94005180.)

"Use of Numerical Modeling in the Design of a Low-NO_x Burner for Utility Boilers." *Conference on the Combustion Technologies for a Clean Environment*, Vilamovra, Portugal. September 1991.

The Babcock & Wilcox Company -- Demonstration of Coal Reburning for Cyclone Boiler NO_x Control

Yagiela, A.S. (The Babcock & Wilcox Company), *et al.* "Status of Babcock & Wilcox's Clean Coal Technology Combustion Modification Projects: Coal Reburning for Cyclone Boiler NO_x Control and Low-NO_x Cell™ Burner Demonstrations." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Farzan, H. (The Babcock & Wilcox Company), R.J. Newell (Wisconsin Power & Light), *et al.* "Reburning with Powder River Basin Coal to Achieve SO₂ and NO_x Compliance." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book II, Volume V. November 1993.

Yagiela, A.S. (The Babcock & Wilcox Company), *et al.* "Results of Babcock & Wilcox's Clean Coal Combustion Modification Projects: Coal Reburning for Cyclone Boiler NO_x Control and Low-NO_x Cell™ Burner Demonstrations." *Proceedings - Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Piepho, J.M. (The Babcock & Wilcox Company), "Preliminary Results from the Cyclone Coal Reburn and the Low-NO_x Cell™ Burner Clean Coal Demonstrations." *Proceedings of the Coal-Energy and the Environment Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1992.

Yagiela, A.S., G.J. Maringo, H. Fargan (The Babcock & Wilcox Company), and R.J. Nazwell (Wisconsin Power and Light). "Demonstration of Coal Reburning for Cyclone Boiler NO_x Control." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Farzan, H., *et al.* "Reburning Scale-Up Methodology for NO_x Control from Cyclone Boilers," *ASME International Joint Power Generation Conference*, San Diego, CA. October 1991.

"Update on Coal Reburning Technology for Reducing NO_x in Cyclone Boilers." *American Power Conference*, Chicago, IL. May 1990.

The Babcock & Wilcox Company -- Full-Scale Demonstration of Low-NO_x Cell™ Burner Retrofit

Yagiela, A.S. (The Babcock & Wilcox Company), *et al.* "Status of Babcock & Wilcox's Clean Coal Technology Combustion Modification Projects: Coal Reburning for Cyclone Boiler NO_x Control and Low-NO_x Cell™ Burner Demonstrations." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Piepho, J.M. (The Babcock & Wilcox Company). "Preliminary Results from the Cyclone Coal Reburn and the Low-NO_x Cell™ Burner Clean Coal Demonstrations." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. October 1992.

Kleisley, R.J., *et al.* "Full-Scale Demonstration of Low NO_x Cell™ Burners at Dayton Power & Light's J.M. Stuart Unit No. 4." *First Annual Clean Coal Technology Conference*. Cleveland OH. September 1992.

Energy and Environmental Research Corporation -- Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler

Folsom, B.A. (Energy and Environmental Research Corporation), A.L. Baldwin (Pittsburgh Energy Technology Center), *et al.* "Demonstration of Gas Reburning-Low-NO_x Burner Technology for Cost-Effective NO_x Emission Control." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Engelhardt, D.A. (Energy and Environmental Research Corporation), *et al.* "Gas Reburning in Tangentially-, Wall-, and Cyclone-Fired Boilers--An Introduction to Second Generation Gas Reburning." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Sanyal, A. (Energy and Environmental Research Corporation). "Advanced NO_x Control Technologies." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book II, Volume IV. November 1993.

Moser, H.M. (Energy and Environmental Research Corporation), *et al.* "Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Catasus-Servia, J.J., *et al.* "Test for an Optimization Method Applied to Controlling NO_x Emissions in a PC-Fired Boiler." *Third International Joint ISA/POWID EPRI Controls and Instrumentation Conference*. June 1993.

Folsom, B.A., *et al.* "Reducing Stack Emissions by Gas Firing in Coal-Designed Boilers-Field Evaluation Results." *EPRI/EPA Joint Symposium on Stationary Combustion NO_x Control*. May 1993.

Sorge, J.N., *et al.* "The Effects of Low-NO_x Combustion on Unburned Carbon Levels in Wall-Fired Boilers." *Engineering Foundation Conference on Coal Utilization*. February 1993.

Kleisley, R.J., C.E. Latham (The Babcock & Wilcox Company), D.A. Moore, C.P. Bellanca, and H.V. Duong (Dayton Power and Light). "Fullscale Demonstration of Low-NO_x CellTM Burners at Dayton Power and Light's J.M. Stuart Station Unit No.4." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Sommer, T.M., C.C. Hong, A.M. Moser (Energy and Environmental Research Corporation), and H.J. Ritz (Pittsburgh Energy Technology Center). "Integrating Gas Reburning with Low-NO_x Burners." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Southern Company Services, Inc. -- Demonstration of Advanced Combustion Techniques for a Wall-Fired Boiler

Sorge, J.N., C.L. Larrimore, and K.D. Bunch (Southern Company Services). "Demonstration of On-Line Carbon-in-Ash Measurement Technologies at Southern Company Plants." *NO_x Controls for Utility Boilers LOI Workshop*. Cincinnati, Ohio. August 6-8, 1996.

Sorge, J.N. (Southern Company Services), W.R. Menzies (Radian International), R.T. Squires (PowerGen), and J.W. Stallings (Electric Power Research Institute). "GNOCIS: An Update on the Generic NO_x Control Intelligent System." *NO_x Controls for Utility Boilers Workshop*. Cincinnati, Ohio. August 6-8, 1996.

Larrimore, C.L., J.N. Sorge, and K.D. Bunch (Southern Company Services). "Demonstration of On-Line Carbon-in-Ash Measurement Technologies." *Second Conference on Unburned Carbonaceous Material*. Pittsburgh, PA. March 5-6, 1996.

Sorge, J.N. (Southern Company Services, Inc.), B. Mensies (Radian Corporation), S.M. Smouse (Pittsburgh Energy Technology Center), and J.W. Stallings (Electric Power Research Institute). "500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Dioxide Emissions from Coal-Fired Boilers." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Sorge, J.N. (Southern Company Services). "Wall-Fired Combustion Demonstration Project-Advanced Digital Control/Optimization Phase Update." *EPRI/EPA Joint Symposium on Stationary Combustion NO_x Control* Kansas City. May 1995.

Sorge, J.N., and S.M. Wilson (Southern Company Services, Inc.). "500 MW Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Sorge, J.N. (Southern Company Services), and A.L. Baldwin (DOE-Pittsburgh Energy Technology Center). "Performance and Operating Results from the Demonstration of Advanced Combustion Techniques for Wall-Fired Boilers." *U.S. DOE Second Annual Clean Coal Technology Conference*. Atlanta, GA. September 7-9, 1993.

- Baldwin, A.L. (DOE-Pittsburgh Energy Technology Center), *et al.* "A Test for an Optimization Method Applied to Control ling NO_x Emissions in a PC-Fired Boiler." *Third International Joint ISA POWID/EPRI Controls and Instrumentation Conference*. Phoenix, AZ. June 7-9, 1993.
- Sorge, J.N., and A.L. Baldwin, "Innovative Clean Coal Technology Wall-Fired Combustion Demonstration Project." *Third Annual ISA/EPRI Power Conference*. Phoenix, AZ. June 7-9, 1993.
- Sorge, J.N., R.R. Hardman, and S.M. Wilson (Southern Company Services). "The Effects of Low NO_x Combustion on Unburned Carbon Levels in Wall-Fired Boilers." *EPRI/EPA Joint Symposium on Stationary NO_x Control* Miami Beach, FL. May 24-27, 1993.
- Sorge, J.N. (Southern Company Services), A.L. Baldwin (DOE-Pittsburgh Energy Technology Center), and E.J. Eskinazi (Electric Power Research Institute). "Reduction of Nitrogen Oxide (NO_x) Emissions from Using Advanced Wall-Fired Combustion Techniques." *International Joint Power Generation Conference*. Atlanta, GA. October 16-22, 1992.
- Hardman, R.R., and J.N. Sorge (Southern Company Services). "Darstellung fortgeschrittener Wandund Tangentialfeuerungsvarianten für die Minderung von Stickoxid-(NO_x) Emissionen aus kohlebefeuernden Kesseln (Demonstration of Advanced Wall- and Tangentially-Fired Combustion Modifications for the Reduction of the Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *VGB Power Plants with Information Show*. Karlsruhe, Germany. October 13-16, 1992.
- Sorge, J.N. (Southern Company Services), W.E. Padgett (Georgia Power Company), and A.L. Baldwin (DOE-Pittsburgh Energy Technology Center). "Demonstration of Low-NO_x Combustion Techniques on a 500 MW Wall-Fired Boiler." *Pittsburgh Coal Conference*. Pittsburgh, PA. October 12-16, 1992.
- Padgett, W.E. (Georgia Power Company), J.N. Sorge, and M.D. Nelson (Southern Company Services). "Wall-Fired Low-NO_x Burner Test Results from Plant Hammond." *Southeastern Electric Exchange Meeting*. Amelia Island, FL. October 14-16, 1992.
- Sorge, J.N. (Southern Company Services, Inc.), and A.L. Baldwin (Pittsburgh Energy Technology Center). "500 MW Wall-Fired Low-NO_x Burner Demonstration." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.
- Sorge, J.N. (Southern Company Services). "Wall-Fired Low-NO_x Burner Test Results from the Innovative Clean Coal Technology Project at Georgia Power Company's Plant Hammond Unit 4." *EPRI NO_x Controls for Utility Boilers Conference*. Cambridge, MA. July 7-9, 1992.
- Sorge, J.N. (Southern Company Services, Inc.), A.L. Baldwin, and L.L. Smith. "Advanced Wall-Fired Boiler Combustion Techniques for the Reduction of Nitrogen Oxides (NO_x)--Low-NO_x Burner Test Phase Results." *International Congress on Technology and Technology Exchange Conference*, Ivry, France. May 1992.
- Hardman, R.R., and J.N. Sorge (Southern Company Services). "Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers Using Advanced Wall- and Tangentially-Fired Combustion Techniques." *American Society of Mechanical Engineers 54th Annual Meeting of the American Power Conference*. Chicago, IL. April 13-15, 1992.
- Sorge, J.N., R.R. Hardman, and S.M. Wilson (Southern Company Services). "Demonstration of Advanced Wall- and Tangentially-Fired Combustion Modifications for the Reduction of the Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Joint AFRC/JFRC International Conference on Environmental Control of Combustion Processes*. Honolulu, HI. October 7-10, 1991.
- Sorge, J.N., and S.M. Wilson (Southern Company Services), A.L. Baldwin (DOE-Pittsburgh Energy Technology Center), and D. Eskinazi (Electric Power Research Institute). "Demonstration of Advanced Wall-Fired Combustion Modifications for the Reduction of the Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *International Joint Power Generation Conference*. San Diego, CA. October 6-10, 1991.
- Sorge, J.N., and S.M. Wilson (Southern Company Services), and W.E. Padgett (Georgia Power Company). "Advanced Wall-Fired Combustion Techniques for the Reduction of the Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Pittsburgh Coal Conference*. Pittsburgh, PA. October 14-18, 1991.
- Sorge, J.N., and S.M. Wilson (Southern Company Services), L.L. Smith, and L. Larsen (Energy Technology Consultants). "Demonstration of Advanced Wall-Fired Combustion Techniques for the Reduction of the Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Air and Waste Management Association Meeting and Exhibition*. Vancouver, British Columbia. June 1991.
- Wilson, S.M., and J.N. Sorge (Southern Company Services), L.L. Smith, and L. Larsen (Energy Technology Consultants). "Demonstration of Low-NO Combustion Control Technologies on a 500 MWe Coal-Fired Boiler." *EPRI/EPA NO_x Control Conference*. Washington, DC. March 1991.

**Southern Company Services, Inc. --
Demonstration of Selective Catalytic Reduction
Technology for the Control of NO_x Emissions
from High-Sulfur-Coal-Fired Boilers**

Hinton, W.S., J.D. Maxwell, E.C. Healy, and R.R. Hardman (Southern Company Services). "Demonstration of SCR Technology for the Control of NO_x Emissions from High-Sulfur Coal-Fired Utility Boilers." *EPRI Workshop on NO_x Controls for Utility Boilers*. Cincinnati, OH. August 6-8, 1996.

Hinton, W.S., and J.D. Maxwell (Southern Company Services, Inc.), and A.L. Baldwin (Pittsburgh Energy Technology Center). "Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxides (NO_x) Emissions from High Sulfur Coal-Fired Utility Boilers at Plant Crist SCR Test Facility." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Baldwin, A.L., *et al.* "Is Selective Catalytic Reduction (SCR) an Attractive Option for NO_x Control in Coal-Fired Power Plants?" *AWMA Conference*. Tempe, AZ. January 24, 1995.

Hinton, W.S. (Southern Company Services, Inc.), *et al.* "Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxides (NO_x) Emissions from High Sulfur, Coal-Fired Boilers at Plant Crist SCR Test Facility." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Rhee, K.H., S. Friedman, M.L. Eastman, D.H. Finseth, *et al.* (Department of Energy, Pittsburgh Energy Technology Center.) "PETC Review: A Global Role for Energy." Issue 10, Summer 1994. Report No. PETC-95000411. 1994. (Available from NTIS as DE96000411.)

Hinton, W.S., C.A. Powell, and J.D. Maxwell (Southern Company Services). "Demonstration of Selective Catalytic Reduction Technology for the Control of Nitrogen Oxide Emission from High-Sulfur, Coal-Fired Boilers." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Maxwell, J.D., and G.S. Ranhotra (Southern Company Services). "Demonstration of Selective Catalytic Reduction Technology for the Control of Nitrogen Oxide Emissions from High-Sulfur, Coal-Fired Boilers." *86th Annual Meeting and Exhibition, Air and Waste Management Association*. Denver, CO. June 13-18, 1993.

Maxwell, J.D. (Southern Company Services, Inc.) and A.L. Baldwin (Pittsburgh Energy Technology Center). "Demonstration of Selective Catalytic Reduction (SCR) Technology for the Control of Nitrogen Oxide (NO_x) Emissions from High-Sulfur, Coal-Fired Boilers." *1992 International Joint Power Generation Conference and Exposition*. Atlanta, GA. October 18-22, 1992.

Southern Company Services, Inc. -- 180-Mwe Demonstration of Advanced Tangentially Fired Combustion Techniques for the Reduction of NO_x Emissions from Coal-Fired Boilers

Grusha, J. (ABB Combustion Engineering Services, Inc.). "Operating Results from ABB C-E Services' Low-NO_x Concentric Firing System (LNCFS) Retrofit Installations--1993 Update." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book V, Volume XIII. November 1993.

Dismukes, E.B. (Southern Research Institute), *et al.* "Measurement of Air Toxic Emissions from a Coal-Fired Boiler Equipped with a Tangentially Fired Low-NO_x Combustion System." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Hardman, R.R. (Southern Company Services), L.L. Smith, (Energy Technology Consultants), and S. Tavouareas (Decision Focus). "Results from the ICCT T-Fired Demonstration Project Including the Effects of Coal Fineness on NO_x Emissions and Unburned Carbon Levels." *EPRI/EPA 1993 Joint Symposium on Stationary Combustion NO_x Control*. Miami Beach, FL. May 24-27, 1993.

Hardman, R.R. (Southern Company Services), *et al.* "Long-Term Data Analysis from the Tangentially-Fired Low-NO_x Combustion System Demonstration Project at Gulf Power Company's Plant Lansing Smith." *1992 International Joint Power Generation Conference and Exposition*. Atlanta, GA. October 18-20, 1992.

Hardman, R.R. (Southern Company Services), L.L. Smith (Energy Technology Consultants), and J.D. McDonald. "Demonstration of Low NO_x Combustion Techniques on a 180-MW Tangentially-Fired Boiler." *Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 12-16, 1992.

Hardman, R.R., and J.N. Sorge (Southern Company Services). "Darstellung fortgeschrittener Wandund Tangentialfeuerungsvarianten für die Minderung von Stickoxid-(NO_x) Emissionen aus kohlebefeuerten Kesseln (Demonstration of Advanced Wall- and Tangentially-Fired Combustion Modifications for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *1992 VGB Power Plants with Information Show*. Karlsruhe, Germany. October 13-16, 1992.

Hardman, R.R. (Southern Company Services, Inc.) "180-MWe Tangentially-Fired Low NO_x Burner Demonstration." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Hardman, R.R. (Southern Company Services). "Tangentially-Fired Low-NO_x Combustion System Test Results at Gulf Power Company's Plant Lansing Smith Unit 2." *Electric Power Research Institute Workshop on NO_x Controls for Utility Boilers*. Boston, MA. July 7-9, 1992.

Hardman, R.R. (Southern Company Services), L.L. Smith (Energy Consultants), and G.G. Elia (DOE-Pittsburgh Energy Technology Center). "Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxides (NO_x) from Coal-Fired Boilers." *International Congress on Technology and Technology Exchange*. Paris, France. May 13-15, 1992.

Hardman, R.R., and J.N. Sorge (Southern Company Services). "Reduction of Nitrogen Oxide (NO_x) Emissions From Coal-Fired Boilers Using Advanced Wall- and Tangentially-Fired Combustion Techniques." *Proceedings of the American Power Conference*. April 1992.

Hardman, R.R., S.M. Wilson (Southern Company Services), and J.D. McDonald. "Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Eighth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 14-18, 1991.

Sorge, J.N., R.R. Hardman, and S.M. Wilson (Southern Company Services). "Demonstration of Advanced Wall- and Tangentially-Fired Combustion Modifications for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *Joint American Flame Research Council/Japanese Flame Research Council International Conference on Environmental Control of Combustion Processes*. Honolulu, HI. October 7-10, 1991.

Hardman, R.R., S.M. Wilson (Southern Company Services), G.G. Elia (DOE-Pittsburgh Energy Technology Center), and D. Eskinazi (Electric Power Research Institute). "Demonstration of Advanced Tangentially-Fired Combustion Modifications for the Reduction of Nitrogen Oxide (NO_x) Emissions from Coal-Fired Boilers." *ASME/IEEE International Joint Power Generation Conference and Exhibition*. San Diego, CA. October 6-10, 1991.

Hardman, R.R., and S.M. Wilson (Southern Company Services, Inc.); and L. Smith and L. Larsen (Energy Technology Consultants). "Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of Nitrogen Oxide Emissions from Coal-Fired Boilers," *Air and Waste Management Association Meeting and Exhibition*, Vancouver, BC. June 1991.

Wilson, S.M., R.R. Hardman (Southern Company Services), G.G. Elia, A. Baldwin (DOE-Pittsburgh Energy Technology Center), and D. Eskinazi (Electric Power Research Institute). "Demonstration of Advanced Combustion Techniques for the Reduction of Nitrogen Oxide (NO_x) Emissions from Wall-Fired and Tangentially-Fired Boilers." *ASME International Joint Power Generation Conference*, Boston, MA. October 1990.

Tennessee Valley Authority -- Micronized Coal Reburning Demonstration for NO_x Control on a 175-MWe Wall-Fired Unit, Renamed in Summer 1996 to:

New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO_x Control

Howlett, C. (Fuller Company). "TVA Micronized Coal Reburn Project Update." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and the Center for Energy & Economic Development. September 1994.

Hunt, T., *et al.* "Integrating Low-NO_x Burners, Overfire Air, and Selective Non-Catalytic Reduction on a Utility Coal-Fired Boiler." *AICHE Summer Conference*. August 1994.

Welling, J.C. (Fuller Company). "NO_x Control Using Reburn Technology: Its Results, Promise, and Potential." *207th American Chemical Society National Meeting and Exposition*, San Diego, CA. March 1994.

Burnett, T.A., *et al.* "Recent Results from the 10-MW Demonstration of the Gas Suspension Absorption Process at TVA's Center for Emissions Research." *1994 International Joint Power Generation Conference*. Phoenix, AZ. 1994.

Bradshaw, D.T., T.F. Butler, C.L. Harlett, M.D. Lawley, and J.U. Watts, "Micronized Coal Reburning for NO_x Control on a 175 MWe Unit." *Joint ASME/IEEE Power Generation Conference*. Kansas City, KS. October, 1993.

Kosvic, T.C. (Radian Corporation), *etal.* "Design Methodology for a Micronized Coal Reburn System Using Modeling." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Bradshaw, D.T., T.F. Butler (Tennessee Valley Authority), W.K. Ogilvie (MicroFuel Corporation), T. Rosiak, Jr., (Dukel Fluor Daniel), and R.E. Sommerland (Research-Cottrell Companies). "Micronized Coal Reburning for NO_x Control on a 175 MWe Unit." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

SO₂ Control Technologies

Hakka, L.E., and J.S. Burgess. "The CANSOLV FGD Process," SO₂ Control Symposium, New Orleans, LA. May 1990.

AirPol, Inc. -- 10-MWe Demonstration of Gas Suspension Absorption

Hsu, F.E., and B.B. Bhagat (AirPol, Inc.), S.K. Marchant and G.W. Pukanic (Pittsburgh Energy Technology Center), and V.M. Norwood and T.A. Burnett (Tennessee Valley Authority). "The Clean Coal Technology Program 10-MWe Demonstration of Gas Suspension Absorption for Flue Gas Desulfurization." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers.* Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Burnett, T.A. (Tennessee Valley Authority), E.J. Puschaver, and T.M. Little. "Results from the Phase II Testing of the Gas Suspension Absorption Flue Gas Desulfurization Technology at the Center for Emissions Research." *Proceedings: 1995 SO₂ Control Symposium. Volume 2, Sessions 4a, 4b, 5a, 5b.* Report No. EPRI-TR-105258-Vol. 2 and CONF-950332-Vol. 2. Pages 35.1-35.14. June 1995.

Marchant, S.K., T.A. Burnett, V.M. Norwood, T.M. Little, L.R. Lepovitz, and F.E. Hsu, (AirPol, Inc.) "Recent Results from the 10-MW Demonstration of the Gas Suspension Absorption Process at TVA's Center for Emissions Research." *International Joint Power Conference.* Phoenix, AZ. October 1994.

Hsu, F.E. (AirPol, Inc.), et al. "The Clean Coal Technology Program 10-MWe Demonstration of Gas Suspension Absorption for Flue Gas Desulfurization." *Third Annual Clean Coal Technology Conference: Technical Papers.* U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Gross, W. L. "Summary of Findings-10-MWe Demonstration of Gas Suspension Absorption." *19th International Technical Conference on Coal Utilization and Fuel Systems,* Clearwater, FL. March 1994.

Marchant, S.K., T.A. Burnett, V.M. Norwood, E.J. Puschavir, F.E. Hsu, B.R. Bhagat, and G.B. Pukanic, (AirPol, Inc.) "10-MW AirPol Gas Suspension Absorption Demonstration at TVA's Center for Emissions Research." *Conference on Environmental Commerce (CONEC) '93 Conference.* Chattanooga, TN. October 17-20, 1993.

Hsu, F.E. (AirPol, Inc.), et al. "The Clean Coal Technology Program: 10-MWe Demonstration of Gas Suspension Absorption for Flue Gas Desulfurization." *Proceedings-Second Annual Clean Coal Technology Conference.* Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Marchant, S.K., T.A. Burnett, and V.M. Norwood, (AirPol, Inc.) "10-MW Demonstration of the AirPol Gas Suspension." *1993 SO₂ Control Symposium.* August 23-27, 1993.

Gross, W.L. "Flue Gas Desulfurization as High-Sulfur Coals Retrofit Costs, Lime Consumption and Removal Efficiencies 10-MWe DOE Demonstration Plant." *Coal Utilization & Fuel Systems Conference.* April 1993.

Rubio, R.A. (AirPol, Inc.) "Gas Suspension Absorption: A Novel Technology for Control of Acid Gas Emissions from Coal Fired Power Plants and Incineration Plants." *International Joint Power Generation Conference.* October 6-10, 1992.

Hsu, F.E. (AirPol, Inc.), and S. Marchant (Pittsburgh Energy Technology Center). "10-MWe Demonstration of Gas Suspension Absorption for Flue Gas Desulfurization." *First Annual Clean Coal Technology Conference,* Cleveland, OH. September 1992.

Rubio, D., and J. Bigum, (AirPol, Inc.). "Gas Suspension Absorber: A Novel Technique for Control of Acid Gas Emissions from Incineration Plants." *A WMA Conference.* Pittsburgh, PA. November 7-10, 1989.

Bechtel Corporation -- Confined Zone Dispersion Flue Gas Desulfurization Demonstration

Batista, J.J. (Pennsylvania Electric Company), et al. "Demonstration of Bechtel's Confined Zone Dispersion Process at Pennsylvania Electric Company's Seward Station: Project Status." *Proceedings--Second Annual Clean Coal Technology Conference.* Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Abrams, J.Z. (Bechtel Group, Inc.), A.G. Rubin (Bechtel Corporation), and A.L. Baldwin (Pittsburgh Energy Technology Center). "Update and Results of Bechtel's Confined Zone Dispersion (CZD) Demonstration at Pennsylvania Electric Company's Seward Station." *First Annual Clean Coal Technology Conference.* Cleveland, OH. September 1992.

Abrams, J.Z. (Bechtel Group, Inc.), A.G. Rubin (Bechtel Corporation), S. Higgins (Pennsylvania Electric Company), and A.L. Baldwin (Pittsburgh Energy Technology Center). "Demonstration of Bechtel's Confined Zone Dispersion Process at Pennsylvania Electric Company's Seward Station." *International Power Generation Conference,* San Diego, CA. October 1991. Report No. 91-JPCC-EC 5.

Abrams, J.Z., (Bechtel Group, Inc.), A.G. Rubin (Bechtel Corporation), S. Higgins (Pennsylvania Electric Company), and A.L. Baldwin (Pittsburgh Energy Technology Center). "The Demonstration of Confined Zone Dispersion Process for Flue Gas Desulfurization at Seward Station of Pennsylvania Electric Company." *American Power Conference.* Chicago, IL. April 1991.

LIFAC-North America -- LIFAC Sorbent Injection Desulfurization Demonstration Project

Patel, J. "LIFAC Flue Gas Desulfurization Process: An Alternate SO₂ Control Strategy." *Second International Conference on Energy and Environment: Transitions in East Central Europe*. Prague, Czech Republic. November 1994.

Vilala, I (Crampella Power Corporation), *et al.* "Commercialization of the LIFAC Sorbent Injection Process in North America." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Hervol, J. (ICF Kaiser Engineers, Inc.), *et al.* "LIFAC Sorbent Injection for Flue Gas Desulfurization." *EPRI/EPA/DOE Sulfur Dioxide Control Symposium*. Boston, MA. August 1993.

Vuala, J. (Tampella Power Corporation), *et al.* "LIFAC Sorbent Injection for Flue Gas Desulfurization." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Rose, J. (ICF Resources), J. Hervol, R. Easier (ICF Kaiser Engineers, Inc.), J. Vuala (Tampella Power Corporation), and R. Evans (Pittsburgh Energy Technology Center). "LIFAC Sorbent Injection for Flue Gas Desulfurization." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1992.

Hervol, J., R. Easier (ICF Kaiser Engineers, Inc.), and J. Vuala (Tampella Power Corporation). "LIFAC Sorbent Injection for Flue Gas Desulfurization." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Kehoe, D.B., J.D. Hervol, R.J. Evans, and A.A. Levasseur, (LIFAC) "Evaluating the Effects of Cleaned Coals on Utility Boilers." *International Coal Preparation Conference*. Tokyo, Japan. October 22-26, 1990.

Pure Air on the Lake, L.P. -- Advanced Flue Gas Desulfurization Demonstration Project

Manavi, G.B., and J.J. Lewnard (Pure Air), D.A. Styf (Northern Indiana Public Service Company), and T.A. Sarkus (Pittsburgh Energy Technology Center). "Bailly Station AFGD Demonstration Program." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Manavi, G.B. (Pure Air), D.A. Styf, and T.A. Sarkus. "First Two Years of Operating Data from Bailly Station AFGD Project." *Proceedings: 1995 SO₂ Control Symposium. Volume 2, Sessions 4a, 4b, 5a, 5b*. Report No. EPRI-TR-105258-Vol.2 and CONF-950332-Vol. 2. Pages 41.2-41.32. June 1995.

Henderson, J. (Pure Air), *et al.* "Two Years of Outstanding AFGD Performance, Pure Air on the Lake's Bailly Scrubber Facility." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Henderson, J. (Pure Air), *et al.* "Project Update: Advanced FGD Design for Northern Indiana Public Service Company's Bailly Generating Station." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Sarkus, T.A., E.W. Evans, and G.W. Pukanic, (Pure Air). "Advanced Flue Gas Desulfurization: An Integrated Approach to Environmental Management." *Symposium on Energy and Environmental Management*. New Orleans, LA. March 9-12, 1993.

Campbell, G. "Pure Air's FGD Facility at Northern Indiana's Bailly Generating Station Cited as an Outstanding 1992 U.S. Engineering Achievement." *National Society of Professional Engineers, 27th Annual Outstanding Engineering Achievement Awards Competition*. January 1993.

Manavi, G.B., and B. Wrobel (Pure Air). "Wet Advanced FGD Design for the Bailly Generating Station." *Power Gen '92 Conference*. Orlando, FL. November 1992.

Sicinski, M., D. LaValle, and M.K. Mierzejewski, (Pure Air). "Cleaning the Water at a Clean Air Plant." *53rd Annual International Water Conference*. Pittsburgh, PA. October 19-21, 1992.

Reighard, R.C. (Pure Air), B. Wrobel (Northern Indiana Public Services Company), and D.C. Vymazal (Pure Air). "Acid Rain Compliance--Advanced Co-Current Wet FGD Design for the Bailly Station." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Bounsky, F.T., *et al.* "Permitting and Solid Waste Management Issues for the Bailly Station Wet Limestone AFGD System," *Industrial Gas Cleaning Institute Forum '91 Trade Show*, Washington, DC. September 1991.

Satrom, S., F. Bolinsky, and T. Sarkus, T. (Pure Air). "Pure Air Advanced Flue Gas Desulfurization System at the Bailly Generating Station." *Power Gen '92 Conference*. Orlando, FL. November 1992.

Ashline, P.M., and R.L. Klingensmith (Pure Air on the Lake, L.P.). "Advanced Co-Current Wet FGD Design for the Bailly Station," *SO₂ Control Symposium*, New Orleans, LA. May 1990.

Southern Company Services, Inc. -- Demonstration of Innovative Applications of Technology for the CT-121 FGD Process

Burford, D.P. (Southern Company Services, Inc.). "Innovative Applications of the Chiyoda Thoroughbred 121 Clean Coal Technology Project at Georgia Power's Plant Yates-Phase II Demonstration Results." *CONFERINTA NATIONALA A ENERGIEI [Romanian National Power Conference]*. Neptun-Olimp, Romania. September 1996.

Burford, D.P. (Southern Company Services, Inc.). "Innovative Applications of the Chiyoda Thoroughbred 121 Clean Coal Technology Project at Georgia Power's Plant Yates--Focus on Air Toxics." *American Institute of Chemical Engineers Annual Meeting*. November 1995.

Pearl, I.G. (Radian Corporation). "Chiyoda Thoroughbred-121 Phase II Demonstration Results." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Burford, D.P. (Southern Company Services, Inc.), and I.G. Pearl. "Operational Highlights of the Chiyoda CT-121 FGD Demonstration at Georgia Power's Plant Yates." *Proceedings: 1995 SO₂ Control Symposium. Volume 2, Sessions 4a, 4b, 5a, 5b*. Report No. EPRI-TR-105258-Vol. 2 and CONF-950332-Vol. 2. Pages 40.1-40.18. June 1995.

Larrimore, L. (Southern Company Services, Inc.), and M.P. Burford. "Disposal and Utilization of By-Product Materials from the Chiyoda CT-121 FGD Process." *Proceedings: 1995 SO₂ Control Symposium. Volume 4, Sessions 8a, 8b*. Report No. EPRI-TR-105258-Vol. 4 and CONF-950332-Vol. 4. Pages 87.1-87.15. June 1995.

Vakhshoorzadeh, K. (Southern Company Services, Inc.), M.P. Burford, and D.P. Burford. "Evaluation of Fiber-Reinforced Plastics for Use in Chiyoda Thoroughbred-121 Flue Gas Desulfurization Process Vessel." *Proceedings: 1995 SO₂ Control Symposium. Volume 4, Sessions 8a, 8b*. Report No. EPRI-TR-105258-Vol. 4 and CONF-950332-Vol. 4. Pages 99.1-99.15. June 1995.

Burford, D.P. (Southern Company Services, Inc.), and I.G. Pearl. "Georgia Power's Plant Yates CT-121 FGD Demonstration Project Results." *American Power Conference: Proceedings. Volume 57-11*. Report No. CONF-950414-2. April 1995.

Burford, D.P. (Southern Company Services, Inc.), *et al.* "CT-121 Scrubber Demonstration Mid-Project Performance Results." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Burford, D.P. (Southern Company Services), and I.G. Pearl (Radian Corporation). "Phase I Results from the DOE/SCS Chiyoda CT-121 Project at Georgia Power's Plant Yates." *Proceedings of the American Power Conference, 56th Annual Meeting*, Chicago, IL. Volume 56-II. April 1994.

Burford, D.P. (Southern Company Services, Inc.), I.G. Pearl (Radian Corporation), and H.J. Ritz (Pittsburgh Energy Technology Center, U.S. Department of Energy). "Chiyoda Thoroughbred-121 Innovative Clean Coal Technology Demonstration Project." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Burford, D.P. "Plant Yates CT-121 Demonstration." *1993 SO₂ Control Symposium*. Boston, MA. August 23-27, 1993.

Burford, D.P. (Southern Company Services), O.W. Hargrove (Radian Corporation), H.J. Ritz (Pittsburgh Energy Technology Center), and K.W. Boyd (Southern Company Services). "Demonstration of Innovative Applications for Technology for the CT-121 FGD Systems." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. October 1992.

Burford, D.P. (Southern Company Services, Inc.), H.J. Ritz (Pittsburgh Energy Technology Center), and O.W. Hargrove (Radian Corporation). "Innovative Applications of Technology to the Chiyoda CT-121 Process." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Combined SO₂/NO_x Control Technologies

Markussen, C.M. (Pittsburgh Energy Technology Center), and D. Livengood (Argonne National Laboratory). "Alternative Flue Gas Treatment Technologies for Integrated SO₂ and NO_x Control." *American Power Conference: Proceedings. Volume 57-III*. Report No. CONF-950414-3. April 1995. (Available from NTIS as DE95012919.)

Enwald, T., and M.E. Ball (Saskatchewan Power Corporation). "Experimental Study to Maximize the Efficiency of In-Furnace Emission Control." Report No. MICROLOG-92-00199. March 1991.

Elia, G.G., and W.L. Fraser. "Cyclone Retrofit Demonstration Program with TransAlta's Low NO_x/SO₂ Burner," *1990 Joint Power Generation Conference*, Boston, MA. October 1990.

Chu, P., and G.T. Rochelle. "Removal of SO₂ and NO_x from Stack Gas by Reaction with Calcium Hydroxide Solids," *AIChE Spring Meeting*, Houston, TX. March-April 1987.

ABB Environmental Systems -- SNOX™ Flue Gas Cleaning Demonstration Project

Borio, D.C. (ABB Environmental Systems). "Status of the SNOX™ Technology and Demonstration." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Borio, D.C. (ABB Environmental Systems), and P.E. Chambers. "SNOX™ Economics for Multi-Pollutant Control Applications." *Proceedings: 1995 SO₂ Control Symposium. Volume 3, Sessions 6a, 6b, 7a, 7b*. Report No. EPRI-TR-105258-Vol.3 and CONF-950332-Vol. 3. Pages 81.1-81.10. June 1995.

Borio, D.C. (ABB Environmental Systems), *et al.* "Commercialization of the SNOX™ Process through the Clean Coal Technology Program." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Borio, D.C. and R.J. Evans (PETC). "A Capital and Operating Cost Evaluation of the SNOX™ Process." *Conference on Comparative Economies of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Borio, D.C., D.J. Collins, and T.D. Cassell (ABB Environmental Systems). "Performance Results from the 35 MW SNOX™ Demonstration at Ohio Edison's Niles Station." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Borio, D.C. "SNOX™ Demonstration Project Performance Data-One." *1993 SO₂ Control Symposium*. August 23-27, 1993.

Kingston, W.H., R.E. Bolli, and M.J. Hyland. "Economic Analysis of the SNOX™ Process." *International Joint Power Generation Conference*. October 1992.

Borio, D.C., and D.J. Collins. "Conversion of SO₂ in Flue Gas to Sulfuric Acid Via the SNOX™ Process." *American Chemical Society Fertilizer Division*. August 1992.

Cassell, T.D. (ABB Environmental Systems), S.M. Durrani (Ohio Edison Company), and R.J. Evans (Pittsburgh Energy Technology Center). "NO_x/SO₂ Removal with No Waste-The SNOX™ Process." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Collins, D.J. (ABB Combustion Engineering, Inc.), and R.J. Evans (Pittsburgh Energy Technology Center). "Efficiency of the WSA-SNO_x System for Reducing SO₂ and NO_x," *Environmental and Economic Impacts of Coal Utilization*. January 1991.

Kingston, W.H., *et al.* "Demonstration of the WSA-SNO_x Process through the CCT Program," *ASME/IEEE Joint Power Generation Conference*, Boston, MA. October 1990.

The Babcock & Wilcox Company -- LIMB Demonstration Project Extension and Coolside Demonstration

Withum, J.A. (Consol, Inc.), J.T. Maskew, and W.A. Rosenhoover. "Development of the Advanced Coolside Sorbent Injection Process for SO₂ Control." *Proceedings: 1995 SO₂ Control Symposium. Volume 2, Sessions 4a, 4b, 5a, 5b*. Report No. EPRI-TR-105258-Vol. 2 and CONF-950332-Vol. 2. Pages 33.2-33.16. June 1995.

Beeghley, J.H., *et al.* "Impact of Weathering and Aging on a LIMB Ash Stockpile Material." *Eleventh International Symposium on Use and Management of Coal Combustion By-Products*. Report No. CONF-950106-3. U.S. Department of Energy. January 1995. (Available from NTIS as DE95008365.)

Kim, S.H., S. Nodjoman, and W. Wolfe. "Field Demonstration Project Using Clean Coal Technology By-Products." *Eleventh International Symposium on Use and Management of Coal Combustion By-Products*. Report No. CONF-950106-4. U.S. Department of Energy. January 1995. (Available from NTIS as DE95008386.)

Goots, T.R., P.S. Nolan, and M.J. DePero (The Babcock & Wilcox Company). "Economic Evaluation of the LIMB and Coolside Processes." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1992.

DePero, M.J., T.R. Goots, and P.S. Nolan (The Babcock & Wilcox Company). "Final Results of the DOE LIMB and Coolside Demonstration Projects." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Goots, T.R., M.J. DePero, T.H. Purdon, P.S. Nolan, J.L. Hoffman, and T.W. Arrigoni. "Results from LIMB Extension Testing at the Ohio Edison Edgewater Station." *Proceedings. SO₂ Control Symposium, EPRI*. Washington, DC. December 1991, 161-179.

Goots, T.R. (The Babcock & Wilcox Company), J.L. Hoffman (Ohio Edison Company), and T.W. Arrigoni (U.S. Department of Energy), *et al.* "Results from LIMB Extension Testing at the Ohio Edison Edgewater Station." *1991 Joint DOE, EPRI, and EPA FGD Symposium*. Washington, DC. December 1991.

McCoy, D.C. (Consolidation Coal Company), and P.S. Nolan (The Babcock & Wilcox Company), *et al.* "Economic Comparison of Coolside and Wet Limestone FGD Processes," 1991 *Joint DOE, EPRL, and EPA FGD Symposium*. Washington, DC. December 1991.

Withum, J.A., *et al.* "Coolside Desulfurization Demonstration at Ohio Edison Edgewater Power Station," *American Chemical Society National Meeting*. Washington, DC. August 1990.

Kanary, D.A., *et al.* "Coolside Process Demonstration at the Ohio Edison Company Edgewater Unit 4-Boiler 13," *1990 SO₂ Control Symposium*. New Orleans, LA. May 1990.

The Babcock & Wilcox Company -- SO₂-NO_x-Rox BoxTM Flue Gas Cleanup Demonstration Project

Martinelli, R., J.B. Doyle, and K.E. Redinger. (Babcock & Wilcox). "SO₂-NO_x-Rox BoxTM Technology Review and Global Commercial Opportunities." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Holmes, A.R. (The Babcock & Wilcox Company), *et al.* "SO₂ Emission Control with the SO₂-NO_x-Rox BoxTM." *EPRI/EPA/DOE Sulfur Dioxide Control Symposium*, Boston, MA. August 1993.

Redinger, K.E. (The Babcock & Wilcox Company), and R.W. Corbett (Pittsburgh Energy Technology Center, U.S. Department of Energy). "SO₂-NO_x-Rox BoxTM Demonstration Project Review." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Redinger, K.E., A.R. Holmes, A. Evans (The Babcock & Wilcox Company), H. Johnson (Ohio Coal Development Office), and R. Bolli (Ohio Edison). "SO₂-NO_x-Rox BoxTM (SNRB) Process Development and Demonstration." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. October 1992.

Redinger, K.E. (The Babcock & Wilcox Company), R.E. Bolli (Ohio Edison Company), R.W. Corbett (Pittsburgh Energy Technology Center), and H.J. Johnson (Ohio Coal Development Office). "SNRB--SO₂, NO_x, and Particulate Emissions Control with High Temperature Baghouse." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Kudlac, G.A., G.A. Farthing, T. Szymanski, and R. Corbett. "SNRB Catalytic Baghouse Laboratory Pilot Testing." *Environmental Progress* 11 (February 1992): 33-38.

Energy and Environmental Research Corporation -- Enhancing the Use of Coals by Gas Reburning and Sorbent Injection

Sommer, T.M. (Energy and Environmental Research Corporation). "Demonstration of Gas Reburning-Sorbent Injection Technology for NO_x/SO₂ Emission Control." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Keen, R.T. (Energy and Environmental Research Corporation), *et al.* "Demonstration of Gas Reburning-Sorbent Injection on a Cyclone-Fired Boiler." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

May, T.J., E.G. Rindahl, T. Booker, H.J. Ritz, and J.M. Pratapas, "Gas Reburning in Tangentially-, Wall- and Cyclone-Fired Boilers, An Introduction to Second-Generation Gas Reburning." *Third Annual Clean Coal Technology Conference*. Chicago, IL. September 6-8, 1994.

Folsom, B.A. (Energy and Environmental Research Corporation), *et al.* "Gas Reburning and Integrated NO_x and SO₂ Control: Ready for Commercial Installations." *20th American Chemical Society National Meeting and Exposition*. San Diego, CA. March 1994.

Folsom, B.A., and T.M. Sommer (Energy and Environmental Research Corporation). "Gas Reburning and Integrated Technologies for SO₂ and NO_x Control." *Conference on Comparative Economies of Emerging Clean Coal Technologies III*, Washington, DC. February 1994.

Sanyal, A. (Energy and Environmental Research Corporation). "Advanced NO_x Control Technologies." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book II, Volume IV. November 1993.

Opatmy, J.C. (Energy and Environmental Research Corporation), *et al.* "Enhancing the Use of Coal by Gas Reburning and Sorbent Injection." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Ashworth, R.A., *et al.* "Flue Gas Humidification for ESP Performance Enhancement." *International Joint Power Generation Conference and Exhibition*. Kansas City, MO. October 17-20, 1993.

Sanyal, A., T. Sommer, C.C. Hong, B.A. Folsom, and R. Payne R. "Low-NO_x Burners and Gas Reburning--An Integrated Advanced NO_x Reduction Technology." *Symposium on Combustion and Emissions Control*. University of Wales, Colleges of Cardiff, UK. September 21-22, 1993.

Folsom, B., C. Hong, T. Sommer, and J.M. Pratapas, "Reducing Stack Emissions by Gas Firing in Coal-Designed Boilers--Field Evaluation Results." *EPRI/EPA Joint Symposium on Stationary Combustion NO_x Control* Miami Beach, FL. May 24-27, 1993.

Englehardt, D.A., H.V. Rooney, R. Payne (Energy and Environmental Research Corporation), and H.J. Ritz (U.S. Department of Energy). "Gas Reburning-Sorbent Injection for Acid Rain Precursor Emission Control, System Design/Construction/Operating Constraints." *International Joint Power Generation Conference*. Atlanta, GA. October 1992.

Angello, L.C., D.A. Engelhardt, B.A. Folsom, J.C. Opatmy, T.M. Sommer (Energy and Environmental Research Corporation), and H.J. Ritz (Pittsburgh Energy Technology Center). "Gas Reburning-Sorbent Injection Demonstration Results." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Folsom, B.A. (Energy and Environmental Research Corporation), *et al.* "Demonstration of Combined NO_x and SO₂ Emission Control Technologies Involving Gas Reburning," *AFRC-JFRC International Conference--Environmental Control of Combustion Processes*. Honolulu, HI. October 1991.

Opatmy, J.D. (Energy and Environmental Research Corporation), *et al.* "Operating Experience with a Gas Reburning-Sorbent Injection System for Acid Rain Precursor Emission Control for Utility Boilers," *ASME International Joint Power Generation Conference*, San Diego, CA. October 1991.

Wu, K.T. (Energy and Environmental Research Corporation), *et al.* "Development and Application of a Gas Reburning Process Model for the Design of Boiler NO_x Reductions," 1991 *International Joint Power Generation Conference*, San Diego, CA. October 1991.

Bartok, W. (Energy and Environmental Research Corporation), T.J. May and M.S. Krueger (Illinois Power Company), *et al.* "Application of Gas Reburning-Sorbent Injection Technology for Control of NO_x and SO₂ Emissions," *EPRI-EPA Joint Symposium on Stationary Combustion NO_x Control*. March 1991.

Bartok, W., *et al.* "Field Evaluation of Combined NO_x/SO₂ Control via Gas Reburning-Sorbent Injection for Coal Fired Utility Boilers," *Fourth Symposium on Integrated Environmental Control*. Washington, DC. March 1988.

New York State Electric & Gas Corporation -- Milliken Clean Coal Technology Demonstration Project

Mahlmeister, M.E., E.S. Barons, (NYSE&G), and J.U. Watts (PETC). "Design Scrubber for Maintenance." *EPRI Fossil Plant Maintenance Conference*. Baltimore, MD. July 1996.

Harville, J., M.E. Mahlmeister, (NYSE&G), T. Buchanan, C.E. Jackson, (Parsons Power), and J.U. Watts. "Construction and Startup Experience for the Milliken FGD Retrofit Project." *American Power Conference*. April 1996.

Baron, III, E.S., and G. Gauffilet (New York State Electric & Gas Corporation) and C.E. Jackson (Gilbert Commonwealth). "Milliken Station Demonstration Project FGD Retrofit Up-date--1995." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Simonetti, R.K. (Gilbert/Commonwealth, Inc.), and D.T. O'Dea. "Innovative FGD Structures." *American Power Conference: Proceedings. Volume 57-H*. Report No. CONF-950414-2. Pages 853-858. April 1995.

Alder, R.C., *et al.* "Milliken Station Demonstration Project FGD Retrofit Update." US-Korea Electric Generation Seminar Mission: Proceedings, Volume 2. Seoul, Republic of Korea. October 1994.

Jackson, C.E. (Gilbert/Commonwealth Inc.), *et al.* "Milliken Station Demonstration Project FGD Retrofit Update." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

von der Heide, B., and C. Heiermann (Nalco Fuel Tech). "NO_x Out--A Reliable and Economical SNCR Process for Power Plants." *Proceedings of Power-Gen Europe: Where the Industry Connects*, Cologne, Germany. Book II, Volume 5. May 1994.

Ellis, C.M., W.J. Savichky (New York State Electric & Gas Corporation), and G.G. Elia (Pittsburgh Energy Technology Center, U.S. Department of Energy). "The Milliken Station Clean Coal Demonstration Project: There's More To It Than Concrete and Steel." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

O'Dea, D.T. (New York State Electric & Gas Corporation), R.M. Statnick (CONSOL, Inc.), J. Glamser (S-H-U/NaTec), J.E. Hofman (Nalco Fuel Tech), C.E. Jackson (Gilbert Commonwealth), and R.E. Aliasso (Stebbins Engineering and Manufacturing Company). "Overview of the Milliken Station Clean Coal Demonstration Project." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*, Pittsburgh, PA. October 1992.

Mahlmeister, M.E. (New York State Electric & Gas Corporation). "Overview of the Milliken Clean Coal Technology Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

NOXSO Corporation-- Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System

Black, J.B. (NOXSO Corporation), *et al.* "The NOXSO Clean Coal Project." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers.* Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Black, J.B. (NOXSO Corporation), *et al.* "The NOXSO Clean Coal Project." *Third Annual Clean Coal Technology Conference: Technical Papers.* U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Black, J.B. (NOXSO Corporation), *et al.* "The NOXSO Combined SO₂/NO_x Removal Flue Gas Cleanup System Commercial Demonstration." *Proceedings--Second Annual Clean Coal Technology Conference.* Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Haslbeck, J.L., and W.T. Ma (NOXSO Corporation). "NOXSO SO₂/NO_x Flue Gas Treatment Process Proof-of-Concept Test." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference,* Pittsburgh, PA. October 1992.

Black, Sr., J.B., L.G. Neal, John L. Haslbeck, and M.C. Woods (NOXSO Corporation). "The NOXSO Clean Coal Technology Project: A 115 MW Demonstration Unit." *First Annual Clean Coal Technology Conference,* Cleveland, OH. September 1992.

Neal, L.G. (NOXSO Corporation). "The NOXSO Flue Gas Treatment Process--A Better Idea," *Duquesne Light Seminar on Clean Air.* April 1991.

Coffin, D.B., *et al.* "Development and Testing of the NOXSO Flue Gas Cleaning Process," *ASME/IEEE International Joint Power Generation Conference,* Boston, MA. October 1990.

Bolli, R.E. "Test Installation of NOXSO--A Dry Simultaneous SO₂/NO_x Control Technology," *American Chemical Society National Meeting,* Washington, DC. August 1990.

Haslbeck, J.L. (NOXSO Corporation), *et al.* "The NO_x SO₂ Flue Gas Treatment Process Simultaneous Removal of NO_x and SO₂ from Flue Gas," *Proceedings of the 25th Intersociety Energy Conversion Engineering Conference,* Reno, NV. August 1990.

Haslbeck, J.L. (NOXSO Corporation), *et al.* "Proof-of-Concept Test of the NOXSO Flue Gas Treatment System," *SO₂ Control Symposium,* New Orleans, LA. May 1990.

Public Service Company of Colorado -- Integrated Dry NO_x/SO₂ Emissions Control System

Hunt, T., J. Stallings, D. Jones, L.J. Muzio, R. Smith, and J. Hobb (PETC). "SNCR Improvements for the Integrated Dry NO_x/SO_x Emission Control System." *Workshop for NO_x Control for Utility Boilers.* Cincinnati, OH. August 1996.

Hunt, T. (Public Service Company of Colorado), L.J. Muzio and R. Smith (Fossil Energy Research Corporation), D. Jones (NOELL, Inc.), E. Mali (Babcock & Wilcox), and J. Stallings (Electric Power Research Corporation). "Performance of the Integrated Dry NO_x/SO₂ Emissions Control System." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers.* Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Hunt, T. (Public Service Company of Colorado), L.J. Muzio, and R. Smith (Fossil Energy Research Corporation). "Integrated Low-NO_x Burners, Overfire Air, and Selective Non-Catalytic Reduction on a Utility Coal-Fired Boiler." *Environmental Progress;* 14(2): 115-120. May 1995.

Smith, R., *et al.* "NO_x Reduction On A Coal-Fired Utility Boiler With Low-NO_x Burners, Overfire Air and SNCR." *Economic and Environmental Aspects of Coal Utilization VI.* Santa Barbara, CA. January 29-February 2, 1995.

Hunt, T. (Public Service Company of Colorado), *et al.* "Current Progress with the Integrated Dry NO_x/SO₂ Emissions Control System." *Third Annual Clean Coal Technology Conference: Technical Papers.* U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Hunt, T., L. Muzio, R. Smith, and T.J. Hanley, "Integrating Low-NO_x Burners, Overfire Air, and Selective Non-Catalytic Reduction on a Utility Coal-Fired Boiler." *AICHE Summer Conference.* August 1994.

Smith, R., L. Muzio, G. Shiomoto, and T. Hunt. "Operating Experience with the Integrated Dry NO_x/SO₂ Emissions Control System." *207th ACS National Meeting.* San Diego, CA. March 13-17, 1994.

Hunt, T. (Public Service Company of Colorado), *et al.* "Preliminary Performance and Operating Results from the Integrated Dry NO_x/SO₂ Emissions Control System." *Proceedings--Second Annual Clean Coal Technology Conference.* Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Hunt, T., and R. Smith. "Combining Low-NO_x Burners, Overfire Air, and SNCR for High Efficiency NO_x Removal." *Air & Waste Management Association 86th Annual Meeting & Exhibition.* June 1993.

Hunt, T., *et al.* "Low-NO_x Combustion Modifications for Top-Fired Boilers." *1993 Joint Symposium on Stationary Combustion NO_x Control*. May 1993.

Hunt, T., *et al.* "Selective Non-Catalytic Operating Experience Using Both Urea and Ammonia." *1993 Joint Symposium on Stationary Combustion NO_x Control*. May 1993.

E. Mali, *et al.* "Low-NO_x Combustion Modifications for Down-Fired Pulverized Coal Boilers." *Proceedings of the American Power Conference*. April 1993.

Hunt, T. (Public Service Company of Colorado) and J.B. Doyle (The Babcock & Wilcox Company). "Integrated Dry NO_x/SO₂ Emissions Control System Update." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Jones, D.G., S. Negrea, B. Dutton, L. W. Johnson, P.J. Sutherland, J. Tormey, and R.A. Smith. "High Energy Urea Injection DeNO_x on a 215 MW Utility Boiler." *EPRI-EPA 1991 Joint Symposium on Stationary Combustion NO Control*. Washington, DC. March 25-28 1991.

Livengood, D.C., and J.M. Markussen, "Recent Developments in Combined Control of SO₂ and NO_x." *Energy and the Environment Conference*. Denver, CO. September 26-28. 1990.

Jones D.G., S. Negrea, G. Lautenschlager, G. Rose, R.A. Smith, and G.H. Shiimoto, "Urea Injection NO Removal in European Coal-Fired Boilers and MSW Incineration Plants." *83rd AWMA Annual Meeting and Exhibition*. Pittsburgh, PA. June 24-29, 1990.

Green, G. and J. Doyle, "Integrated SO_x/NO_x Emission Control System (IS/NECS). *1990 ASME International Joint Power Conference*.

Union Carbide Chemicals and Plastics Co., Inc. -- Demonstration of the Union Carbide CANSOLV™ at the ALCOA Generating Corporation Warrick Power Plant

"Union Carbide Claims 99% Effectiveness for Flue Gas Scrubber." *Oil and Gas Journal* 89 (November 18, 1991): 118.

Barnett, A.B. (Union Carbide Chemicals and Plastics Inc.), and L.E. Hakka (Union Carbide Chemicals and Plastics Canada, Inc.). "Demonstration of the Union Carbide CANSOLV™ Process System at the ALCOA Generating Corporation Warrick Power Plant." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

COAL PROCESSING FOR CLEAN FUELS

Coal Preparation Technologies

ABB Combustion Engineering, Inc., and CQ Inc. -- Development of the Coal Quality Expert

Harrison, C.D., and D.B. Kehoe (CQ Inc.), D.C. O'Connor (Electric Power Research Institute), and G.S. Stallard (Black & Veatch). "CQE: Integrating Fuel Decisions." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

O'Connor, D.C. (Electric Power Research Institute), and S. Stallard (Black & Veatch). "The CQE Project: Producing Innovative Software for Economical Deployment of Coal Technologies." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Borio, R.W. (ABB Power Plant Laboratories), *et al.* "The Coal Quality Expert: A Focus on Slagging and Fouling." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Harrison, C.D., *et al.* "Coal Quality Expert: A Powerful New Tool for Coal Burning Utilities to Reduce Emissions and Cost." *18th International Technical Conference on Coal Utilization & Fuel Systems*. Clearwater, FL. April 1993.

Harrison, C.D. (CQ Inc.). "Coal Quality Expert: Status and Software Specifications." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Thornock, D.E., R.W. Borio, and A.K. Metha (ABB Combustion Engineering, Inc.). "Developing a Coal Quality Expert: The Prediction of Ash Deposit Effects on Boiler Performance." *Eighth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1991.

Evans, R.J., A. Armor, R. Row, and C.D. Harrison, "Pre-Combustion Technologies for Power Plant Emissions Control." *World Coal Institute Conference*. London, England. April 2-5, 1991.

Stallard, S., and A. Mehta (Black and Veatch). "Using EPRI CQIM to Evaluate Acid Rain Strategies." *Proceedings. Second International Conference on Effects of Coal Quality on Power Plants*. St. Louis, MO. September 1990.

Vitta, P.K., S.D. Lowe, D.T. Gallaspy, R.F. Afonso, and N.M. Molino (Southern Company Services, Inc.). "Application and Validation of the Coal Quality Impact Model as Part of the EPRI Coal Quality Monitoring Project." *Proceedings. Second International Conference on Effects of Coal Quality on Power Plants*. St. Louis, MO. September 1990.

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOH™) Process

Brown, W.R., and R.B. Moore (Air Products and Chemicals, Inc.). "Flexible Electric Power Generation: The Integrated Gasification/Liquid Phase Methanol (LPMEOH™) Demonstration Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Custom Coals International -- Self-Scrubbing Coal™: An Integrated Approach to Clean Air

Harrison, K.E. (Custom Coals Corporation). "Self Scrubbing Coal™--A Progress Update." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Harrison, K.E. (Custom Coals Corporation). "Self-Scrubbing Coal™: An Integrated Approach to Clean Air." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Godfrey, R.L. (Custom Coals Corporation). "Fuel Upgrading as a Method for Pollution Control and Power Plant Performance Improvement." *Plzen Proceedings: Conference on Alternatives for Pollution Control from Coal-Fired Low Emission Sources*. Plzen, Czech Republic. Report No. CONF-9404166. April 1994.

Godfrey, R.L. (Custom Coals Corporation). "Self-Scrubbing Coal™: An Integrated Approach to Clean Air." *Proceedings--Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Godfrey, R.L. (Custom Coals International). "Self Scrubbing Coal™: An Integrated Approach to Clean Air." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Rosebud SynCoal Partnership -- Advanced Coal Conversion Process Demonstration

Sheldon, R.W. (Rosebud SynCoal Partnership) and R.M. Kornosky, W.J. O'Dowd, and J.B. Renk, III (Pittsburgh Energy Technology Center). "Rosebud SynCoal Partnership SynCoal® Demonstration Technology Development Update." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Niquette, T. "SynCoal Advanced Coal Conversion Process." *Second International Conference on Energy and Environment Transitions in East Central Europe*. Prague, Czech Republic. November 1994.

Heintz, S.J. (Rosebud SynCoal Partnership). "Rosebud SynCoal Partnership SynCoal® Demonstration." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Sheldon, R.W. (Western SynCoal Company), and S.J. Heintz (Pittsburgh Energy Technology Center, U.S. Department of Energy). "Rosebud SynCoal Partnership: Advanced Coal Conversion Process Demonstration Project." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Sheldon, R.W. (Western SynCoal Company), A.J. Viall (Western Energy Company), and J.M. Richards (Scoria, Inc.). "Advanced Coal Conversion Process Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Sheldon, R.W., *et al.* "Western Energy Company Advanced Coal Conversion Process," *16th Biennial Low Rank Fuels Symposium*, Billings, MT. May 1991.

Mild Gasification

ENCOAL Corporation -- ENCOAL Mild Coal Gasification Project

Frederick, J.P. (ENCOAL Corporation), and S.A. van Hoften (SGI International). "Commercialization of the Liquids from Coal Process." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Frederick, J.P. (ENCOAL Corporation), and R.E. Nickell (SGI International). "Continuous Operation and Commercialization of the ENCOAL Mild Coal Gasification Project." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Frederick, J.P. (ENCoALCorporation), T.G. McCord (Franklin Coal Sales), and W.F. Farmayan (Shell Development Corporation). "Start-Up and Operation of the ENCOAL Mild Coal Gasification Project." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

McCord, T.G. (Franklin Coal Sales), J.P. Frederick (ENCOAL Corporation), and W.F. Farmayan (Shell Development Corporation). "The ENCOAL Project: Status of the Plant and Product Testing." *Seventeenth Biennial Low-Rank Fuels Symposium*. May 1993.

McCord, T.G., J.P. Frederick, and W.F. Farmayan (ENCOAL Corporation). "The ENCOAL Project: Status of the Plant and Product Testing." *Proceedings. Low Rank Coal Upgrade Technology Workshop*, St. Louis, MO. December 1992.

Frederick, J.P. (ENCOAL Corporation). "Design, Construction, and Start-Up of ENCOAL Mild Gasification Project." *Twelfth Annual METC Gasification and Gas Stream Cleanup Contractors Review Meeting*. September 1992. Also presented at the Ninth Annual International Pittsburgh Coal Conference. October 1992.

Frederick, J.P. (ENCOAL Corporation). "Design, Construction, and Start-Up of ENCOAL Mild Gasification Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Frederick, J.P. (ENCOAL Corporation). "Current Status of Design and Construction of ENCOAL Mild Gasification Plant," *ASME International Joint Power Generation Conference*. San Diego, CA. October 1991.

"The ENCOAL Mild Gasification Project, Wyoming." *Colliery Guardian* 239 (September 1991): 208-210.

Frederick, J.P. "ENCOAL Mild Gasification Demonstration Project." *Proceedings. Eighty-Seventh Rocky Mountain Coal Mining Institute Annual Meeting*. Keystone, CO. June-July 1991.

McCord, T.G. (ENCOAL Corporation), M.A. Siddoway, and W.F. Farmayan (Shell Development Company). "The Liquids from Coal Mild Gasification Process: Handling and Combustion Properties of the Solid Process Derived Fuel," *16th Biennial Low Rank Fuels Symposium*. Billings, MT. May 1991.

Indirect Liquefaction

Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of Liquid-Phase Methanol (LPMEOH™) Process

Schaub, E.S., V.E. Stein, E.C. Heydorn, and E.R. Osterstock (Air Products and Chemicals, Inc.). "An Update on Liquid-Phase Methanol (LPMEOH™) Technology and the Kingsport Demonstration Project." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Brown, W.R., and R.B. Moore, "Flexible Electric Power Generation--The Integrated Gasification/Liquid Phase Methanol (LPMEOH™) Demonstration Project." *Third Annual Clean Coal Technology Conference*. Chicago, IL. September 6-8, 1994.

Frenduto, F.S., E.R. Osterstock, and G.D. Snyder (Air Products and Chemicals, Inc.). "Cost-Effective Dispatchable Power from a Gasification Combined-Cycle System: Liquid-Phase Methanol Energy Storage." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*, Dallas, TX. Book IV, Volume X. November 1993.

Brown, W.R., and F.S. Fenduto (Air Products and Chemicals, Inc.). "Fuel and Power Coproduction--The Integrated Gasification/Liquid-Phase Methanol (LPMEOH™) Demonstration Project." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Studer, D.W., and D.M. Brown (Air Products and Chemicals, Inc.). "Current Development and Future Commercial Demonstration of the LPMEOH™ Process." *Proceedings. Sixteenth International Conference on Coal and Slurry Technologies*, Clearwater, FL. April 1991.

INDUSTRIAL APPLICATIONS

Bethlehem Steel Corporation -- Blast Furnace Granulated-Coal Injection System Demonstration Project

Walter, L.L., R.W. Bouman, and D.G. Hill (Bethlehem Steel Corporation). "Blast Furnace Granular Coal Injection." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Kwasnoski, D., and L.L. Walter (Bethlehem Steel Corporation). "Blast Furnace Granular Coal Injection." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Kwasnoski, D., and L.L. Walter (Bethlehem Steel Corporation). "Blast Furnace Granular Coal Injection." *Proceedings -- Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Bethlehem Steel Corporation -- Innovative Coke Oven Gas Cleaning System for Retrofit Applications

Haywood, S.P. "Review of the U.S. Coke Making Industry and the Innovative By-Product Modifications at Bethlehem Steel, Sparrows Point." *Yearbook of the Coke Oven Manager's Association* (1991): 107-128.

Antrobus, K., *et al.* "Innovative Coal Gas Cleaning at Sparrows Point Coal Chemical Plant, Maryland, for Bethlehem Steel Corporation," *ASME IEEE Joint Power Generation Conference*, Boston, MA. October 1990.

Centerior Energy Corporation -- Clean Power from Integrated Coal/Ore Reduction (COREX®)

Wintrell, R. (Geneva Steel). "CPICOR™." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Halper, B.J. (Air Products and Chemicals, Inc.). "Clean Power from Integrated Coal-Ore Reduction." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Coal Tech Corporation -- Advanced Cyclone Combustor with Internal Sulfur, Nitrogen, and Ash Control

Zauderer, B. (Coal Tech Corporation), *et al.* "Demonstration of the Air Cooled Slagging Combustor on a 500 kW Coal Fired Power Plant." *Fourth Annual Clean Coal Technology Conference: The Global Opportunity. Technical Papers*. Report No. CONF-9509170. U.S. Department of Energy, The Center for Energy & Economic Development, and National Mining Association. September 1995.

Smith, C.A. (U.S. Department of Energy), and B. Zauderer (Coal Tech Corporation), *et al.* "Coal Tech's Air Cooled Slagging Combustor-Recent Developments." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Zauderer, B. (Coal Tech Corporation), *et al.* "Status of Coal Tech's Air Cooled Slagging Combustor." *Proceedings -- Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Zauderer, B. (Coal Tech Corporation). "An Air Cooled Slagging Combustor with Internal Sulfur, Nitrogen and Ash Control for Coal and High Ash Fuels." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Zauderer, B., and E.J. Fleming (Coal Tech Corporation). "Coal Tech's Clean Coal, Air Cooled Combustor Demonstration Project: First Results of the Completed Phase 3 Tests," *Seventh Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. September 1990.

Zauderer, B., and E.J. Fleming (Coal Tech Corporation). "Demonstration Testing of a Cyclone Coal Combustor on an Oil Designed Packaged Boiler to Meet Air/Water/Solid Emission Standards," *82nd A&WMA Annual Meeting*. Anaheim, CA. June 1989.

Passamaquoddy Tribe -- Cement Kiln Flue Gas Recovery Scrubber

Morrison, G.L. (Passamaquoddy Technology, L.P.). "Continuing U.S. Interest and Export of Recovery Scrubber Pollution Control Technology." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Morrison, G.L. (Passamaquoddy Technology, L.P.). "Industrial Pollution Control: 1993 Performance Update on the Recovery Scrubber." *Proceedings -- Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Morrison, G. L. (Passamaquoddy Technology, L.P.). "Recovery Scrubber Installation and Operation." *First Annual Clean Coal Technology Conference*, Cleveland, OH. September 1992.

Alsop, P.A. "Application of the Passamaquoddy Technology Recovery Scrubber to the Burning of Low-Rank Coal." *International Conference on the Clean and Efficient Use of Coal: The New Era for Low-Rank Coal*. London, England. 1992.

Morrison, G.L. "Update on the Recovery Scrubber Installation at Dragon Products Company, Inc., in Thomaston, Maine." *Portland Cement Association General Technical Committee Mill Session Papers*. Toronto, Canada. 1992.

Alsop, P.A. "An Integrated Process for Recovery of Cement Kiln Dust and Scrubbing of Acidic Exhaust Gas." *Interchem Conference*. Nassau, Bahamas. 1991.

Alsop, P.A. "Treatment of Cement Kiln Dust and Exhaust Gas with the Passamaquoddy Technology Recovery Scrubber," *International Kiln Association*, Toronto, Canada. October 1991.

Morrison, G.L. (Passamaquoddy Technology, L.P.). "Flue Gas Scrubbing and Waste Elimination--An Application of the Recovery Scrubber." *Proceedings*. World Coal Institute Conference and Exhibition on Coal in the Environment. London: World Coal Institute, 1991, 263-265.

Morrison, G.L. (Passamaquoddy Technology, L.P.). "Exhaust Gas Scrubbing and Waste Elimination--An Application of the Recovery Scrubber to a Cement Kiln," *SO₂ Control Symposium*. New Orleans, LA. May 1990.

Morrison, G.L. "CKD and Flue Gas Scrubbing: The Demonstration at Dragon Products Company." *Portland Cement Association Emerging Technologies in Resource Recovery and Emission Reduction in the Cement Industry*. Dallas, TX. 1990.

ThermoChem, Inc. -- Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal

Mansour, M.N. (ThermoChem, Inc.), *et al.* "Status of the Demonstration of Pulse Combustion in Steam Gasification." *Third Annual Clean Coal Technology Conference: Technical Papers*. U.S. Department of Energy and The Center for Energy & Economic Development. September 1994.

Durai-Swamy, K. (ThermoChem, Inc.), *et al.* "Status of the Demonstration of Pulse Combustion in Steam Gasification." *Proceedings-Second Annual Clean Coal Technology Conference*. Report No. CONF-9309152. U.S. Department of Energy and the Southern States Energy Board. September 1993.

Mansour, M.N., R.R. Chandran, J.N. Duqum (Manufacturing and Technology Conversion International, Inc.), and K. Durai-Swamy (ThermoChem, Inc.). "Advanced Energy Conversion Systems Based on Pulse Combustion Technology." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA. October 1992.

Steedman, W.G. (ThermoChem, Inc.). "Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal." *First Annual Clean Coal Technology Conference*. Cleveland, OH. September 1992.

Mansour, M.N., R.R. Chandran, and J.N. Duqum (Manufacturing and Technology Conversion International, Inc.). "Advanced Tandem Pulse Combustor System for Gas Turbine Applications." *Proceedings. Eighth Annual Coal-Fueled Heat Engines and Gas Stream Cleanup Systems Contractors Review Meeting*. Morgantown, WV. July 1991.

Mansour, M.N., R.R. Chandran, K. Durai-Swamy, D.W. Warren, S. Shekarchi, J.N. Duqum, and A.W. Hall. "Pulsed Atmospheric Fluidized-Bed Combustion." *Proceedings. Vol. 3. Eleventh International Conference on Fluidized-Bed Combustion*. Montreal, Quebec, Canada, April 1991. New York: American Society of Mechanical Engineers, 1991.

OTHER PAPERS AND PRESENTATIONS

Schmidt, C.E. (Pittsburgh Energy Technology Center), M. Baird, and P. Chu. "Hazardous Air Pollutants (HAPS) Emissions Characterization." *Proceedings: 1995 SO₂ Control Symposium. Volume 3, Sessions 6a, 6b, 7a, 7b*. Report No. EPRI-TR105258-Vol. 3 and CONF-950332-Vol. 3. U.S. Department of Energy and the Electric Power Research Institute. Pages 63.1-63.13. June 1995.

Dennis, R.A., H.M. McDaniel, T.J. McMahon (Morgantown Energy Technology Center). "Hot Gas Particulate Cleanup for Advanced Coal-Based Power Systems." *ASME International Gas Turbine and Aeroengine Congress and Exposition: Land, Sea, and Air*. Report No. CONF-950629-4. U.S. Department of Energy. June 1995. (Available from NTIS as DE05010307.)

The Asia-Pacific Economic Cooperation Expert's Group on Clean Coal Technology: Technical Seminar Proceedings, Jakarta, Indonesia December 1994.

The Clean and Efficient Use of Coal and Lignite: Its Role in Energy, Environment, and Life: Conference Proceedings (Hong Kong). Organisation of Economic Co-Operation and Development International Energy Agency. November-December 1994.

Miller, C.L. (U.S. Department of Energy) "Overview of Environmental Issues and the Role of Clean Coal Technologies." Technical Seminar of the Asia-Pacific Economic Cooperation (APEC) Experts' Group on Clean Coal Technology, Jakarta, Indonesia. October 1994.

Pell, J., and H. Feibus (U.S. Department of Energy). "Status of the U.S. Department of Energy's Clean Coal Technology Program." *Proceedings of Power-Gen Europe: Where the Industry Connects*. Cologne, Germany. Book II, Volume 5. May 1994.

Awan, A., and C.L. Miller (U.S. Department of Energy). "Clean Coal Technology: An Option to Meet Environmental Requirements Both in Near- and Long-Term." *Proceedings of the American Power Conference, 56th Annual Meeting*. Chicago, IL. Volume 56-I. April 1994.

Salvador, L.A., and K. Mahajan (DOE/METC). "The Role of Clean Coal Technologies in Post-2000 Power Production." *Proceedings of the American Power Conference, 56th Annual Meeting*. Chicago, IL. Volume 56-I. April 1994.

- Ruppel, T.C. "A Comparison of the Solid Waste Management Practices of Coal-Fired Electric Utility Participants in the Clean Coal Technology Program of the Pittsburgh Energy Technology Center." *19th International Technical Conference on Coal Utilization and Fuel Systems*. Clearwater, FL. March 1994.
- Miller, C.L. "Evolving Performance Characteristics of Clean Coal Technologies." Technical Seminar of the Asia-Pacific Economic Cooperation (APEC) Experts' Group on Clean Coal Technology. Chiang Mai, Thailand. September 1993.
- Miller, C.L. (U.S. Department of Energy). "The Technology of Clean Coal." *Proceedings of the Sixth International Conference and Exhibition for the Power Generating Industries*. Dallas, TX. Book VI, Volume XVI. November 1993.
- Sarkus, T.A., and R.A. Hargis. "Summary of Air Toxics Monitoring Activities Being Sponsored by DOE's Clean Coal Technology Demonstration Program." *Managing Hazardous Air Pollutants Second International Conference*. July 1993.
- Huber, D. (Burns and Roe Enterprises, Inc.) and J. Geffken (U.S. Department of Energy). "A Programmatic Look at the Role of Fluidized-Bed Technology in the Clean Coal Technology Program." *Twelfth International Conference on Fluidized-Bed Combustion*. May 1993.
- Miller C.L., et al. "A Status Report on the Clean Coal Technology Demonstration Program." *18th International Technical Conference on Coal Utilization & Fuel Systems*. Clearwater, FL. April 1993.
- Raleigh, C.E., R.L. Dospoy, and R.J. Evans. "Reducing Emissions of Air Toxics: Evaluating the Potential for Removing Trace Elements from Powder River Basin Sub-Bituminous Coals." *Air and Waste Management Association*. March 1993.
- "Clean Coal Technology-Projects Expanding Worldwide." *International Bulk Journal* (February 1993): 62-79.
- "CCT: Supporting Expanded Use." *Coal TransInternational* (January-February 1993): 31, 33-34.
- Conley, R.D. (Pure Air). "A Future Exists for CCTs." *Clean Coal/Synfuels Letter* (January 1993): 2-4.
- Ghate, M.R., N.F. Rekos, Jr., and B.J. Buvinger (Morgantown Energy Technology Center). "Status Report on U.S. DOE-sponsored Coal-Fired Repowering Projects." *World Clean Air Congress and Exhibition: Towards the Year 2000--Critical Issues in the Global Environment*. Montreal, Canada, August-September 1992. Report No. CONF-920814-2.
- Salvador, L.A. and K. Mahajan (Morgantown Energy Technology Center). "High Efficiency Clean Coal Technology Products: Status of Development and Demonstration." *Proceedings: Coal-Energy and the Environment. Ninth Annual International Pittsburgh Coal Conference*. Pittsburgh, PA, October 1992.
- Bossart, S. J. (Morgantown Energy Technology Center). "Environmental Characteristics of Clean Coal Technologies." *Seventeenth Annual Meeting of the National Association of Environmental Professionals*. Seattle, WA. May 1992.
- Siegel, J.S. (U.S. Department of Energy). "40th Robens Coal Science Lecture: Clean Coal Technology-Coal's Link to the Future." *Mine and Quarry* 21 (May 1992): 1619.
- Graham, L., F. Gmeindl, W.T. Langan, and B.J. Tomer (Morgantown Energy Technology Center). "Impact of Clean Coal Technologies in the Post-2000 Electricity Generation Markets." *American Power Conference*. Chicago, IL. April 1992.
- Todd, D.M. (GE Industrial and Power Systems). "Clean Coal Technologies for Gas Turbines." *Turbomachinery International* 33 (March-April 1992): 20-27.
- Makansi, J. "DOE's Clean Coal Program: What Industry Has Learned." *Power* 136 (March 1992): 56-61.
- Bretz, E.A. "Clean-Coal Technologies: A Status Report," *Electrical World* 206 (February 1992): 37-52.
- Friggens, G.R. (Morgantown Energy Technology Center). "Overview of Advanced Coal Combustion and Conversion, Clean Coal Technology Demonstration Program." *Fifth Utility Coal Conference*. St. Louis, MO. February 1992.
- Blasing, T.J. "Potential Contribution of the Clean Coal Program to Reducing Global Emissions of Greenhouse Gases." *Annual Meeting of the Air and Waste Management Association*. Kansas City, MO. Oak Ridge: Oak Ridge National Laboratory, 1992. Report No. CONF-9206114-1.
- Sarkus, T. (Pittsburgh Energy Technology Center). "Scrubbers are Good." *PETC Review* (Spring 1992): 1419.
- Langan, W.T., and G.R. Friggens (Morgantown Energy Technology Center). "Overview of Advanced Coal Combustion and Conversion Clean Coal Technology Demonstration Program," *ASME International Joint Power Generation Conference*. San Diego, CA. October 1991.
- "Using EPRI CQIM to Evaluate Acid Rain Strategies." *EPRI Conference on the Effects of Coal Quality in Power Plants*, St. Louis, MO. September 1991.
- Martin, M.J. "Illinois Develops Clean Coal Technologies." *Coal* 96 (August 1991): 43-45.
- Gawlicki, S.M. "FBC: Gaining Acceptance." *Independent Energy* 21 (April 1991): 42-46.
- Harrison, C., et al. "Precombustion Technologies for Power Plant Emissions Control," World Coal Conference, London, England. April 1991.
- Enwald, T., and M.E. Ball (Saskatchewan Power Corporation). "Experimental Study to Maximize the Efficiency of In-furnace Emission Control." March 1991. Report No. MICROLOG-92-00199.

Yamagata, B. (Clean Coal Technology Coalition). "Clean Coal Technologies: Lessons from the U.S. Experience." *Proceedings. World Coal Institute Conference and Exhibition on Coal in the Environment*. London: World Coal Institute, 1991, 103-107.

McDermott, K.A., and D.W. South (Center for Regulatory Studies). "Clean Coal Technology and Acid Rain Compliance: An Examination of Alternative Incentive Proposals." *Proceedings. Annual American Power Conference*. Chicago, IL, April/May 1991. Argonne National Laboratory Report No. ANL/CP-74782.

Gainey, B. "Current Status and Prospects for the Use of Clean Coal Technologies in Power Generation." *Coal Journal: Australia's Journal of Coal Mining Technology and Research* 1991 (34): 13-29.

Moskowitz, P.D., M. DePhillips, V.M. Fthenakis, and A. Hemenway. "The Clean Air Act Amendments of 1990: Hazardous Air Pollutant Requirements and the DOE Clean Coal Technology Program." *Managing Hazardous Air Pollutants: State of the Art*. Upton: Brookhaven National Laboratory, 1991. Report No. BNL-47167.

Bateson, G.D. "TransAlta's Low NO_x/SO₂ Burner," *CIM Bulletin*, Canadian Institute of Mining and Metallurgy. December 1990.

Prendergast, G.F., *et al.* "Designing the Next Generation of Coal-Fueled Power Plants to Match World Coal Market Opportunities," *Eighth Conference on Electric Power Supply Industry*. Singapore, Malaysia. November 1990.

Kehoe, D., *et al.* "Environmental and Economic Benefits of Using Clean Coal in Utility Boilers," *International Coal Preparation Conference*. Tokyo, Japan. October 1990.

Lemons, E., *et al.* "Using Computer Models to Match Coal Quality with Environmental Performance," *Pittsburgh International Coal Conference*. Pittsburgh, PA. September 1990.

Stallard, S., and A. Mehta (Black and Veatch). "Using EPRI CQIM to Evaluate Acid Rain Strategies." *Proceedings. Second International Conference on Effects of Coal Quality on Power Plants*. St. Louis, MO. September 1990.

Kettier, D.J. (TRW, Inc.), *et al.* "The TRW Entrained Combuster Retrofit at Orange and Rockland Utilities, Lovett Station Unit 3," *American Power Conference*. Chicago, IL. April 1990.

Sebesta, J.J., and W.W. Hoskins. "Economic Comparison of Clean Coal Generating Technologies with Natural-Gas Combined-Cycle Systems." *Proceedings of the American Power Conference* 52 (April 1990): 89-94.

CCT Bibliography Index

Listed by Project Sponsor, and Project Title

A

- ABB Combustion Engineering, Inc. -- Combustion Engineering IGCC Repowering Project, 3, 20
- ABB Combustion Engineering, Inc., and CQ Inc. -- Development of the Coal Quality Expert, 11, 37
- ABB Environmental Systems -- SNOXTM Flue Gas Cleaning Demonstration Project, 9, 33
- Air Products Liquid Phase Conversion Company, L.P. -- Commercial-Scale Demonstration of the Liquid-Phase Methanol (LPMEOHTM Process), 11, 12, 38, 39
- AirPol, Inc.-- 10-MWe Demonstration of Gas Suspension Absorption, 8, 30
- Alaska Industrial Development and Export Authority, 5, 24
- Appalachian Power Company, The -- PFBC Utility Demonstration Project, 2
- Annual Program Updates, 1
- Arthur D. Little, Inc. -- Coal Diesel Combined-Cycle Demonstration Project, 5, 24

B

- Babcock & Wilcox Company, The -- Demonstration of Coal Reburning for Cyclone Boiler NO_x Control, 6, 25
- Babcock & Wilcox Company, The -- Full-Scale Demonstration of Low-NO_x Cell Burner Retrofit, 6, 25
- Babcock & Wilcox Company, The -- LIMB Demonstration Project Extension and Coolside Demonstration, 10, 33
- Babcock & Wilcox Company, The -- SO_x-NO_x-Rox BOXTM Flue Gas Cleanup Demonstration Project, 10, 34
- Bechtel Corporation -- Confined Zone Dispersion Flue Gas Desulfurization Demonstration, 8, 30
- Bethlehem Steel Corporation -- Blast Furnace Granulated-Coal Injection System Demonstration Project, 12, 39
- Bethlehem Steel Corporation -- Innovative Coke Oven Gas Cleaning System for Reteofit Applications, 12, 40

C

- Centerior Energy Corporation -- Clean Power from Integrated Coal/Ore Reduction (COREX[®]), 40
- Clean Energy Partners Limited Partnership -- Clean Energy Demonstration Project, 3, 21
- Coal Tech Corporation -- Advanced Cyclone Combustor, 13, 40
- Combined SO₂/NO_x Control Technologies (general articles). 9, 32
- Custom Coals International -- Self-Scrubbing CoalTM: An Integrated Approach to Clean Air, 11, 38

D

- DMEC-1 Limited Partnership -- PCFB Project, 2, 18

E

ENCOAL Corporation -- ENCOAL Mild Coal Gasification, 11, 38

Energy and Environmental Research Corporation -- Enhancing the Use of Coals by Gas Reburning and Sorbent Injection, 10, 34

Energy and Environmental Research Corporation -- Evaluation of Gas Reburning and Low-NO_x Burners on a Wall-Fired Boiler, 6, 26

F

Fluidized-Bed Combustion (general articles), 17

Four Rivers Energy Partners, L.P. -- Four Rivers Energy Modernization Project, 2, 18

G

no entries

H

no entries

I

Integrated Gasification Combined Cycle (general articles), 3, 20

J

no entries

K

no entries

L

LIFAC-North America -- LIFAC Sorbent Injection Desulfurization Demonstration Project, 8, 31

M

no entries

N

New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO_x Control, 6, 29

New York State Electric & Gas Corporation -- Milliken Clean Coal Technology Demonstration Project, 11, 35

NOXSO Corporation -- Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System, 11, 36

NO_x Control Technologies (general articles), 6, 25

O

Ohio Power Company, The --Tidd PFBC Demonstration Project, 2, 18
Other Papers and Presentations, 41
Other Publications, 15

P

Passamaquoddy Tribe -- Cement Kiln Flue Gas Recovery Scrubber, 13, 40
Pennsylvania Electric Company -- Warren Station Externally Fired Combined-Cycle Demonstration Project, 5, 25
Public Service Company of Colorado -- Integrated Dry NO_x/SO₂ Emissions Control System, 11, 36
Pure Air on the Lake, L.P. -- Advanced Flue Gas Desulfurization, 9, 31

Q

no entries

R

Reports on CCT Solicitations, 14
 CCT-I Solicitation, 14
 CCT-II Solicitation, 14
 CCT-III Solicitation, 14
 CCT-IV Solicitation, 14
 CCT-V Solicitation, 15
 Informational Solicitations, 15
Reports on Withdrawn and Terminated Projects, 13
Rosebud SynCoal Partnership -- Advanced Coal Conversion Process Demonstration, 11, 38

S

Sierra Pacific Power Company -- Piñon Pine IGCC Power Project, 4, 21
SO₂ Control Technologies, 8, 30
Southern Company Services, Inc. -- Demonstration of Advanced Combustion Techniques for a Wall-Fired Boiler, 6, 26
Southern Company Services, Inc. -- 180-MWe Demonstration of Advanced Tangentially-Fired Combustion Techniques for the Reduction of NO_x, Emissions from Coal-Fired Boilers, 7, 28
Southern Company Services, Inc. -- Demonstration of Selective Catalytic Reduction Technology for the Control of NO_x Emissions from High-Sulfur-Coal-Fired Boilers, 8, 27
Southern Company Services, Inc. -- Demonstration of Innovative Applications of Technology for the CT-121 FGD Process, 9, 32

T

TAMCO Power Partners -- Toms Creek IGCC Demonstration Project, 22
Tampa Electric Company -- Tampa Electric Integrated Gasification Combined-Cycle Project, 4, 22
Tennessee Valley Authority -- Micronized Coal Reburning Demonstration for NO_x Control on a 175-MWe Wall-Fired Unit, *Renamed in Summer 1996 to:* New York State Electric & Gas Corporation -- Micronized Coal Reburning Demonstration for NO_x Control, 6, 29

T (continued)

ThermoChem, Inc. -- Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal, 13, 41

Tri-State Generation and Transmission Association, Inc. -- Nucla CFB Demonstration Project, 2, 19

U

Union Carbide Chemicals and Plastics Co., Inc. -- Demonstration of the Union Carbide CANSOLV™ at the ALCOA Generating Corporation Warrick Power Plant, 37

V

no entries

W

Wabash River, Coal Gasification Repowering Project Joint Venture -- Wabash River Coal Gasification Repowering Project, 4, 23

X

no entries

Y

York County Energy Partner, L.P -- ACFB Demonstration Project, 3, 20

Z

no entries