ORAL ARGUMENT NOT YET SCHEDULED

No. 15-1381 (and consolidated cases)

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF NORTH DAKOTA, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Petitions for Review of Final Agency Action of the United States Environmental Protection Agency
80 Fed. Reg. 64,510 (Oct. 23, 2015) and 81 Fed. Reg. 27,442 (May 6, 2016)

OPENING BRIEF OF NON-STATE PETITIONERS

Geoffrey K. Barnes
J. Van Carson
Wendlene M. Lavey
John D. Lazzaretti
Robert D. Cheren
SQUIRE PATTON BOGGS (US) LLP
4900 Key Tower
127 Public Square
Cleveland, OH 44114
Tel: (216) 479-8646
geoffrey.barnes@squirepb.com
van.carson@squirepb.com
wendy.lavey@squirepb.com
john.lazzaretti@squirepb.com
bobby.cheren@squirepb.com

Counsel for Petitioner Murray Energy Corporation

F. William Brownell
Allison D. Wood
Henry V. Nickel
Tauna M. Szymanski
Andrew D. Knudsen
HUNTON & WILLIAMS LLP
2200 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
Tel: (202) 955-1500
Fax: (202) 778-2201
bbrownell@hunton.com
awood@hunton.com
hnickel@hunton.com
tszymanski@hunton.com
aknudsen@hunton.com

Counsel for Petitioners Utility Air Regulatory Group and American Public Power Association

DATED: October 13, 2016

Additional counsel listed on following pages

Stacey Turner
SOUTHERN COMPANY SERVICES, INC.
600 18th Street North
BIN 14N-8195
Birmingham, AL 35203
Tel: (205) 257-2823
staturne@southernco.com

Counsel for Petitioners Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, and Southern Power Company

C. Grady Moore III
Steven G. McKinney
BALCH & BINGHAM LLP
1901 Sixth Avenue North, Suite 1500
Birmingham, AL 35303-4642
Tel: (205) 251-8100
Fax: (205) 488-5704
gmoore@balch.com
smckinney@balch.com

Counsel for Petitioner Alabama Power Company

Margaret Claiborne Campbell
Angela J. Levin
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308-2216
Tel: (404) 885-3000
margaret.campbell@troutmansanders.com
angela.levin@troutmansanders.com

Counsel for Petitioner Georgia Power Company

Jeffrey A. Stone
BEGGS & LANE, RLLP
501 Commendencia Street
Pensacola, FL 32502
Tel: (850) 432-2451
JAS@beggslane.com

James S. Alves
2110 Trescott Drive
Tallahassee, FL 32308
Tel: (850) 566-7607
jim.s.alves@outlook.com

Counsel for Petitioner Gulf Power Company

Terese T. Wyly
Ben H. Stone
BALCH & BINGHAM LLP
1310 Twenty Fifth Avenue
Gulfport, MS 39501-1931
Tel: (228) 214-0413
twyly@balch.com
bstone@balch.com

Counsel for Petitioner Mississippi Power Company

Randy E. Brogdon
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308-2216
Tel: (404) 885-3000
randy.brogdon@troutmansanders.com

Counsel for Petitioner Southern Power Company

David M. Flannery
Kathy G. Beckett
Edward L. Kropp
STEPTOE & JOHNSON, PLLC
707 Virginia Street East
Charleston, WV 25326
Tel: (304) 353-8000
dave.flannery@steptoe-johnson.com
kathy.beckett@steptoe-johnson.com
skipp.kropp@steptoe-johnson.com

Stephen L. Miller
STEPTOE & JOHNSON, PLLC
700 N. Hurstbourne Parkway, Suite 115
Louisville, KY 40222
Tel: (502) 423-2000
steve.miller@steptoe-johnson.com

Counsel for Petitioner Indiana Utility Group

P. Stephen Gidiere III
Thomas L. Casey III
Julia B. Barber
BALCH & BINGHAM LLP
1901 6th Avenue N., Suite 1500
Birmingham, AL 35203
Tel: (205) 251-8100
sgidiere@balch.com

Stephanie Z. Moore
Executive Vice President & General Counsel
TCEH CORP.
1601 Bryan Street, 22nd Floor
Dallas, TX 75201

Daniel J. Kelly
Vice President & Associate General Counsel
TCEH CORP.
1601 Bryan Street, 43rd Floor
Dallas, TX 75201

Counsel for Petitioners Luminant Generation Company LLC; Oak Grove Management Company LLC; Big Brown Power Company LLC; Sandow Power Company LLC; Big Brown Lignite Company LLC; Luminant Mining Company LLC; and Luminant Big Brown Mining Company LLC

Thomas A. Lorenzen
CROWELL & MORING LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Tel: (202) 624-2500
tlorenzen@crowell.com
sarmstrong@crowell.com

Counsel for Petitioners National Rural Electric Cooperative Association; Sunflower Electric Power Corporation; and Tri-State Generation and Transmission Association, Inc.

Of Counsel

Rae Cronmiller
Environmental Counsel
NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
4301 Wilson Boulevard
Arlington, VA 22203
Tel: (703) 907-5500
rae.cronmiller@nreca.coop

Christina F. Gomez
Garrison W. Kaufman
Lawrence E. Volmert
HOLLAND & HART LLP
555 Seventeenth Street, Suite 3200
Denver, CO 80202
Tel: (303) 295-8000
Fax: (303) 295-8261
cgomez@hollandhart.com
gwkaufman@hollandhart.com
lvolmert@hollandhart.com

Patrick R. Day
HOLLAND & HART LLP
2515 Warren Avenue, Suite 450
Cheyenne, WY 82001
Tel: (307) 778-4200
Fax: (307) 778-8175
pday@hollandhart.com

Counsel for Petitioner Basin Electric Power Cooperative

John M. Holloway III
SUTHERLAND ASBILL & BRENNAN LLP
700 Sixth Street, N.W., Suite 700
Washington, D.C. 20001
Tel: (202) 383-0100
Fax: (202) 383-3593
jay.holloway@sutherland.com

Counsel for Petitioners East Kentucky Power Cooperative, Inc.; Hoosier Energy Rural Electric Cooperative, Inc.; and Minnkota Power Cooperative, Inc.

Jeffrey R. Holmstead
BRACEWELL LLP
2001 M Street, N.W., Suite 900
Washington, D.C. 20036
Tel: (202) 828-5852
Fax: (202) 857-4812
jeff.holmstead@bracewelllaw.com

Counsel for Petitioner American Coalition for Clean Coal Electricity

Peter S. Glaser
TROUTMAN SANDERS LLP
401 Ninth Street N.W., Suite 1000
Washington, D.C. 20004
Tel: (202) 274-2998
Fax: (202) 654-5611
peter.glaser@troutmansanders.com

Carroll W. McGuffey III
Justin T. Wong
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308
Tel: (404) 885-3000
mack.mcguffey@troutmansanders.com
justin.wong@troutmansanders.com

Counsel for Petitioner National Mining Association

Chaim Mandelbaum
Litigation Manager
FREE MARKET ENVIRONMENTAL LAW CLINIC
726 N. Nelson Street, Suite 9
Arlington, VA 22203
Tel: (703) 577-9973
chaim12@gmail.com

Counsel for Petitioner Energy & Environment Legal Institute

Tristan L. Duncan
Thomas J. Grever
Justin D. Smith
SHOOK HARDY & BACON L.L.P.
2555 Grand Boulevard
Kansas City, MO 64018
Tel: (816) 474-6550
Fax: (816) 421-5547
tlduncan@shb.com
tgrever@shb.com
jxsmith@shb.com

Jonathan S. Massey
MASSEY & GAIL, LLP
1325 G Street, N.W., Suite 500
Washington, D.C. 20005
Tel: (202) 652-4511
Fax: (312) 379-0467

Counsel for Petitioner Peabody Energy Corporation

Eugene M. Trisko
LAW OFFICES OF EUGENE M. TRISKO
P.O. Box 596
Berkeley Springs, WV 25411
Tel: (304) 258-1977
Tel: (301) 639-5238 (cell)
emtrisko7@gmail.com

Counsel for Petitioner International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers, AFL-CIO

Grant F. Crandall
General Counsel
UNITED MINE WORKERS OF AMERICA
18354 Quantico Gateway Drive
Triangle, VA 22172
Tel: (703) 291-2429
gcrandall@umwa.org

Arthur Traynor, III
Staff Counsel
UNITED MINE WORKERS OF AMERICA
18354 Quantico Gateway Drive
Triangle, VA 22172
Tel: (703) 291-2457
atraynor@umwa.org

Eugene M. Trisko
LAW OFFICES OF EUGENE M. TRISKO
P.O. Box 596
Berkeley Springs, WV 25411
Tel: (304) 258-1977
emtrisko7@gmail.com

Counsel for Petitioner United Mine Workers of America, AFL-CIO

Peter D. Keisler
Roger R. Martella, Jr.
C. Frederick Beckner III
Paul J. Zidlicky
SIDLEY AUSTIN, LLP
1501 K Street, N.W.
Washington, D.C. 20005
Tel: (202) 736-8027
pkeisler@sidley.com

Counsel for Petitioners Chamber of Commerce of the United States of America; National Association of Manufacturers; American Fuel & Petrochemical Manufacturers; National Federation of Independent Business; American Chemistry Council; American Coke and Coal Chemicals Institute; American Forest & Paper Association; American Foundry Society; American Iron and Steel Institute; American Wood Council; Brick Industry Association; Electricity Consumers Resource Council; National Lime Association; National Oilseed Processors Association; and Portland Cement Association

Steven P. Lehotsky
Sheldon B. Gilbert
U.S. CHAMBER LITIGATION CENTER, INC.
1615 H Street, N.W.
Washington, D.C. 20062
Tel: (202) 463-5337
slehotsky@uschamber.com

Counsel for Petitioner Chamber of Commerce of the United States of America

Linda E. Kelly
Quentin Riegel
Leland P. Frost
MANUFACTURERS' CENTER FOR LEGAL ACTION
733 10th Street, N.W., Suite 700
Washington, D.C. 20001
Tel: (202) 637-3000
qriegel@nam.org

Counsel for Petitioner National Association of Manufacturers

Richard S. Moskowitz
AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS
1667 K Street, N.W., Suite 700
Washington, D.C. 20006
Tel: (202) 457-0480
rmoskowitz@afpm.org

Counsel for Petitioner American Fuel & Petrochemical Manufacturers

Karen R. Harned
Executive Director
Elizabeth A. Gaudio
Senior Executive Counsel
NATIONAL FEDERATION OF INDEPENDENT BUSINESS
SMALL BUSINESS LEGAL CENTER
1201 F Street, N.W., Suite 200
Washington, D.C. 20004
Tel: (202) 314-2061
karen.harned@nfib.org
elizabeth.milito@nfib.org

Counsel for Petitioner National Federation of Independent Business

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), Non-State Petitioners state as follows:

A. Parties, Intervenors, and *Amici Curiae*

These cases involve the following parties:

Petitioners:

No. 15-1381: State of North Dakota.

No. 15-1396: Murray Energy Corporation.

No. 15-1397: Energy & Environment Legal Institute.

No. 15-1399: State of West Virginia; State of Alabama; State of Arizona Corporation Commission; State of Arkansas; State of Florida; State of Georgia; State of Indiana; State of Kansas; Commonwealth of Kentucky; State of Louisiana; State of Louisiana Department of Environmental Quality; Attorney General Bill Schuette, People of Michigan; State of Missouri; State of Montana; State of Nebraska; The North Carolina Department of Environmental Quality; State of Ohio; State of Oklahoma; State of South Carolina; State of South Dakota; State of Texas; State of Utah; State of Wisconsin; and State of Wyoming.

No. 15-1434: International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers, AFL-CIO.

No. 15-1438: Peabody Energy Corporation.

No. 15-1448: Utility Air Regulatory Group and American Public Power Association.

No. 15-1456: National Mining Association.

No. 15-1458: Indiana Utility Group.

No. 15-1463: United Mine Workers of America, AFL-CIO.

No. 15-1468: Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; and Southern Power Company.

No. 15-1469: Chamber of Commerce of the United States of America; National Association of Manufacturers; American Fuel & Petrochemical Manufacturers; National Federation of Independent Business; American Chemistry Council; American Coke and Coal Chemicals Institute; American Foundry Society; American Forest & Paper Association; American Iron and Steel Institute; American Wood Council; Brick Industry Association; Electricity Consumers Resource Council; National Lime Association; National Oilseed Processors Association; and Portland Cement Association.

No. 15-1481: American Coalition for Clean Coal Electricity.

No. 15-1482: Luminant Generation Company LLC; Oak Grove Management Company LLC; Big Brown Power Company LLC; Sandow Power Company LLC; Big Brown Lignite Company LLC; Luminant Mining Company LLC; and Luminant Big Brown Mining Company LLC.

No. 15-1484: National Rural Electric Cooperative Association; Basin Electric Power Cooperative; East Kentucky Power Cooperative, Inc.; Hoosier Energy Rural Electric Cooperative, Inc.; Minnkota Power Cooperative, Inc.; Sunflower

Electric Power Corporation; and Tri-State Generation and Transmission Association, Inc.

No. 16-1218: Murray Energy Corporation.

No. 16-1220: State of West Virginia; State of Alabama; State of Arizona Corporation Commission; State of Arkansas; State of Florida; State of Georgia; State of Indiana; State of Kansas; Commonwealth of Kentucky; State of Louisiana; State of Louisiana Department of Environmental Quality; Attorney General Bill Schuette, People of Michigan; State of Missouri; State of Montana; State of Nebraska; The North Carolina Department of Environmental Quality; State of Ohio; State of Oklahoma; State of South Carolina; State of South Dakota; State of Texas; State of Utah; State of Wisconsin; and State of Wyoming.

No. 16-1221: Utility Air Regulatory Group and American Public Power Association.

No. 16-1227: Energy & Environment Legal Institute.

Respondents:

Respondents are the United States Environmental Protection Agency (in Nos. 15-1381, 15-1397, 15-1434, 15-1448, 15-1456, 15-1463, 15-1481, 15-1484, 16-1221, 16-1227) and the United States Environmental Protection Agency and Gina McCarthy, Administrator (in Nos. 15-1396, 15-1399, 15-1438, 15-1458, 15-1468, 15-1469, 15-1480, 15-1482, 16-1218, 16-1220).

<u>Intervenors and *Amici Curiae*</u>:

Lignite Energy Council and Gulf Coast Lignite Coalition are Petitioner-Intervenors.

American Lung Association; Center for Biological Diversity; Clean Air Council; Clean Wisconsin; Conservation Law Foundation; Environmental Defense Fund; Natural Resources Defense Council; Ohio Environmental Council; Sierra Club; State of California by and through Governor Edmund G. Brown, Jr., and the California Air Resources Board, and Attorney General Kamala D. Harris; State of Connecticut; State of Delaware; State of Hawaii; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota by and through the Minnesota Pollution Control Agency; State of New Hampshire; State of New Mexico; State of New York; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; Commonwealth of Massachusetts; Commonwealth of Virginia; District of Columbia; City of New York; Golden Spread Electric Cooperative, Inc.; NextEra Energy, Inc.; Calpine Corporation; The City of Austin d/b/a Austin Energy; The City of Los Angeles, by and through its Department of Water and Power; The City of Seattle, by and through its City Light Department; National Grid Generation, LLC; New York Power Authority; Pacific Gas and Electric Company; Sacramento Municipal Utility District; Tri-State Generation and Transmission Association, Inc. are Respondent-Intervenors.

There are no *amici curiae* in these consolidated cases.

B. Rulings Under Review

These consolidated cases involve final agency action of the United States Environmental Protection Agency entitled, "Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," published on October 23, 2015, at 80 Fed. Reg. 64,510, and "Reconsideration of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," published on May 6, 2016, at 81 Fed. Reg. 27,442.

C. Related Cases

These consolidated cases have not previously been before this Court or any other court.

Per the Court's order of March 24, 2016, the following case was severed and is being held in abeyance pending potential administrative resolution of biogenic carbon dioxide emissions issues in the Final Rule: *Biogenic CO_2 Coalition v. EPA*, No. 15-1480.

CORPORATE DISCLOSURE STATEMENTS

Non-State Petitioners submit the following statements pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1:

Alabama Power Company is a wholly-owned subsidiary of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly-held company owns 10% or more of Alabama Power Company's stock. Southern Company is traded publicly on the New York Stock Exchange under the symbol "SO."

American Chemistry Council ("ACC") states that it represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier, and safer. ACC is committed to improved environmental, health, and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is an $801 billion enterprise and a key element of the nation's economy. ACC has no parent corporation, and no publicly held company has 10% or greater ownership in ACC.

American Coalition for Clean Coal Electricity ("ACCCE") is a partnership of companies that are involved in the production of electricity from coal. ACCCE recognizes the inextricable linkage between energy, the economy and our environment. Toward that end, ACCCE supports policies that promote the wise use of coal, one of America's largest domestically produced energy resources, to ensure a reliable and affordable supply of electricity to meet our nation's demand for energy. The ACCCE is a "trade association" within the meaning of Circuit Rule 26.1(b). It has no parent corporation, and no publicly held company owns a 10% or greater interest in the ACCCE.

American Coke and Coal Chemicals Institute ("ACCCI"), founded in 1944, is the international trade association that represents 100% of the U.S. producers of metallurgical coke used for iron and steelmaking, and 100% of the nation's producers of coal chemicals, who combined have operations in 12 states. ACCCI also represents chemical processors, metallurgical coal producers, coal and coke sales agents, and suppliers of equipment, goods, and services to the industry. ACCCI has no parent corporation, and no publicly held company has 10% or greater ownership in ACCCI.

American Forest & Paper Association ("AF&PA") is the national trade association of the paper and wood products industry, which accounts for approximately 4 percent of the total U.S. manufacturing gross domestic product. The industry makes products essential for everyday life from renewable and recyclable resources, producing over $200 billion in products annually and employing nearly 900,000 men and women with an annual payroll of approximately $50 billion. AF&PA has no parent corporation, and no publicly held company has 10% or greater ownership in AF&PA.

American Foundry Society ("AFS"), founded in 1896, is the leading U.S. based metalcasting society, assisting member companies and individuals to effectively manage their production operations, profitably market their products and services, and equitably manage their employees. AFS is comprised of more than 7,500 individual members representing over 3,000 metalcasting firms, including foundries, suppliers, and customers. AFS has no parent corporation, and no publicly held company has 10% or greater ownership in AFS.

American Fuel & Petrochemical Manufacturers ("AFPM") states that it is a national trade association whose members comprise more than 400 companies, including virtually all United States refiners and petrochemical manufacturers. AFPM's members supply consumers with a wide variety of products that are used daily in homes and businesses. AFPM has no parent corporation, and no publicly held company has 10% or greater ownership in AFPM.

American Iron and Steel Institute ("AISI") states that it serves as the voice of the North American steel industry and represents 19 member companies, including integrated and electric furnace steelmakers, accounting for the majority of U.S. steelmaking capacity with facilities located in 41 states, Canada, and Mexico, and approximately 125 associate members who are suppliers to or customers of the steel industry. AISI has no parent corporation, and no publicly held company has 10% or greater ownership in AISI.

American Public Power Association ("APPA") is the national association of publicly-owned electric utilities. APPA has no outstanding shares or debt securities in the hands of the public. APPA has no parent company. No publicly held company has a 10% or greater ownership in APPA.

American Wood Council ("AWC") is the voice of North American traditional and engineered wood products, representing over 75% of the industry that provides approximately 400,000 men and women with family-wage jobs. AWC members make products that are essential to everyday life from a renewable resource that absorbs and sequesters carbon. AWC has no parent corporation, and no publicly held company has a 10% or greater ownership interest in AWC.

Basin Electric Power Cooperative ("Basin Electric") is a not-for-profit regional wholesale electric generation and transmission cooperative owned by over 100 member cooperatives. Basin Electric provides wholesale power to member rural electric systems in nine states, with electric generation facilities in North Dakota, South Dakota, Wyoming, Montana, and Iowa serving approximately 2.9 million customers. Basin Electric has no parent companies. There are no publicly held corporations that have a 10% or greater ownership interest in Basin Electric.

Big Brown Lignite Company LLC was formally a wholly owned subsidiary of Luminant Holding Company LLC that owned the lignite reserves associated with the Big Brown Power Plant. As a result of a Chapter 11 financial restructuring process, Big Brown Lignite Company LLC no longer exists as a separate entity and has been merged into Luminant Mining Company LLC, whose corporate disclosure statement is provided herein.

Big Brown Power Company LLC is a wholly owned subsidiary of TEX Asset Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Operations Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Intermediate Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TCEH Corp., which is a publicly held corporation. TCEH Corp. is traded publicly on the OTCQX market under the symbol "THHH." Apollo Management Holdings L.P., Brookfield Asset Management Private Institutional Capital Adviser (Canada), L.P., and Oaktree Capital Management, L.P. are publicly held entities and each have subsidiaries that own more than 10% of TCEH Corp.'s stock.

Brick Industry Association ("BIA"), founded in 1934, is the recognized national authority on clay brick manufacturing and construction, representing approximately 250 manufacturers, distributors, and suppliers that historically provide jobs for 200,000 Americans in 45 states. BIA has no parent corporation, and no publicly held company has 10% or greater ownership in BIA.

Chamber of Commerce of the United States of America (the "Chamber") is the world's largest business federation. The Chamber represents 300,000 direct members and indirectly represents the interests of more than 3 million companies, state and local chambers, and trade associations of every size, in every industry sector, and from every region of the country. The Chamber has no parent corporation, and no publicly held company has 10% or greater ownership in the Chamber.

East Kentucky Power Cooperative, Inc. has no parent corporation. No publicly held corporation owns any portion of East Kentucky Power Cooperative, Inc., and it is not a subsidiary or an affiliate of any publicly owned corporation.

Electricity Consumers Resource Council ("ELCON") is the national association representing large industrial consumers of electricity. ELCON member companies produce a wide range of industrial commodities and consumer goods from virtually every segment of the manufacturing community. ELCON members operate hundreds of major facilities in all regions of the United States. Many ELCON members also cogenerate electricity as a by-product to serving a manufacturing steam requirement. ELCON has no parent corporation, and no publicly held company has 10% or greater ownership in ELCON.

Energy & Environment Legal Institute ("EELI") is a non-profit, non-governmental corporate entity organized under the laws of the Commonwealth of Virginia. EELI does not have a parent corporation. No publicly held corporation owns 10% or more of EELI's stock.

Georgia Power Company is a wholly-owned subsidiary of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly-held company owns 10% or more of Georgia Power Company's stock. Southern Company is traded publicly on the New York Stock Exchange under the symbol "SO."

Gulf Power Company is a wholly-owned subsidiary of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly-held company owns 10% or more of Gulf Power Company's stock. Southern Company is traded publicly on the New York Stock Exchange under the symbol "SO."

Hoosier Energy Rural Electric Cooperative, Inc. has no parent corporation. No publicly held corporation owns any portion of Hoosier Energy Rural Electric Cooperative, Inc., and it is not a subsidiary or an affiliate of any publicly owned corporation.

Indiana Utility Group ("IUG") is a continuing association of individual electric generating companies operated for the purpose of promoting the general interests of the membership of electric generators. IUG has no outstanding shares or debt securities in the hand of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in IUG.

International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers, AFL-CIO ("IBB") is a non-profit national labor organization with headquarters in Kansas City, Kansas. IBB's members are active and retired members engaged in various skilled trades of welding and fabrication of boilers, ships, pipelines, and other industrial facilities and equipment in the United States and Canada, and workers in other industries in the United States organized by the IBB. IBB provides collective bargaining representation and other membership services on behalf of its members. IBB is affiliated with the American Federation of Labor-Congress of Industrial Organizations. IBB and its affiliated lodges own approximately 60 percent of the outstanding stock of Brotherhood Bancshares, Inc., the holding company of the Bank of Labor. Bank of Labor's mission is to serve the banking and other financial needs of the North American labor movement. No entity owns 10% or more of IBB.

Luminant Big Brown Mining Company LLC was formerly a wholly owned subsidiary of Luminant Holding Company LLC that owned the mine assets utilized in connection with mining lignite used to fuel the Big Brown Power Plant. As a result of a Chapter 11 financial restructuring process, Luminant Big Brown Mining Company LLC no longer exists as a separate entity and has been merged into Luminant Mining Company LLC, whose corporate disclosure statement is provided herein.

Luminant Generation Company LLC is a wholly owned subsidiary of TEX Asset Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Operations Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Intermediate Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TCEH Corp., which is a publicly held corporation. TCEH Corp. is traded publicly on the OTCQX market under the symbol "THHH." Apollo Management Holdings L.P., Brookfield Asset Management Private Institutional Capital Adviser (Canada), L.P., and Oaktree Capital Management, L.P. are publicly held entities and each have subsidiaries that own more than 10% of TCEH Corp.'s stock.

Luminant Mining Company LLC is a wholly owned subsidiary of TEX Asset Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Operations Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Intermediate Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TCEH Corp., which is a publicly held corporation. TCEH Corp. is traded publicly on the OTCQX market under the symbol "THHH." Apollo Management Holdings L.P., Brookfield Asset Management Private Institutional Capital Adviser (Canada), L.P., and Oaktree Capital Management, L.P. are publicly held entities and each have subsidiaries that own more than 10% of TCEH Corp.'s stock.

Minnkota Power Cooperative, Inc. has no parent corporation. No publicly held corporation owns any portion of Minnkota Power Cooperative, Inc., and it is not a subsidiary or an affiliate of any publicly owned corporation.

Mississippi Power Company is a wholly-owned subsidiary of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly-held company owns 10% or more of Mississippi Power Company's stock. Southern Company is traded publicly on the New York Stock Exchange under the symbol "SO."

Murray Energy Corporation has no parent corporation and no publicly held corporation owns 10% or more of its stock. Murray Energy Corporation is the largest privately-held coal company and largest underground coal mine operator in the United States.

National Association of Manufacturers ("NAM") states that it is the largest manufacturing association in the United States, representing small and large manufacturers in every industrial sector and in all 50 states. Manufacturing employs nearly 12 million men and women, contributes roughly $2.17 trillion to the U.S. economy annually, has the largest economic impact of any major sector, and accounts for three-quarters of private-sector research and development. The NAM is the powerful voice of the manufacturing community and the leading advocate for a policy agenda that helps manufacturers compete in the global economy and create jobs across the United States. The NAM has no parent corporation, and no publicly held company has 10% or greater ownership in the NAM.

National Federation of Independent Business ("NFIB") is a nonprofit mutual benefit corporation that promotes and protects the rights of its members to own, operate, and grow their businesses across the fifty States and the District of Columbia. NFIB has no parent corporation, and no publicly held company has 10% or greater ownership in NFIB.

National Lime Association ("NLA") is the national trade association of the lime industry and is comprised of U.S. and Canadian commercial lime manufacturing companies, suppliers to lime companies, and foreign lime companies and trade associations. NLA's members produce more than 99% of all lime in the U.S., and 100% of the lime manufactured in Canada. NLA provides a forum to enhance and encourage the exchange of ideas and technical information common to the industry and to promote the use of lime and the business interests of the lime industry. NLA is a non-profit organization. It has no parent corporation, and no publicly held company has 10% or greater ownership in NLA.

National Mining Association ("NMA") is a non-profit, incorporated national trade association whose members include the producers of most of America's coal, metals, and industrial and agricultural minerals; manufacturers of mining and mineral processing machinery, equipment, and supplies; and engineering and consulting firms that serve the mining industry. NMA has no parent companies, subsidiaries, or affiliates that have issued shares or debt securities to the public, although NMA's individual members have done so.

National Oilseed Processors Association ("NOPA") is a national trade association that represents 12 companies engaged in the production of vegetable meals and vegetable oils from oilseeds, including soybeans. NOPA's member companies process more than 1.6 billion bushels of oilseeds annually at 63 plants in 19 states, including 57 plants which process soybeans. NOPA has no parent corporation, and no publicly held company has 10% or greater ownership in NOPA.

National Rural Electric Cooperative Association has no parent corporation. No publicly held corporation owns any portion of National Rural Electric Cooperative Association, and it is not a subsidiary or an affiliate of any publicly owned corporation.

Oak Grove Management Company LLC is a wholly owned subsidiary of TEX Asset Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Operations Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Intermediate Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TCEH Corp., which is a publicly held corporation. TCEH Corp. is traded publicly on the OTCQX market under the symbol "THHH." Apollo Management Holdings L.P., Brookfield Asset Management Private Institutional Capital Adviser (Canada), L.P., and Oaktree Capital Management, L.P. are publicly held entities and each have subsidiaries that own more than 10% of TCEH Corp.'s stock.

Peabody Energy Corporation ("Peabody") is a publicly-traded company. It has no parent corporation, and no publicly traded company owns more than 10% of Peabody's stock.

Portland Cement Association ("PCA") is a not-for-profit "trade association" within the meaning of Circuit Rule 26.1(b). PCA members represent 92 percent of the U.S. cement production capacity and have facilities in all 50 states. The association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and generally promotes economic growth and sound infrastructure investment. PCA has no parent corporation, and no publicly held company owns a 10% or greater interest in PCA.

Sandow Power Company LLC is a wholly owned subsidiary of TEX Asset Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Operations Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TEX Intermediate Company LLC, which is a Delaware limited liability company and is a wholly owned subsidiary of TCEH Corp., which is a publicly held corporation. TCEH Corp. is traded publicly on the OTCQX market under the symbol "THHH." Apollo Management Holdings L.P., Brookfield Asset Management Private Institutional Capital Adviser (Canada), L.P., and Oaktree Capital Management, L.P. are publicly held entities and each have subsidiaries that own more than 10% of TCEH Corp.'s stock.

Southern Power Company is a wholly-owned subsidiary of Southern Company, which is a publicly held corporation. Other than Southern Company, no publicly-held company owns 10% or more of Southern Power Company's stock. Southern Company is traded publicly on the New York Stock Exchange under the symbol "SO."

Sunflower Electric Power Corporation has no parent corporation. No publicly held corporation owns any portion of Sunflower Electric Power Corporation, and it is not a subsidiary or an affiliate of any publicly owned corporation.

Tri-State Generation and Transmission Association, Inc. ("Tri-State") is a wholesale electric power supply cooperative which operates on a not-for-profit basis and is owned by 1.5 million member-owners and 44 distribution cooperatives. Tri-State issues no stock and has no parent corporation. Accordingly, no publicly held corporation owns 10% or more of its stock.

United Mine Workers of America, AFL-CIO ("UMWA") is a non-profit national labor organization with headquarters in Triangle, Virginia. UMWA's members are active and retired miners engaged in the extraction of coal and other minerals in the United States and Canada, and workers in other industries in the United States organized by the UMWA. UMWA provides collective bargaining representation and other membership services on behalf of its members. UMWA is affiliated with the America Federation of Labor-Congress of Industrial Organizations. UMWA has no parent companies, subsidiaries, or affiliates that have issued shares or debt securities to the public.

Utility Air Regulatory Group ("UARG") is a not-for-profit association of individual generating companies and national trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

TABLE OF CONTENTS

Page

ATTACHMENT A: DECLARATION OF RYAN MURRAY

TABLE OF AUTHORITIES

FEDERAL CASES

Page

* Authorities upon which we chiefly rely are marked with asterisks.

FEDERAL STATUTES

INTERNATIONAL STATUTES

LEGISLATIVE HISTORY

FEDERAL REGULATIONS

FEDERAL REGISTER

MISCELLANEOUS

GLOSSARY OF TERMS

Agency	United States Environmental Protection Agency
CAA	Clean Air Act
CCS	Carbon Capture and Storage
CO_2	Carbon Dioxide
DOE	United States Department of Energy
EIA	United States Energy Information Administration
EPA	United States Environmental Protection Agency
FOIA	Freedom of Information Act
IGCC	Integrated Gasification Combined Cycle
JA	Joint Appendix
MWh	Megawatt-Hour
NETL	National Energy Technology Laboratory
Reconsideration Denial	Reconsideration of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, Notice of Final Action Denying Petitions for Reconsideration, 81 Fed. Reg. 27,442 (May 6, 2016)
RTC	Response to Comments
Rule	U.S. Environmental Protection Agency, Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, Final Rule, 80 Fed. Reg. 64,510 (Oct. 23, 2015)

JURISDICTIONAL STATEMENT

These consolidated cases challenge final actions of the U.S. Environmental Protection Agency ("EPA" or "Agency") under the Clean Air Act ("CAA"), published at 80 Fed. Reg. 64,510 (Oct. 23, 2015) ("Rule"), Joint Appendix ("JA") ___-___, and at 81 Fed. Reg. 27,442 (May 6, 2016) ("Reconsideration Denial"), JA___-___. This Court has jurisdiction under CAA § 307(b)(1).[1] Petitions for review of these actions were timely filed in accordance with that provision.

STATEMENT OF ISSUES

1. Whether EPA's standards of performance for new, modified, and reconstructed steam generating units violate CAA § 111, or are arbitrary, capricious, an abuse of discretion, or otherwise unlawful;

2. Whether EPA's disparate treatment of fossil fuel-fired electric generating units is arbitrary, capricious, an abuse of discretion, or otherwise unlawful;[2]

3. Whether EPA's failure to make the requisite endangerment and significant contribution findings violates CAA § 111(b)(1)(A), or is arbitrary, capricious, an abuse of discretion, or otherwise unlawful; and

4. Whether EPA's failure to place *ex parte* communications that formed a substantial basis for the Rule in the rulemaking docket and its failure to grant

---

[1] The Table of Authorities provides parallel citations to the U.S. Code.

[2] Petitioners in No. 15-1469 do not join this argument.

reconsideration on this issue violates CAA § 307(d), or is arbitrary, capricious, an abuse of discretion, or otherwise unlawful.[3]

STATUTES AND REGULATIONS

This case involves regulations promulgated pursuant to a claim of authority under CAA § 111(b). The addendum reproduces the pertinent regulations and statutory provisions.

INTRODUCTION

The Rule is an unlawful attempt to address carbon dioxide ("CO_2") emissions from new, modified, and reconstructed electric generating units under section 111(b) of the CAA. In the Rule, EPA determined that the "best system of emission reduction" for new fossil fuel-fired steam generating units (which primarily combust coal) is a supercritical pulverized coal boiler employing post-combustion partial carbon capture and storage ("CCS") with permanent storage in deep underground saline formations. The Rule violates the CAA and relies on EPA's policy preferences rather than the rule of law.

Under CAA § 111, EPA may not set a performance standard unless it is "achievable" by a system of emission reduction that *EPA has shown* to be "adequately demonstrated," "taking into account … cost … and energy requirements." CAA § 111(a)(1). EPA has not met its burden. EPA based its standard on the mere hope

[3] This argument is raised only by Petitioner Energy & Environment Legal Institute.

that by effectively requiring CCS for new units, the technology would materialize ready for full-scale application on a widespread basis. The CAA may "force" the adoption only of *demonstrated* technology that is available for commercial application.

Rather than showing that its preferred technology was effective, available, and reliable, EPA relies on projects still under development that received government subsidies to promote this nascent technology and that would not be available to the generating units subject to the Rule. This violates Congress's express prohibition against relying on such test projects to conclude that a technology is demonstrated. EPA also relied on projects that were not yet operational, and on small-scale pilot projects in unrelated industries, whose performance falls far short of demonstrating that the technology could operate reliably at full commercial scale steam generating units. Moreover, EPA disregarded that storage in deep saline formations is not available in many parts of the country, violating the requirement that a performance standard be achievable nationwide and that all regulated sources have access to the identified technology. EPA also arbitrarily treated steam generating units and combustion turbines inconsistently, specifically with regard to baseload coal-fired units and gas-fired units. Taken individually or together, these problems render the Rule unlawful and deprive it of any rational basis.

The standards for modified and reconstructed coal-fired units similarly fail. EPA did not provide *any* analysis showing its standard for modified units is achievable by individual units. For reconstructed units, EPA did not find that its best system had been demonstrated or applied anywhere, and admitted that it lacked any information on the "design factors" and "operation and maintenance practices" forming the basis of its standards.

The CAA sets specific statutory requirements that EPA did not meet. This Court has routinely rejected speculative standards under section 111(b), and it should do so here. The Rule should be vacated.

STATEMENT OF THE CASE

This case involves EPA's new source performance standards under section 111(b) of the CAA regulating CO_2 emissions from two subcategories of electric generating units: (1) fossil fuel-fired steam generating units; and (2) fossil fuel-fired stationary combustion turbines. Fossil fuel-fired steam generating units ("steam generating units") are utility boilers and integrated gasification combined cycle ("IGCC") units that primarily combust coal. Fossil fuel-fired stationary combustion turbines ("combustion turbines") primarily combust natural gas. Under section 111(b), EPA establishes performance standards categories of "sources" of air pollution. The Rule established a new category, subpart TTTT, to regulate CO_2 emissions from these two subcategories of units. 40 C.F.R. pt. 60, Subpt. TTTT, Tbls. 1, 2; *id.* § 60.5540(a).

"New source" standards can apply to three types of sources: new, modified, and reconstructed. CAA § 111(a)(2). A "new" source is one that is newly constructed. A "modified" source is an existing source that undertakes physical or operational modifications that result in a significant increase in air pollutant emissions.[4] *Id.* § 111(a)(4). A "reconstructed" source requires, as a predicate, that an existing source replace its components to such an extent that the expected fixed capital costs of the reconstruction exceed 50 percent of the cost to construct a new source. 40 C.F.R. § 60.15(b). The Rule applies to new sources that commenced construction after January 8, 2014, and to sources that commenced modification and reconstruction after June 18, 2014. *Id.* § 60.5509(a); 79 Fed. Reg. 1430 (Jan. 8, 2014) (proposed new source standards), JA___-___; 79 Fed. Reg. 34,960 (June 18, 2014) (proposed modified and reconstructed standards), JA___-___.

I. CAA Requirements for New Source Performance Standards

Section 111(a)(1) defines a "standard of performance" as:

> a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

To establish section 111 standards, EPA examines "system[s] of emission reduction" that can be "appli[ed]" to regulated sources, to determine which systems have been "adequately demonstrated" for use by such sources. CAA § 111(a)(1). EPA

[4] The Rule regulates steam generating units undertaking a modification resulting in a greater than 10 percent increase in hourly CO_2 emissions. 40 C.F.R. § 60.5509(b)(7).

then determines the "best" one, based on economic, energy, and non-air quality environmental considerations. *Id.* Once EPA determines the "best" system, it "appli[es]" that system to each type of regulated source within the source category to establish a numerical "emission limitation" that the sources can "achiev[e]," *id.*, on a continuous basis, *id.* § 302(k). EPA must show that its system is available to all sources within the source category, and that application of the system will allow those sources to achieve the standard. *Id.* § 111(a)(1).

This Court has clarified that there are limits on EPA's authority to determine what technologies have been adequately demonstrated, holding that "[a]n adequately demonstrated system is one which has been shown to be reasonably reliable, reasonably efficient," *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973), and not "unreasonably costly," *Sierra Club v. Costle*, 657 F.2d 298, 384 (D.C. Cir. 1981). For a system to be "adequately demonstrated," it must be commercially available. *Id.* at 364; *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973).

Once established, performance standards must be achievable for a "new source anywhere in the nation," and must represent "the least common denominator" of emission control. Letter from Gary McCutchen, Chief, New Source Review Section, EPA, Office of Air Quality Planning & Standards, to Richard E. Grusnick, Chief, Air Division, Ala. Dep't of Envtl. Mgmt. at 1 (July 28, 1987) ("McCutchen Letter"), https://www.epa.gov/sites/production/files/2015-07/documents/crucial.pdf, JA___; *see also* CAA § 169(3) (new source performance standards represent the minimum standard that a new, modified, or reconstructed source must achieve under the Act's preconstruction permitting program). EPA must account for regional variability in the "industry as a whole" and any "adverse conditions" that can be reasonably anticipated. *Nat'l Lime Ass'n v. EPA*, 627 F.2d 416, 431-34, 431 & n.46 (D.C. Cir. 1980).

Consistent with these boundaries on EPA's authority, Congress limited the types of projects on which EPA may rely to establish that a system is "adequately demonstrated." In particular, the Energy Policy Act of 2005 prohibits EPA from considering projects subsidized by the U.S. Department of Energy's ("DOE") Clean Coal Power Initiative to support a finding of adequate demonstration. Energy Policy Act of 2005, Pub. L. No. 109-58, § 402(i), 119 Stat. 594, 753 (2005) (codified at 42 U.S.C. § 15962(i)).

II. Steam Generating Unit Standards

A. New Units

In the Rule, EPA determined that "a new highly efficient supercritical pulverized coal (SCPC) boiler implementing partial CCS," involving post-combustion capture and permanent storage of the CO_2 in "deep saline formations" underground, constituted the "best system of emission reduction" for new steam generating units. 80 Fed. Reg. at 64,545, 64,590, JA___, ___. Partial CCS with sequestration in deep saline formations is a complex process. Post-combustion capture involves passing flue gas through an amine solution, which chemically adsorbs the CO_2. The solution is then heated to strip out the adsorbed CO_2 from the flue gas stream. EPA, Technical Support Document, Literature Survey of Carbon Capture Technology at 5-8 (July 10, 2015), EPA-HQ-OAR-2013-0495-11773, JA___-___; *see also id.* at 4-5 (separation and capture of CO_2 involves solvents, solid sorbents, and membrane-based technologies), JA___-___. Because the captured CO_2 is sparse in volume and at a low atmospheric pressure, it must be compressed, using large, energy-intensive compressors, to make it suitable for pipeline transport. *Id.* at 19, JA___.

Pipelines must be constructed, purchased, or otherwise made accessible to transport the CO_2 possibly hundreds of miles to geologic formations suitable for sequestration. *See id.* at 22-23, JA___-___. Finally, deep injection wells (typically a mile or more below the surface) must be drilled to sequester the CO_2 and then managed to ensure permanent sequestration. *Id.* at 2-3, JA___-___. These steps are costly and energy-intensive. *See id.* at 5, 19, JA___, ___; Utility Air Regulatory Group ("UARG"), Comments on Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units; Proposed Rule, 79 Fed. Reg. 1430 (Jan. 8, 2014), at 44-45, 58-62 (May 9, 2014) ("UARG Comments") (discussing the substantial costs to install and operate CCS), and Attach. 5, J. Edward Cichanowicz, A Review of Carbon Capture and Sequestration (CCS) Technology at 5-1 to 5-10 (June 25, 2012) ("Cichanowicz CCS Technology Review"), EPA-HQ-OAR-2013-0495-9666, JA___-___, ___-___, ___-___.

Applying its "best system," EPA established a performance standard for new steam generating units of 1,400 pounds of CO_2 per megawatt hour gross ("lb CO_2/MWh"). 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 1, JA___. EPA concluded that the cost of the standard is "reasonable" and "that the impacts on the industry as a whole are negligible," 80 Fed. Reg. at 64,563-64, JA___-___, but only because EPA believes "few new [steam generating units] will be constructed over the coming decade and … those that are built would have CCS" anyway, *id.* at 64,563, JA___.

EPA based its analysis that the 1,400 lb CO_2/MWh standard is "achievable" nationwide primarily on DOE engineering estimates of the capabilities of a *hypothetical* unit published shortly before the Rule was promulgated. *Id.* at 64,573, JA___; EPA, Achievability of the Standard for Newly Constructed Steam Generating EGUs (July 31, 2015), EPA-HQ-OAR-2013-0495-11771 ("Achievability TSD") (citing DOE, National Energy Technology Laboratory ("NETL"), Cost and Performance Baseline for Fossil Energy Plants Supplement: Sensitivity to CO_2 Capture Rate in Coal-Fired Power Plants at 1 (June 22, 2015), DOE/NETL-2015-1720, EPA-HQ-OAR-2013-0495-11340 ("NETL June 2015 Supplement Report")), JA___-___. The estimates modeled the ability of a different system (not EPA's "best system") to achieve emission reductions—one based on much more expensive (and less-used) ultra-supercritical technology rather than the supercritical boiler in EPA's system. DOE, NETL, Cost and Performance Baseline for Fossil Energy Plants, Vol. 1a: Bituminous Coal (PC) and Natural Gas to Electricity, Rev. 3 at 22 (July 6, 2015), DOE/NETL-

2015/1723, EPA-HQ-OAR-2013-0495-11341 ("NETL July 2015 Report"), JA___. DOE cautioned against using the estimates, noting that "[a]ctual average annual emissions from operating plants are likely to be higher than the design emissions rates shown." NETL June 2015 Supplement Report at 1, JA___.

B. Modified Units

EPA's analysis and support for its standards for modified steam generating units were sparse. *See* 80 Fed. Reg. at 64,597-600, JA___-___. The Agency identified the "best system of emission reduction" for these units as "each affected unit's own best potential performance as determined by that unit's historical performance," *id.* at 64,597, JA___, and established a unit-specific standard equal to each unit's "[b]est annual performance (lb CO_2/MWh-g) during the time period from 2002 to the time of modification," *id.* at 64,547, JA___.

C. Reconstructed Units

EPA's analysis for reconstructed steam generating units was also minimal, encompassing about one page. *Id.* at 64,600-01, JA___-___. EPA determined that, regardless of existing boiler design, the best system of emission reduction is the use of a boiler with supercritical steam conditions for large units (those with a heat input greater than 2,000 MMBtu/h) and the use of a boiler with subcritical steam conditions for small units (those with a heat input 2,000 MMBtu/h or less). *Id.* at 64,600, JA___. EPA then established a performance standard of 1,800 lb CO_2/MWh gross for large units and 2,000 lb CO_2/MWh gross for small units. 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 1.

EPA did not find that either boiler type had been demonstrated or applied anywhere as a "system of emission reduction" for reconstructed units. Nor did EPA identify any steam generating unit that has ever converted from subcritical steam conditions to supercritical when "the boiler was not originally designed to do so." 80 Fed. Reg. at 64,546, JA___. EPA also did not provide any evidence that its performance standards are achievable through application of subcritical or supercritical boiler design, admitting that it "does not have information" regarding the "design factors" and "operation and maintenance practices" that form the basis of the standards. EPA, Office of Air Quality Planning & Standards, Best System of Emissions Reduction (BSER) for Reconstructed Steam Generating Units and Integrated Gasification Combined Cycle (IGCC) Facilities at 7 (June 2014), EPA-HQ-OAR-2013-0603-0046 ("Reconstruction TSD"), JA___.

III. Combustion Turbine Standards

A. New and Reconstructed Units

To meet electricity demand, "baseload" electric generating units operate over long periods of time at a high capacity to meet relatively steady (or baseload) demand for power, while non-baseload units operate to serve "peak demand" for electricity. For new and reconstructed baseload combustion turbines that combust non-solid fuels like natural gas, EPA established a standard of 1,000 lb CO_2/MWh gross,[5] 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 2, based on the capabilities of "efficient natural gas combined cycle [("NGCC")] technology." 80 Fed. Reg. at 64,515, JA___. For non-baseload units, EPA established a standard of 120 lb CO_2/MMBtu based on the predominant use of natural gas as a "clean fuel." *Id.* at 64,601, JA___.

B. Modified Units

EPA did not finalize its proposed standard for existing combustion turbines that undertake modifications because it found that few such sources were likely to exist. *Id.* at 64,515, JA___.

IV. Endangerment and Significant Contribution Findings

The CAA mandates that, before proposing performance standards, EPA must determine that stationary sources from a source category "cause[] or contribute[] significantly" to pollution that EPA determines "may reasonably be anticipated to endanger public health or welfare." CAA § 111(b)(1)(A). Congress thus limited section 111 regulation to "endanger[ing]" air pollution emitted by "significant[]" "contribut[ors]" to that pollution.

Despite this statutory requirement, EPA stated it need not make such a determination because it previously made an endangerment determination for some parts of the source category back in 1971 for *other* pollutants. 80 Fed. Reg. at 64,529-

[5] Such sources may elect to comply instead with a 1,030 lb CO_2/MWh standard based on net energy output. 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 2.

30, JA___-___. Second, and "in the alternative," EPA relied on a prior endangerment finding it made in 2009 for a collection of six greenhouse gases emitted from new motor vehicles. *Id.* at 64,532, JA___. Finally, EPA maintained that "information and conclusions" contained in the Rule "should be considered to constitute the requisite endangerment finding." *Id.* at 64,530, JA___.

V. Denial of Reconsideration Petitions

Six entities asked EPA to reconsider certain aspects of the Rule that EPA had not proposed. *See* 81 Fed. Reg. at 27,443, JA___. EPA denied five of the six petitions "as not satisfying one or both of the statutory conditions for compelled reconsideration," and deferred action on one petition. *Id.*

SUMMARY OF ARGUMENT

Congress mandated that EPA establish performance standards that sources can achieve through application of the "best system of emission reduction," taking into account cost and energy requirements. CAA § 111(a)(1). EPA's Rule, which established performance standards for new, modified, and reconstructed steam generating units and combustion turbines, is unlawful.

With regard to the standard for new steam generating units, the system of emission reduction EPA identified (partial CCS with sequestration of CO_2 in deep saline formations) is not adequately demonstrated. EPA improperly relied on projects receiving federal subsidies in violation of the Energy Policy Act of 2005. The only project on which EPA relied that did not receive *U.S.* subsidies is a small Canadian plant, heavily subsidized by the Canadian government and riddled with problems. Moreover, there is no steam generating unit in the world that applies all of the components of EPA's "best system," and thus the system could not have been adequately demonstrated. Finally, EPA failed to take regional variability into account, as it did not—and cannot—establish that CO_2 sequestration in deep saline formations (a key part of its system) is available throughout the country.

Even if EPA's system were adequately demonstrated, it could not be considered the "best" system because of its excessive cost and energy requirements. EPA separately failed to make the required showing that the new source standard for steam generating units is achievable because it based its analysis on a different generating technology than that reflected in its "best system" and ignored many of the factors that influence units' CO_2 emissions.

Additionally, EPA reached a conclusion for baseload gas-fired units that should have applied with equal force for baseload coal-fired units were it not for EPA's policy objectives. Such disparate treatment without adequate justification independently renders the Rule arbitrary and capricious.

The performance standards for modified and reconstructed steam generating units are also unlawful because there is no evidence in the record that they can be achieved. The standard for reconstructed units further fails because it has not been adequately demonstrated.

The CAA requires EPA to make findings of endangerment and significant contribution, which EPA failed to do. This failure is fatal to the Rule. Finally, EPA improperly denied petitions for reconsideration of the Rule.

STANDING

Petitioners have standing to challenge the Rule. The Rule regulates new, modified, and reconstructed fossil fuel-fired generating units. Many petitioners own and operate fossil fuel-fired electric generating units or have members who own or operate them. These petitioners plan to continue to rely on those resources in the future, through both the construction of new fossil fuel-fired generating units that would be subject to the Rule and the upgrade of existing fossil fuel-fired generating units that could be found to be subject to the modification and reconstruction provisions of the Rule. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561-62 (1992) (when a party is the object of government regulation "there is ordinarily little question that the [governmental] action … has caused him injury"). The Rule significantly increases the costs associated with designing, constructing and operating such units and constrains available options.

The other petitioners also have standing. The Rule effectively precludes the construction of new steam generating units and shortens the lives of existing units, which may not be able to be modified without triggering the performance standard. This has the effect of harming the coal company petitioners by diminishing demand for coal in the electric generating sector. *See* Declaration of Ryan Murray (Attachment

A). This also harms labor union petitioners whose members mine coal and construct and maintain new steam generating units.

Petitioners also have standing because the Rule is a legal prerequisite for the Clean Power Plan, 80 Fed. Reg. 64,662 (Oct. 23, 2015), which regulates existing fossil fuel-fired generating units under CAA section 111(d). CAA § 111(d)(1)(A)(ii). Petitioners who are injured by the Clean Power Plan, most of whom are also petitioners challenging that rule before this Court,[6] have standing to challenge this Rule because the injury imposed on them by the Clean Power Plan would be redressed by vacatur of this Rule.

STANDARD OF REVIEW

The Court must set aside EPA action under the CAA if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." CAA § 307(d)(9); 5 U.S.C. § 706. Agency action is invalid if the agency failed to consider an important aspect of a problem, offered an explanation for its decision that runs counter to the evidence, or is so implausible that the decision could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

---

[6] *West Virginia v. EPA*, No. 15-1363 (and consolidated cases) (D.C. Cir.).

ARGUMENT

I. The New Steam Generating Unit Standard Is Unlawful.

Section 111 authorizes EPA to establish "standards of performance for new sources" within a listed source category. CAA § 111(b)(1)(B). Congress mandated that such standards define a "degree of emission limitation" that is "achievable" by sources "appl[ying]" the "best system of emission reduction" that EPA has shown is "adequately demonstrated," "taking into account the cost … and energy requirements" of the system. *Id.* § 111(a)(1). In the Rule, EPA identified a supercritical pulverized boiler using partial CCS, with sequestration of CO_2 in deep saline formations, as the "best system of emission reduction" for new units. But EPA's system is not adequately demonstrated, nor is it cost-effective or efficient. Moreover, EPA's performance standard of 1,400 lb CO_2/MWh cannot be achieved by new steam generating units applying that system.

A. EPA's System Is Not "Adequately Demonstrated."

EPA failed to show that its system is "adequately demonstrated." An "adequately demonstrated" system is one that is more than merely "feasible." *Sierra Club*, 657 F.2d at 364. It must be commercially "available" to be "install[ed] in new plants," *Portland Cement*, 486 F.2d at 391, "reasonably efficient," *Essex Chem.*, 486 F.2d at 433, and not "unreasonably costly," *Sierra Club*, 657 F.2d at 384. While EPA may make projections "based on *existing* technology," *Portland Cement*, 486 F.2d at 391 (emphasis added), that authority is limited to situations where a technology is "available," even if not yet in routine commercial use, *id.* And that latitude is "narrowed" when the standard applies immediately, as it does here. *Id.* at 391-92. As EPA's counsel explained in a recent oral argument, the "adequately demonstrated" requirement is a "constraint[] embedded within Section 111 on EPA's authority" that provides that "any emission reduction system that isn't already in place and successful within an industry can't be used" for setting performance standards. Tr. of Oral Arg. at 61, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Sept. 27, 2016), ECF No. 1640958. *Id.*

An adequate demonstration finding may not be based on "mere speculation or conjecture" that a system will emerge that will be both commercially available and technologically feasible to apply to all regulated sources nationwide. *Lignite Energy Council v. EPA*, 198 F.3d 930, 934 (D.C. Cir. 1999). Thus, a system is not "adequately demonstrated" when its use is supported by data only from "prototype" or "pilot scale" demonstration facilities, or for only one coal type.[7] *Sierra Club*, 657 F.2d at 341 n.157.

---

[7] For example, EPA provided a cursory response to concerns regarding the impacts of different coal types, particularly the unique challenges associated with combusting lignite coal. *See* Luminant, Comments on EPA's Proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430 (January 8, 2014) at 15-16 (May 9, 2014), EPA-HQ-OAR-2013-0495-9777 ("Luminant Comments"), JA___. EPA noted that "additional cost would be entailed," if a unit used lignite, but asserted without explanation that those costs "remain reasonable." 80 Fed. Reg. at 64,574, JA___.

1. EPA Improperly Relied on Government-Subsidized Projects To Support Its Determination.

Section 402(i) of the Energy Policy Act of 2005 expressly prohibits EPA from considering projects subsidized by the DOE's Clean Coal Power Initiative to support an "adequately demonstrated" finding. 42 U.S.C. § 15962(i). Similarly, section 1307(b) of the Energy Policy Act of 2005 prohibits EPA from considering, as part of its section 111 assessment, technology used at a facility that is allocated a Qualifying Advanced Coal Project Tax Credit under section 48A of the Internal Revenue Code.[8] 26 U.S.C. § 48A(g).

As discussed in greater detail in Section I.B.3. of State Petitioners' Opening Brief, EPA's best system for new steam generating units unlawfully relies on projects receiving Energy Policy Act development subsidies. Congress's express prohibition makes sense because the purpose of these government subsidies is to foster the research and development of incipient technologies that are not yet adequately demonstrated. *See* 42 U.S.C. § 15962(a) (subsidies available only for projects that "advance efficiency, environmental performance, and cost competitiveness *well beyond* the level of technologies that are *in commercial service* or *have been demonstrated* on a scale" that DOE "determines is sufficient to demonstrate that commercial service is *viable* as of [the date of enactment]") (emphases added). When a technology needs such

---

[8] Section 421(a) of the Energy Policy Act of 2005 also amends the Energy Policy Act of 1992 by adding a pair of similar provisions to that program. Pub. L. No. 109-58, § 421(a), 119 Stat. 594, 759-60 (2005).

subsidies, it cannot be considered to be "adequately demonstrated" for purposes of section 111.[9] A new source performance standard requires a track record of proven success; it is not a license for experimentation.

Yet, all of the full-scale utility projects on which EPA relied received U.S. government subsidies, with the exception of one: the SaskPower Boundary Dam project in Canada. But the Boundary Dam project is also heavily subsidized, receiving C$240 million from the Canadian federal government and matching funds from the provincial government. Budget Implementation Act, 2008, S.C. 2008, c. 28, § 138 (Can.). These subsidies were the "key component of the business case" for proceeding with the project at all. International Energy Agency, Integrated Carbon Capture and Storage Project at SaskPower's Boundary Dam Power Station at 30 (Aug. 2015), http://www.ieaghg.org/docs/General_Docs/Reports/2015-06.pdf, JA___. Like the U.S. experimental sites, the Boundary Dam project would not have been constructed without government subsidies, *see id.* at 24 ("Federal funding was the catalyst for converting SaskPower's clean coal power concept into a fully engineered design."), JA___, and therefore could not be a basis for concluding that CCS is "demonstrated."

Indeed, in the Clean Power Plan, EPA stated that CCS was experimental and heavily subsidized when it *rejected* a best system of emission reduction that included CCS. EPA explained that CCS is "an emerging technology" that "*may* become

[9] Although CCS is a promising new technology that warrants continued government support, EPA has failed to meet its statutory mandate under section 111.

economically viable in the future." EPA, Regulatory Impact Analysis for the Clean Power Plan Final Rule at 2-27, 2-28 (Aug. 2015), EPA-452/R-15-003, EPA-HQ-OAR-2013-0602-37105 (emphasis added), JA___, ___. EPA added that "[a]ll of these units with CCS have received substantial subsidies to further develop and demonstrate the feasibility of CCS at a commercial scale, and the costs of these new units with CCS are not indicative of anticipated future costs of new or retrofit CCS units." *Id.*

EPA's substantial reliance on heavily subsidized and pilot projects proves that its chosen system is not adequately demonstrated within the meaning of section 111. *See* State Petitioners' Brief at II.A.; *see also Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43 (agency action is "arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider").

2. Even If the Subsidized Projects Could Have Been Considered, EPA Did Not Establish Its System Is Adequately Demonstrated.

Even if EPA could have relied on subsidized projects, it still did not—and could not—show that its "best system of emission reduction" for new steam generating units was adequately demonstrated.

a. EPA's Chosen System Has Never Been Applied or Demonstrated at Commercial-Scale.

EPA's best system of emission reduction for new steam generating units consists of various components: (i) a new supercritical pulverized coal boiler; (ii) a carbon capture system to partially separate the CO_2 from the rest of the flue gas; (iii) transportation of the captured CO_2 to a disposal site; and (iv) permanent sequestration of the CO_2 in "deep saline formations" underground. *See* 80 Fed. Reg. at 64,545, 64,590, JA___, ___. EPA's "adequately demonstrated" analysis unlawfully focuses on establishing that these *individual* components of its system are "*technically* feasible." *See, e.g.*, *id.* at 64,538, 64,540, 64,547, 64,548, JA___, ___, ___, ___ (emphasis added). EPA did not point to *a single example* of a steam generating unit anywhere in the world applying *all* of the components of its best system together.[10] *See id.* at 64,548-52, JA___-___ (referencing only projects with individual components of the system). EPA's conspicuous failure to cite any steam generating unit applying an integrated system of post-combustion CO_2 capture with deep saline storage renders its finding of adequate demonstration indefensible.

EPA's view that it need show only that the *individual components* of the system have been demonstrated independently,[11] *id.* at 64,556, JA___, runs counter to the

---

[10] As discussed *infra* Section I.A.2.b., the individual components of EPA's system are also not adequately demonstrated.

[11] EPA falsely claimed its system has been applied as an integrated system at Boundary Dam. 80 Fed. Reg. at 64,556, JA___. Boundary Dam has to date disposed of its captured CO_2 by selling it for enhanced oil recovery operations, while relying on deep saline storage only as a backup alternative. *See* EPA, Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, Response to Comments on January 8, 2014 Proposed Rule ("RTC"), Ch. 6, Standards for Fossil Fuel-fired Electric Utility Steam Generating Units (Boilers and Integrated Gasification Combined Cycle Units) at 6-47 (Aug. 3, 2014), EPA-HQ-OAR-2013-0495-11865, JA___. There is no experience with that "alternative." This fundamentally distinguishes Boundary Dam from EPA's system, where the CO_2 is to be transported to and stored in deep saline formations.

plain language of section 111, which states that the "best *system* of emission reduction"—not its component parts separately—must be "adequately demonstrated." CAA § 111(a)(1) (emphasis added). It also runs counter to experience with other control technologies, as recognized by a federal advisory committee to the Secretary of Energy. *See* UARG, Comments on Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units; Proposed Rule (Oct. 16, 2014) ("UARG Modified/Reconstructed Comments"), Attach. J, Nat'l Coal Council, Reliable and Resilient–The Value of Our Existing Coal Fleet: An Assessment of Measures to Improve Reliability & Efficiency While Reducing Emissions at 78 (May 2014) ("NCC Report"), EPA-HQ-OAR-2013-0603-0215 ("a control technology can be affordable and reliable only with multiple applications that show how to integrate the components"), JA___. EPA's argument is akin to saying that, because a person can touch her toes, stand on one foot, drink a glass of water, and spin in a circle, she necessarily is able to do all these things *simultaneously*. Under section 111, EPA must show that all of the components of the system are demonstrated as an integrated whole for full-scale application, and that integrated whole must be "reasonably reliable" and "reasonably efficient." *Essex Chem.*, 486 F.2d at 433. EPA did not even attempt to do so here.

Indeed, prior to this rulemaking, EPA took the position that CCS may not be "a technically feasible" option because of challenges with "integration of the CCS components," even if those components were determined to be "generally available from commercial vendors." EPA, PSD and Title V Permitting Guidance for Greenhouse Gases at 36 (Mar. 2011), EPA-457/B-11-001, https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf, JA___. EPA "recognize[d] the significant logistical hurdles that the installation and operation of a CCS system presents and that sets it apart from other add-on controls," particularly the lack of "an existing reasonably accessible infrastructure in place to address waste disposal and other offsite needs." *Id.* Other hurdles EPA previously cited include "obtaining contracts for offsite land acquisition," "the need for funding" of offsite sequestration sites, "timing of available transportation infrastructure," and "developing a site for secure long term storage." *Id.* The Global CCS Institute and the International Energy Agency have confirmed the difficulties of integration. UARG Comments, Suppl. Material No. 1, Global CCS Institute, The Global Status of CCS 2013 at 10 (2013), EPA-HQ-OAR-2013-0495-9666 ("2013 Global CCS Report") ("key technical challenge for widespread CCS deployment is the integration of component technologies into successful large-scale demonstration projects"), JA___; UARG Comments, Suppl. Material No. 4, International Energy Agency, Technology Roadmap Carbon Capture and Storage at 5 (2013 ed.), EPA-HQ-OAR-2013-0495-9666 ("2013 IEA Roadmap") ("largest challenge for CCS deployment is the integration of component technologies into large-scale demonstration projects"), JA___.[12]

The record confirms that integrating these systems and applying them at a new steam generating unit involves coordinating a large number of complex processes. For example, the Boundary Dam project involves 125 separate sub-systems. UARG Comments, Attach. 2, J. Edward Cichanowicz, Status of Carbon Capture and Sequestration (CCS) Demonstrations in Response to Proposed New Source Performance Standards for CO_2 at 7-5 (May 2, 2014) ("2014 Cichanowicz CCS Report"), EPA-HQ-OAR-2013-0495-9666, JA___. These processes must work together seamlessly while meeting variable (and sometimes unpredictable) electricity demand. *Id.* Integration also involves addressing chemical reactions between the CO_2 capture system and other air pollutants in the steam unit's flue gas, and minimizing any resulting byproduct contamination. *Id.*; *see also* RTC at 6-26 ("some capture systems may require additional control equipment to be installed upstream to remove flue gas components that may degrade the capture solvents"), JA___. Boundary Dam, for example, experienced unplanned outages to address problems with integration of emissions control technology upstream of the CCS system, in addition to other design flaws and operational problems. *See infra* Section I.A.2.b.2.; EPA, Basis for Denial of

[12] None of these challenges is a reason not to pursue or continue to develop CCS, but they are reasons why EPA has violated section 111's requirements based on currently available data.

Petitions to Reconsider the CAA Section 111(b) Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Utility Generating Units at 8 (Apr. 2016), EPA-HQ-OAR-2013-0495-11918 ("Reconsideration Denial Basis"), JA___.

In response to these problems, EPA claimed that it must only identify the obstacles to full integration of the system's components and "give plausible reasons for its belief that the industry will be able to solve those problems." 80 Fed. Reg. at 64,557, JA___. But speculation about how industry might be able to address acknowledged problems is not the statutory test for "adequately demonstrated." Even if it were, EPA failed to explain how the obstacles it has identified will be overcome. EPA's express recognition that full integration of its "best system" remains uncertain in light of unresolved "problems" confirms that the system is not adequately demonstrated.

b. EPA Did Not Show that the Individual Components of Its System Are Adequately Demonstrated for Utility-Scale Steam Generating Units.

Even if EPA could have shown that its system is adequately demonstrated merely by evaluating its individual components, EPA failed to show that the key components of its best system of emission reduction—post-combustion capture and deep saline storage—are adequately demonstrated in utility-scale steam generating unit applications. EPA's claim that these two components are, individually, adequately demonstrated represents more "crystal ball inquiry." *Portland Cement*, 486 F.2d at 391.

1) EPA Did Not Establish that CO_2 Sequestration in Deep Saline Formations Is Available Throughout the Country.

EPA failed to meet the "adequately demonstrated" test because its system is based on a technology—sequestration in deep saline formations—that is not available in many States. Because a new source performance standard is nationally applicable, applying to every new source in a category no matter where it is built, the standard must be based on a system that has been adequately demonstrated for application by any new source throughout the country to which the standard would apply. *See Sierra Club*, 657 F.2d at 330 (water-dependent technology cannot be a nationwide "best system" due to "disastrous" effects in arid West); *Nat'l Lime*, 627 F.2d at 441-43 (rejecting standard that, *inter alia*, did not account for regional variability); Luminant Comments at 26-28 (identifying concerns about the feasibility of CCS due to the increase in water consumption in western states, such as Texas).

EPA admitted that eleven States—more than one-fifth of the nation—possess no identified deep saline storage capacity. 80 Fed. Reg. at 64,576, JA___. This lack of capacity puts these States at a competitive disadvantage in attracting new development and renders the Agency's system of emission reduction unfit to serve as the basis for a nationally applicable minimum standard. *See Sierra Club*, 657 F.2d at 325 (performance standards cannot "give a competitive advantage to one State over another").

Nor does EPA's claim that the remaining thirty-nine States possess deep saline storage capacity help its case, because EPA did not examine either the volume of capacity available in these States or the suitability of that capacity for permanent, secure sequestration of CO_2. According to the U.S. Geological Survey, the vast majority of accessible storage resources—66 percent—is confined to the Coastal Plains region, with 91 percent of that storage located in the Gulf Coast basin. U.S. Geological Survey, National Assessment of Geologic Carbon Dioxide Storage Resources – Results at 3, 15 (Version 1.1, Sept. 2013), Circular 1386, EPA-HQ-OAR-2013-0495-11561, JA___, ___. Another 10 percent of the nation's storage capacity is confined to Alaska's North Slope. *Id.* at 3, JA___. The urban East coast contains less than 1 percent of the nation's deep saline storage capacity. *Id.* at 16, JA___.

Moreover, EPA recognized that accessible formations may not be suitable for permanent storage, even in States with significant potential deep saline capacity. 80 Fed. Reg. at 64,573 ("sequestration siting issues are of course site-specific, and raise individual issues"), JA___; *see also id.* at 64,581, JA___; RTC at 6-54 (storage estimates are only "an initial assessment … and additional site specific work would be needed to demonstrate that a specific site meets the requirements for safe and secure storage"), JA___. Determining a deep saline location's suitability for sequestration requires extensive site evaluations that can take ten or more years and several hundred million dollars. 2013 Global CCS Report at 15, JA___; 2013 IEA Roadmap at 17, 21, JA__, __.

EPA suggested that units in areas with inadequate deep saline capacity can simply transport captured CO_2 by pipeline to other locations. 80 Fed. Reg. at 64,581, JA___. But having failed to investigate where suitable sites might be, EPA cannot show that pipeline transport is feasible, much less "adequately demonstrated." Existing and currently planned CO_2 pipelines are confined to a small area of the country, leaving much of the West, Midwest, and Atlantic coast unable to transport captured CO_2. *Id.* at 64,577, Fig. 1, JA___. Without any information on where such infrastructure would have to be located, EPA could not—and did not—account sufficiently for the costly and time-consuming infrastructure development required to serve new units in areas without deep saline formations when it asserted that its best system is adequately demonstrated for units located anywhere in the country. *See id.* at 64,572, JA___ (assuming maximum CO_2 pipeline length of 62 miles for new unit).

Notably, none of the commercial-scale steam generating unit projects cited by EPA that capture or plan to capture CO_2 in the next five years relies on deep saline formations for CO_2 storage.[13] *See id.* at 64,549-54, JA___-___. Instead, each of these projects sells (or plans to sell) captured CO_2 to third parties for use in enhanced oil recovery or for other niche uses that cannot accommodate the volume of CO_2 that will need to be captured by units subject to the Rule. *Id.* Enhanced oil recovery involves different technological systems than those used in deep saline sequestration and can be performed at even fewer sites. DOE, Office of Fossil Energy, NETL, The

---

[13] And, as discussed *infra* in Section I.A.2.b.2., none of these projects demonstrate the availability of CCS even apart from the fact that they do not permanently sequester CO_2 in deep saline formations.

United States 2012 Carbon Utilization and Storage Atlas at 25, 27 (4th ed. Dec. 2012), EPA-HQ-OAR-2013-0495-11410, JA___, ___. Most importantly, injecting CO_2 for enhanced oil recovery can improve a project's economics; while a steam unit's owner must *pay* to dispose of CO_2 in a deep saline formation, it will *profit* by selling CO_2 for enhanced oil recovery. 80 Fed. Reg. at 64,566, JA___. Thus, any industry experience with enhanced oil recovery cannot establish that CO_2 storage in deep saline formations is reasonably reliable and efficient, and not unreasonably costly. *Essex Chem.*, 486 F.2d at 433; *Sierra Club*, 657 F.2d at 343.

In support of the Rule, EPA cited three, large-scale sequestration projects—none of which is integrated with carbon capture at steam units. Moreover, two of those projects—In Salah and Snøhvit—suffered serious setbacks associated with the attempted CO_2 injection and sequestration and had to cease injection earlier than planned due to unforeseen problems created by injection pressures, including the development of fractures in the cap rock at In Salah that threatened to release injected CO_2 to the atmosphere. UARG Comments at 56, JA___. The evidence thus undermines rather than supports EPA.

2) EPA Did Not Establish that Post-Combustion CO_2 Capture Was Adequately Demonstrated for Steam Generating Units.

In support of its conclusion that post-combustion CO_2 capture was adequately demonstrated for steam generating units, EPA pointed to *only one* small steam unit employing post-combustion capture (Boundary Dam). 80 Fed. Reg. at 64,549-50, JA___-___). That unit's experience only emphasizes the technology's unsuitability. Every other project EPA cited was pilot-scale, outside the utility sector, or under construction.

Boundary Dam—Boundary Dam's characteristics make it inappropriate to generalize its experience with post-combustion capture to other steam units. To begin, Boundary Dam is heavily subsidized by the Canadian government, which as described above, Section I.A.1., makes it inappropriate support for EPA's "adequately demonstrated" conclusion. *See* UARG Comments 49, 128-30, JA___, ___-___.

Reflecting the still-developing nature of the technology, the record shows that Boundary Dam has been plagued by numerous problems involving the post-combustion capture process (e.g., contamination and degradation of amine solvent due to temperature and fly ash). *See* Reconsideration Denial Basis at 8, JA___. In its first year of operation, the unit's post-combustion capture system operated *only 40 percent of the time*, and it never sustained its design CO_2 capture rate. Utility Air Regulatory Group, Petition for Reconsideration of Final Rule at 6 (Dec. 22, 2015), EPA-HQ-OAR-2013-0495-11894 ("UARG Reconsideration Petition"), JA___. The carbon capture system was not expected to be fully operational until at least a year past the Rule's promulgation. *Id.* at 7, JA___. Recognizing that at least "a year of stable operation" near maximum performance is needed to evaluate the system's performance, the owner delayed its planned decision on whether to implement post-combustion capture at its other units until the end of 2017. *Id.* Because Boundary

Dam continues to struggle, it has been "taken down" on multiple occasions in 2016 "due to issues with the chemistry of the capture process," SaskPower, BD3 Status Update: June 2016 (July 7, 2016), http://www.saskpower.com/about-us/blog/bd3-status-update-june-2016/, and to address "fundamental, operationally crippling problems," UARG Reconsideration Petition, Ex. G, SaskPower Admits to Problems at First "Full-Scale" Carbon Capture Project at Boundary Dam Plant (Oct. 30, 2015), JA___.

Boundary Dam is also fundamentally different from the utility boilers to which the system applies in the Rule. In contrast to new utility boilers, which typically have a capacity of 500 MW or more and burn bituminous or subbituminous coals, 2014 Cichanowicz CCS Report at 7-2 to 7-4, JA___-___, Boundary Dam is a smaller, 110 MW unit and combusts lignite coal, 80 Fed. Reg. at 64,549, JA___.[14] And it is sited near existing CO_2 pipelines and enhanced oil recovery operations that enable the sale of the CO_2. EPA did not explain how these circumstances would allow it to draw conclusions regarding the very different conditions that characterize regulated steam units in the U.S., *see Nat'l Lime*, 627 F.2d at 433, and its best system of emission reduction based on sequestration in deep saline formations.

[14] Larger units generate more CO_2 emissions, necessitating larger-scale equipment (with higher costs, greater technical complexity, and energy needs) to capture those emissions. 2014 Cichanowicz CCS Report at 7-2 to 7-4, JA___-___.

Despite the overwhelming evidence of Boundary Dam's problems, EPA saw fit to rely on unverified statements by Boundary Dam's owners, *see* 80 Fed. Reg. at 64,549, 64,573, JA___, ___, to conclude that "the plant is operating on a highly successful upward trajectory." Reconsideration Denial Basis at 12, JA___. First, being on an "upward trajectory" is meaningless; a student who scores 20 percent on his first spelling test and then scores 25 percent on his second one is on an "upward trajectory." Second, a single, heavily-subsidized Canadian plant's "upward trajectory" in utilizing parts of EPA's "best system" does not establish that these parts of the system, much less an integrated system that includes *different* components, are "adequately demonstrated" for application across the U.S. industry. It confirms the opposite.

Other Post-Combustion Capture Projects—The only evidence besides Boundary Dam that EPA cited in support of adequate demonstration was a handful of: (i) *small-scale technology* validation or demonstration projects an order of magnitude smaller than a typical steam generating unit; (ii) *non-utility* applications inapplicable to steam generating unit operations; or (iii) *incomplete and inconclusive* projects.[15] These examples, either individually or collectively, do not support an adequate demonstration finding for EPA's best system for new steam generating units.

---

[15] Many of these projects also received substantial government subsidies, which disqualified them from being used to support an adequate demonstration finding. *See* Section I.A.1.

First, EPA relied on the planned Petra Nova project in Texas, despite admitting that it "does not yet directly demonstrate the technical feasibility or performance" of post-combustion capture. 80 Fed. Reg. at 64,551, JA___. This project is under construction and is not slated for operation until the end of 2016 at the earliest. *Id.* EPA is also barred from considering this project because it received Energy Policy Act subsidies. *Id.*

The other post-combustion capture projects EPA cites are limited pilot projects an order of magnitude smaller than commercial-scale steam units; although some of these generating units are large, they capture CO_2 from only a minuscule slip-stream of their emissions. *Id.* at 64,550-52 (AES Warrior Run, 18 MW-equivalent slip-stream; AES Shady Point, 16 MW-equivalent slip-stream; AEP Mountaineer, 20 MW-equivalent slip-stream; Southern Company Plant Barry, 25 MW), JA___-___. EPA presented no evidence these small-scale "proof of concept" projects could be scaled up to commercial-scale units while being reasonably reliable, efficient, and not unreasonably costly. *See Sierra Club*, 657 F.2d at 341 n.157 (technology not adequately demonstrated where no evidence "would justify extrapolating from the pilot scale data").

Finally, EPA relied on the non-electric utility Searles Valley Minerals soda ash plant, even though industrial carbon capture applications are much smaller and are not subject to the unique constraints of the utility duty cycle. 80 Fed. Reg. at 64,550, JA___. Unlike industrial facilities, where operations can remain relatively constant, utilities must often adjust operations hourly to meet variable demand, leading to rapid, unpredictable increases in CO_2 emissions to be captured and processed. UARG Comments at 51, JA___. Further, steam generating units may be unable to stop generating when the CO_2 capture system malfunctions because of their regulatory duty to meet retail electric load demands. *See* NCC Report at 77 (noting that units that fail to provide electricity when needed can face steep fines). And while Searles Valley uses its captured CO_2 as part of its soda ash production process, providing operational and financial benefits for the capture system, that option is not available for generating units capturing their CO_2 emissions and storing them in deep saline formations. 80 Fed. Reg. at 64,550, JA___.

B. EPA's Cost and Efficiency Conclusions Are Arbitrary, Capricious, and Unsupported by Substantial Evidence.

Even if EPA's system were "adequately demonstrated," it cannot be considered the "best" system because of the excessive cost and energy requirements of CCS. *See* CAA § 111(a)(1) (directing EPA to "tak[e] into account the cost … and energy requirements" in determining the "best system of emission reduction"). EPA acknowledged "legitimate concerns regarding the cost" of CCS. 80 Fed. Reg. at 64,513, JA___. In fact, the costs of CCS—in terms of both the equipment's capital cost and the levelized cost of electricity produced by the unit—mean that it cannot meet the statutory standard.

EPA estimated that the capital costs of a steam generating unit incorporating CCS would increase 31 percent. EPA, Regulatory Impact Analysis for the Final Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units at 4-24, Tbl. 4-5 (Aug. 2015, rev. Oct. 23, 2015), EPA-HQ-OAR-2013-0495-11877, JA___ (capital cost increase from $39 to $51/MWh).

Additionally, EPA estimated that the levelized cost of electricity for a steam generating unit using CCS is 21 to 61 percent higher than the cost of electricity from such a unit without CCS, depending on the type of coal combusted. 80 Fed. Reg. at 64,562, Tbl. 8 (increase from $76-$95/MWh to $92-$117/MWh for bituminous coal-burning units, and from $75-$94/MWh to $95-$121/MWh for low rank coal-burning units), JA___. The U.S. Energy Information Administration ("EIA"), which is the federal government's premier energy forecasting agency, estimates that the levelized cost of electricity for a steam generating unit with CCS is 39 percent higher than for a unit without CCS (increase from $91.70/MWh to $127.60/MWh). EIA, Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2015 at 10, Tbl. A5, (June 2015), EPA-HQ-OAR-2013-0495-11884 (relied on by EPA, *see* 80 Fed. Reg. at 64,563 n.282, JA___), JA___.

This substantial cost increase is due in part to the significant energy penalty associated with CCS. 80 Fed. Reg. at 64,549, JA___. A steam generating unit with CCS typically must use 30 percent of its total electricity output just to power the CCS equipment. DOE/NETL Advanced Carbon Dioxide Capture R&D Program: Technology Update at 4-5 (May 2013), https://www.netl.doe.gov/research/coal/carbon-capture/capture-handbook. This is an exorbitant energy requirement that EPA failed to take into account in violation of the CAA. By comparison, the combined energy penalty for state-of-the-art controls for nitrogen oxides and sulfur dioxide is 5-6 percent. Cichanowicz CCS Technology Review at 4-3, JA___.

In an attempt to justify its conclusion that the cost of CCS is acceptable, EPA compared the cost of a new unit employing CCS with the cost of a new nuclear unit. *See* 80 Fed. Reg. at 64,562, 64,558, JA___, ___. This is an unfair and misleading comparison. Nuclear units are the most expensive type of electric generation and typically receive substantial government subsidies. In fact, these units are so costly that few new nuclear units are being built. *See* Michael Reilly, *US starts building first nuclear reactors in 30 years*, NEW SCIENTIST, Apr. 3, 2013, https://www.newscientist.com/article/mg21829116-600-us-starts-building-first-nuclear-reactors-in-30-years/ (noting "massive cost" and federal loans). The fact that EPA compares a steam generating unit to a nuclear unit in an attempt to justify the costs as "reasonable" demonstrates the exact opposite: the costs of the Rule are exorbitant and intended to discourage construction of new steam units. Indeed, numerous commenters brought to EPA's attention the fact that the under construction Kemper facility (an IGCC unit that will employ CCS) has cost *billions* of dollars. RTC, Ch. 3, Costs and Benefits at 3-88, EPA-HQ-OAR-2013-0495-11862, JA___. EPA cursorily disregarded these concerns. 80 Fed. Reg. at 64,571, JA___. EPA provided no further analysis on this important point, despite the fact that it had been "mentioned repeatedly in the public comments." *Id.*

EPA also asserted that the costs are reasonable because the "[R]ule will result in negligible costs *overall*." *Id.* at 64,563 (emphasis added), JA___. This conclusion rests on EPA's assumption that, given low natural gas prices, developers are unlikely to build new steam generating units and thus will rarely, if ever, have to comply with the Rule. *Id.*

In assessing cost, however, EPA must consider the full range of variability, including the possibility of construction of steam generating units. *Nat'l Lime*, 627 F.2d at 441-43. EPA's failure to do so here violates the CAA. Among other things, EPA's reasoning ignored record evidence that it is the Rule that is impeding construction of new steam generating units, not low natural gas prices. UARG Comments at 15-17, JA___-___, and Attach. 1, J. Edward Cichanowicz, A Critique of the September 2013 Regulatory Impact Analysis: Coal-Fired Power Without CCS Is Competitive With Natural Gas Combined Cycle Power Without CCS (Apr. 29, 2014), EPA-HQ-OAR-2013-0495-9666 ("Cichanowicz Competitiveness Report"), JA___.

EPA's reasoning is contradicted by the EIA's prediction that natural gas prices will rise. The reference case natural gas prices forecast in EIA's 2016 Annual Energy Outlook for 2020 (at Henry Hub) are $4.43 per MMBtu—72 percent higher than

EIA's projected price for 2016. EIA, Annual Energy Outlook 2016 with projections to 2040 at App. A, A-1, Tbl. A1 (Aug. 2016), DOE/EIA-0383 (2016), http://www.eia.gov/forecasts/aeo, JA___. In 2025, EIA forecasts further increases to $5.12 per MMBtu. *Id.* Further, an additional sensitivity case modeled by EIA finds prices could exceed $6.00 per MMBtu as early as 2020, climbing to nearly $8.00 by 2030. *Id.* at App. D, D-12, Tbl. D4, JA___. Under these price sensitivity scenarios, developers would favor new steam generating units. *See* Cichanowicz Competitiveness Report, JA___-___; UARG Comments at 107-08, JA___-___.

C. EPA Did Not Show that the New Steam Generating Unit Standard Is "Achievable."

A section 111 performance standard must reflect the "degree of emission limitation *achievable* through the application of the best system of emission reduction" by sources in the regulated source category. CAA § 111(a)(1) (emphasis added). As discussed below, EPA did not show that the new steam generating units can achieve the standard set in the Rule.

1. The Standard Is Not Achievable With a System that Can Be "Appli[ed]" at Regulated Units.

A section 111 standard must be "achievable through the application of the" best system at a regulated source. CAA § 111(a)(1). EPA's standard for new steam units is based on a system that *by definition* cannot be implemented, "appl[ied]," or "achiev[ed]" at *any* source in the regulated source category because in critical parts the

Rule depends on CO_2 management activities offsite and by third parties. *See, e.g.*, 80 Fed. Reg. at 64,548, 64,581, 64,586, JA___, ___, ___.

Post-combustion CO_2 capture merely separates (rather than "reduces") from the flue gas stream the CO_2 created by a new steam unit. The degree to which CO_2 emissions to the atmosphere are reduced through EPA's system depends entirely upon the unit's separated CO_2 emissions being transported to, injected, and permanently sequestered underground in "deep saline formations," a complicated and costly process that has not been undertaken by any electric utility and which EPA expects will be developed and managed by others. *Id.* at 64,579, JA___. These steps that occur after CO_2 emissions are separated from the unit's flue gas cannot, *by definition*, be achieved by any system "appl[ied]" at any steam generating *unit* itself. A steam generating unit is "any furnace, boiler, or other device used for combusting fuel and producing steam … plus any integrated equipment that provides electricity or useful thermal output to the affected [electric generating unit(s)] or auxiliary equipment." 40 C.F.R. § 60.5580. Whether the source's CO_2 emissions will be emitted to the atmosphere is outside the control of the *source* and does not reflect its emissions "performance" based on any system applied at the source. Therefore, EPA failed to meet the statutory requirements to show the system could be applied *at a source* to achieve the standard.

2. EPA's Achievability Finding Is Not Supported by the Record.

Even if EPA's system could be applied by the regulated sources themselves, EPA failed to show that a new source applying EPA's best system could achieve the standard of 1,400 lb CO_2/MWh. EPA must demonstrate that sources throughout "the industry as a whole" can achieve the standard by applying the best system, even "under most adverse conditions which can reasonably be expected to recur." *Nat'l Lime*, 627 F.2d at 431 n.46, 433.

EPA derived both the standard and its achievability analysis entirely from an engineering report issued by DOE's NETL shortly before the Rule was signed and over a year after the comment period closed. NETL June 2015 Supplement Report, JA___-___; *see also* 80 Fed. Reg. at 64,573, JA___; Achievability TSD at 1, JA___; NETL July 2015 Report, JA___-___ (detailing basis for estimates in NETL June Supplement 2015 Report). But that report was not an adequate basis for, and did not support, EPA's achievability finding.

First, EPA drew conclusions from the report that go far beyond that report's scope. The report's sole purpose was to estimate the *cost* and *power generation* of a hypothetical unit based on assumptions about the unit's design which, if they proved true, would allow the unit to reach various CO_2 capture rates. *See* NETL June 2015 Supplement Report at 5, JA___. These included assumptions regarding the hypothetical unit's design and operational characteristics, its baseline CO_2 emissions before capture, and the size and type of post-combustion capture equipment that would be used at the unit if it were designed for a specific capture rate. The report did not purport to show that any particular capture rate or emission standard is achievable under the full range of foreseeable conditions; to the contrary, it simply *assumed* that the hypothetical unit's specified design would yield the desired emission rate and that the unit would perform flawlessly at ideal conditions in perpetuity. The report's authors recognized the unrealistic nature of these assumptions, stating that "[a]ctual average annual emissions from operating plants are likely to be higher than the design emissions rates shown." *Id.* at 1, JA___.

Second, the report's analysis is not "representative of potential industry-wide performance, given the range of variables that affect the achievability of the standard." *Sierra Club*, 657 F.2d at 377 (citing *Nat'l Lime*, 627 F.2d at 433). The report's hypothetical unit is assigned specific design and operational features (such as capacity, steam cycle temperature and pressure, and capacity factor) that influence its CO_2 emission rate but that vary across the industry and at individual units. The hypothetical unit was assumed to have a generating capacity of 550 MW, a very high steam cycle temperature and pressure, and a steady 85 percent capacity factor, all of which would produce more efficient operation (and a lower CO_2 emission rate) than many other typical units in the source category.[16] NETL July 2015 Report at 12, JA___.

In particular, capacity factor (a unit's actual output as a percentage of its potential output) is a key driver of CO_2 emission rates that varies widely across the industry, and even from year-to-year at individual units, largely due to factors beyond the unit's control like demand and dispatch. UARG Modified/Reconstructed Comments at 49, JA___. In the Clean Power Plan, EPA acknowledged the average annual capacity factor for steam generating units is only 53 percent, in contrast to the NETL June 2015 Supplement Report's assumed 85 percent. EPA, Greenhouse Gas Mitigation Measures Technical Support Document at 2-36 (Aug. 3, 2015) ("Mitigation TSD"), EPA-HQ-OAR-2013-0495-11879, JA___. As a result, the average real unit would emit CO_2 at a higher baseline rate than the hypothetical unit. EPA did not account for this factor, making its analysis unreasonable.

The NETL June 2015 Supplement Report also did not account for the "adverse conditions" that may be expected to influence a unit's CO_2 emission rate. *See*

---

[16] EPA also did not account for the effect on CO_2 emissions of combusting different coals. EPA cited another NETL report to assert that the standard is achievable for units burning "low rank" (i.e., subbituminous and lignite) coals. DOE, NETL, Cost and Performance Baseline for Fossil Energy Plants: Vol. 3 Executive Summary: Low Rank Coal and Natural Gas to Electricity (Sept. 2011), DOE/NETL-2010/1399, EPA-HQ-OAR-2013-0495-11667, JA___. But EPA considered only the level of capture that would be needed for a unit burning subbituminous coal, even though CO_2 emissions from lignite coal combustion are 80-90 lb CO_2/MWh higher. *Id.* at 5, Ex. ES-3, JA___.

Nat'l Lime, 627 F.2d at 431 n.46. Instead, the report assumes a post-combustion capture system would perform exactly as designed and never break down. As discussed in Section I.A.2.b.2., experience at Boundary Dam (which has never sustained its design capture rate) actually shows the opposite. Likewise, the NETL June 2015 Supplement Report did not account for the inevitable degradation in a unit's efficiency over time, *see* NETL June 2015 Supplement Report at 1, JA___, a well-documented and unavoidable phenomenon that EPA previously determined should be accounted for in setting CO_2 emission standards, *see In re Footprint Power Salem Harbor Development, LP*, PSD Appeal No. 14-02, 2014 WL 11089298, at *9 (EAB Sept. 2, 2014).

Third, and more fundamentally, the NETL June 2015 Supplement Report did not show that the standard is achievable by steam generating units applying the best system of emission reduction because *the report did not apply that system in its analysis.* EPA defined the best system for steam generating units as "a highly efficient *supercritical* pulverized coal boiler using post-combustion partial CCS" with sequestration in deep saline formations. 80 Fed. Reg. at 64,596, JA___ (emphasis added). But as the report acknowledged, its emission estimates were based on the performance of a more advanced class of steam generating units that is currently under development and used at only one site in the U.S., known as *ultra*-supercritical boilers, which use higher steam cycle temperatures and pressures than supercritical boilers.[17] NETL July 2015 Report at 22, JA___.

This difference is not "purely semantic"; an ultra-supercritical boiler is not merely a "highly efficient" or "optimized" supercritical boiler. *See* Reconsideration Denial Basis at 20-21, JA___-___. Ultra-supercritical boilers are designed with different equipment, allowing them to utilize higher steam cycle temperatures and pressures than the supercritical boilers that form the bulk of the units in this source category. UARG Reconsideration Petition at 12, JA___. Because the NETL reports assumed the use of ultra-supercritical steam conditions, they also assumed baseline CO_2 emission rates before carbon capture that are lower than the baseline rate of a supercritical unit applying EPA's best system. *See* Achievability TSD at 6 (acknowledging ultra-supercritical units achieve lower CO_2 emission rates than supercritical), JA___. For this additional reason, the NETL reports do not support EPA's conclusion that its performance standard is achievable using its best system.

Apparently recognizing this weakness, EPA purported to "assess the reasonableness" of the assumed baseline emission rates in the NETL reports by comparing them to emissions from existing steam generating units. Achievability TSD at 5, JA___. That justification fails for three reasons. First, EPA (like NETL) relied on

[17] EPA committed the same error with respect to its achievability analysis for "low rank" coal units. Achievability TSD at 2 (emission value derived "from the case of an ultra-supercritical [pulverized coal unit] burning subbituminous coal"), JA___.

the performance of an *ultra*-supercritical unit when assessing the baseline emission rate of coal units using "low rank" coal. *Id.* at 6, JA___ (comparing NETL estimate to emissions from AEP Turk facility, America's *only* ultra-supercritical steam generating unit). EPA's analysis therefore is not representative of emissions from the supercritical units on which its best system is based.

Second, EPA examined only what it calls the two "best performing units using bituminous and low rank coal." Achievability TSD at 6, JA___. This approach violates section 111 and decades of case law and EPA policy establishing that in determining whether a standard is achievable, EPA may not focus solely on what the best performing units might be capable of achieving. *See, e.g.*, *Nat'l Lime Ass'n*, 627 F.2d at 433 (standard must be achievable "for the industry as a whole"); McCutchen Letter at 1 (performance standard is "least common denominator" and "establishes what every source can achieve, not the best that a source could do"), JA___.

Third, actual emissions data do not support EPA's assumed baseline rates of 1,618 lb CO_2/MWh and 1,737 lb CO_2/MWh for bituminous and low rank coals, respectively. Achievability TSD at 3, Tbl. 1, JA___. To the contrary, even at EPA's "best performing units," the *best* observed 12-month average emission rates exceed those baseline estimates. *Id.* at 6, Tbl. 3, JA___. Across the source category, actual emissions are significantly higher and display substantial variation, both among units and from year-to-year at each unit. Indeed, some supercritical units combusting bituminous coal experienced annual CO_2 emission rates in excess of 2,000 lb

CO_2/MWh—at least 25 percent above the NETL June 2015 Report's baseline estimate. UARG Reconsideration Petition, Ex. J, J. Edward Cichanowicz & Michael C. Hein, Critique of the Environmental Protection Agency's Evaluation of Partial Carbon Capture and Storage as Best System for Emissions Reduction (BSER) at 3-4 (Dec. 21, 2015), EPA-HQ-OAR-2013-0495-11894, JA___. Much of this variation appears to be driven by differences in each unit's annual capacity factor, which is primarily governed by demand and dispatch considerations and is thus beyond any individual unit's control. *Id.* at 3-5, 3-6, JA___, ___.

These are not simply "adverse conditions which can reasonably be expected to recur" that EPA must—but did not—account for in determining an achievable standard. *See Nat'l Lime*, 627 F.2d at 431 n.46. They are the *typical* conditions under which steam generating units operate. The Agency's achievability analysis rested entirely on a hypothetical unit, operating under ideal conditions, and using a boiler design different from that on which the best system is based. This falls far short of what section 111 requires.

Accordingly, EPA failed to show that its standard for new steam generating units is "achievable" by those units "appl[ying]" a "system of emission reduction" that is both "best" (reflective of cost and energy requirements) and "adequately demonstrated," and, therefore, the standard must be vacated.

II. EPA's Disparate Treatment of Baseload Fossil Fuel Units Independently Renders the Rule Unlawful.

This Court has held agencies "to be at [their] most arbitrary" when they "treat similar situations dissimilarly." *Steger v. Def. Investigative Serv.*, 717 F.2d 1402, 1406 (D.C. Cir. 1983). "Deference to agency authority or expertise … is not a license to … treat like cases differently." *Airmark Corp. v. FAA*, 758 F.2d 685, 691 (D.C. Cir. 1985) (internal quotation marks omitted). Thus, absent a "coherent explanation for [its] disparate treatment," an agency's action is "patently arbitrary" and "compels" vacatur. *Id.* at 687, 692, 695.

Additionally, in setting section 111 performance standards, EPA must justify differential treatment within the same industry because "[t]his bears on the issue of 'economic cost'" just as does "inter-industry comparison in the case of industries producing substitute or alternative products." *Portland Cement,* 486 F.2d at 390. Competitive-industry impacts may not be "either ignored or assessed invalidly." *Id.* EPA also must consider "energy requirements" in setting performance standards. CAA § 111(a)(1). In this case, the consideration of energy requirements would strongly support the adoption of standards that allow the market and industry to choose the appropriate mix of fleet-wide fuel use, rather than dictate to industry what that fuel mix should be.

In the Rule, EPA set a performance standard for new baseload gas-fired units based on efficient generation technology. Juxtaposing EPA's determination for that subcategory with its determination for new coal-fired units (supercritical pulverized coal boiler technology plus CCS with permanent sequestration in deep saline formations), however, reveals that EPA's analysis was so inconsistent as to render the Rule arbitrary and capricious.[18] Nothing in the record justifies such disparate treatment of baseload fossil fuel units.

EPA found only two gas-fired units that employed post-combustion carbon capture—one in Massachusetts from 1991 to 2005 and one in Japan since 1994. 80 Fed. Reg. at 64,613, JA___. EPA also described two additional gas-fired units with that technology at varying stages of planning and development in Texas and Scotland. *Id.* at 64,613-14, JA___-___. These limited examples led EPA to conclude that post-combustion carbon capture did not meet the section 111 statutory requirements for baseload gas-fired units. *Id.* at 64,614, JA___. Logic compels a similar outcome for coal-fired units, for which there is *no* U.S. operational experience using post-combustion carbon capture and less than a full year of extremely costly and mixed results using carbon capture on one heavily-subsidized Canadian unit. *Id.* at 64,551-52, JA___-___; *see supra* Section I.A.2. Yet somehow EPA reached the opposite conclusion for coal-fired units. The discrepancy in EPA's reasoning is unsupported and unjustified.

[18] Because this section addresses EPA's disparate treatment of fossil fuels used for baseload generation, the terms "coal-fired units" and "gas-fired units" are used for the subcategories to present the issue.

EPA relied heavily upon the NETL studies to support the standard for new coal-fired units, yet those same studies indicate "the cost of CCS for NGCC units would be more cost-effective than for coal-fired [units]." 80 Fed. Reg. at 64,613, JA___. This is largely because the greater technical requirements for capturing CO_2 from coal-fired units substantially increase the capital and operating costs in ways not applicable to gas-fired units. For example, acid gas found in high levels in coal-fired unit flue gas must be "scrubbed to very low levels prior to the flue gas entering the CO_2 capture system" to avoid costly degradation of carbon capture solvents. *See id.* at 64,549, JA___.

When confronted with comments pointing out its inconsistencies, EPA responded with a "barebones incantation of … abbreviated rationales" without a single citation to supporting evidence. *Action for Children's Television v. FCC*, 821 F.2d 741, 746 (D.C. Cir. 1987). EPA asserts that its definition of the baseload gas-fired unit subcategory may include "some" unknown number of "intermediate units that cycle more frequently" than "true base load units," and that these units could not be expected to utilize CCS because doing so would lead to "increased costs and energy penalties." 80 Fed. Reg. at 64,614, JA___.[19] But the inappropriateness of CCS for

[19] EPA offered no discussion or record evidence of intermediate units that may fall into the baseload combustion turbine subcategory. EPA asserted that all units selling more than 50 percent of their potential output to the grid "are serving base load demand." RTC, Ch. 5, Applicability to New EGUs, IGCC, and CTs at 5-35, EPA-HQ-OAR-2013-0495-11864, JA___. EPA referenced the possibility of fast-start

these *non*-baseload units "lends no support whatsoever" to EPA's disparate treatment of baseload fossil fuel units. *Ill. Commerce Comm'n v. ICC*, 787 F.2d 616, 634 (D.C. Cir. 1986). Agencies cannot justify regulatory treatment of two distinct circumstances with a reason applicable to only one. *Id.* Moreover, EPA did not set a standard for coal-fired units that took into account that some such units cycle more frequently than others and that some even cycle as frequently as those gas-fired units the Agency considered to be an intermediate unit. EPA did not hesitate in applying CCS to a frequently-cycling coal-fired unit despite determining that even the possibility of frequent cycling for some unspecified number of baseload gas-fired units was reason to discard CCS as the best system for such units. 80 Fed. Reg. at 64,614, JA___. Indeed, in its first proposed rule to establish performance standards to address CO_2 emissions from fossil fuel-fired electric generating units, EPA explained with respect to coal- and gas-fired units, "all of the plants covered by the new combined category … perform the same essential function, which is to provide generation to serve baseload or intermediate load demand … regardless of their design or fossil fuel type." 77 Fed. Reg. 22,392, 22,410 (Apr. 13, 2012).

NGCC units, but this is still an emerging technology and it is unclear if any such units will be used to provide intermediate load rather than peaking power. Adding to its inconsistencies, EPA assumed at least a 75 percent capacity factor for existing NGCC units in the separate rulemaking for existing coal-fired units. 80 Fed. Reg. at 64,799, JA___.

EPA's only other attempt to distinguish baseload fossil-fuel units was a half-hearted attempt to "enumerate" a smattering of factual differences without any effort to "explain the relevance of those differences." *Melody Music, Inc. v. FCC*, 345 F.2d 730, 733 (D.C. Cir. 1965). For one, EPA contrasted an absence of a "currently operational" gas-fired demonstration project *in the United States* with the presence of an operational coal-fired demonstration project *in Canada*, ignoring a decades-old operational gas-fired unit *in Japan* and another that operated for 14 years *in the United States*. EPA also incorrectly claimed that there are "multiple CCS demonstration projects for coal-fired units … in various stages of development throughout the U.S." and "no NGCC-with-CCS demonstration projects … [are] being constructed in the U.S." 80 Fed. Reg. at 64,614, JA___. Yet there is only one coal demonstration project under development in the U.S. using the post-combustion carbon capture technology that EPA relied on for the standard for coal-fired units, and one such natural gas demonstration project under development in the U.S.

EPA also asserted without evidence that DOE has not funded a demonstration project for a gas-fired unit, as if that statement somehow supports requiring carbon capture for coal-fired units. Federal demonstration projects focus on the more technically challenging capture of carbon from coal generation, and almost all of the federal funding has been appropriated for use in coal projects alone. Arguably, the absence of funding for gas-fired demonstration projects shows that carbon capture for coal-fired units is farther behind carbon capture for gas-fired units, not the other way around.

Ultimately, EPA's determination of the standards for baseload coal- and gas-fired units impermissibly "ignored those considerations found dispositive" in determining the standard for one type of unit when it set the standard for the other. *Airmark Corp.,* 758 F.2d at 694. EPA considered but rejected efficiency improvements as the best system for new coal-fired units because it found that that system "does not achieve emission reductions beyond the sector's business as usual." 80 Fed. Reg. at 64,548, 64,594, JA___, ___. And yet EPA endorsed the "normal business practice" of efficient generation technology as the best system for baseload gas-fired units. *See id.* at 64,640, JA___. EPA also insisted that its identification of CCS as the best system for coal-fired units is intended to "drive new technology deployment," *id.* at 64,596, JA___, but EPA cited no similar technology-forcing ambitions when identifying the best system for gas-fired units. "Elementary even-handedness requires" that EPA apply consistent criteria to all baseload fossil fuel units. *Airmark Corp.*, 758 F.2d at 692. Moreover, any assertion that technology development and emission reductions beyond "business as usual" are important factors in setting performance standards is belied by the fact that EPA applied CCS to the *only* type of units regulated in the Rule that EPA predicted (rightly or wrongly) will *not* be built.[20]

Faced with its own record that capturing carbon from coal-fired units is even more difficult, even more expensive, and even less proven than capturing carbon from gas-fired units, EPA's inconsistent criteria for setting the new source standards plainly favor one fossil fuel used for baseload electricity over another. Lacking reasoned justification for distinguishing between baseload fossil fuel units, EPA's "dissimilar treatment of evidently identical cases, on the same day" is nothing short of "the quintessence of arbitrariness and caprice." *Colo. Interstate Gas Co. v. FERC*, 850 F.2d 769, 774 (D.C. Cir. 1988).

In the end, EPA's failure to justify its double standard suggests its analysis was outcome-driven. Instead of systematically and impartially examining a range of systems and determining which was "adequately demonstrated" and "best" based on consistent criteria, EPA adopted inconsistent criteria it knew would prevent the construction of one type of unit and encourage the construction of another. As part of its overall policy agenda, EPA unlawfully used section 111(b) to force a desired

---

[20] In fact, selecting CCS for coal-fired units will *slow* the deployment of the technology because, just as EPA intended, the Rule's unachievable standard will cause electricity generators to avoid developing new coal-fired units entirely. Additionally, this highlights more inconsistent treatment by EPA. It did not finalize its proposed standard for existing combustion turbines that undertake modifications because it found that few such sources were likely to exist. 80 Fed. Reg. at 64,515, JA___. Applying this same reasoning, EPA should have also decided not to finalize the proposed standard for new coal-fired units given its belief that they will not be built.

outcome—shutting the door on new coal-fired units. The Rule must be vacated for this reason.[21]

III. The Standards for Modified and Reconstructed Steam Generating Units Are Unlawful.

A. The Modified Unit Standard Is Not Achievable Through Application of an Adequately Demonstrated System of Emission Reduction.

In discussing the standard for modified steam generating units—spanning a mere three pages of the Federal Register—EPA provided no evidence that its standard is achievable. *See* 80 Fed. Reg. at 64,597-600, JA___-___. Accordingly, this standard must be vacated.

EPA set its modified unit standard on a case-by-case determination of each unit's "best historical annual CO_2 emission rate." 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 1. But there is no evidence in the record that a modified steam generating unit can replicate its best past performance on a continuous basis under the range of operating conditions the unit will confront during normal operations in the future. Indeed, EPA's entire discussion of the modified unit standard never even uses the word "achievable." 80 Fed. Reg. at 64,597-600, JA___-___.

[21] If the Court agrees EPA improperly treated baseload fossil fuel units inconsistently, but is disinclined to vacate the entire Rule, or in the alternative the standard for new coal-fired units only, then Petitioner Murray Energy Corporation alone asks that the Court remand the standard for baseload gas-fired units to allow the Agency to address its disparate treatment of baseload fossil fuel units.

At most, EPA claims its modified steam generating unit system is "technically feasible," *id.* at 64,599, JA___, which is inadequate to establish "adequate demonstration." In fact, EPA's one-paragraph technical feasibility discussion simply cited to unspecified portions of an analysis prepared in support of a *different* rule—the Clean Power Plan. *Id.* (citing Mitigation TSD at Ch. 2), JA___. That analysis addressed only what efficiency improvements (and thus CO_2 emission rate reductions) are available across the entire fleet of existing steam generating units *on average* as compared to 2012 emissions. *See* Mitigation TSD at 2-2, JA___. It did not show what efficiency improvements are achievable for the *individual* units to which the modified unit standard would apply. In fact, EPA in that other proceeding specifically said it was drawing *no* conclusions about individual unit capabilities. *Id.* at 2-61, JA___. EPA offers no explanation of how its analysis of a different standard based on industry averages is relevant to the achievability of the standard by individual modified steam generating units.

Likewise, nothing in the Mitigation TSD provides evidence that a steam unit can match its best historical performance. It simply stated EPA's unsupported "expectation" that "in the general sense, if coal-fired EGUs in an interconnection were able to demonstrate and achieve specific heat rates in the past, the EGUs should be able to achieve similar heat rates again." *Id.* at 2-22, JA___; *see also id.* ("the historical unit-level gross heat rate is by definition demonstrated and achievable by the respective coal-fired EGU"). But "expectation" alone cannot support a finding that a standard is achievable. *See Lignite Energy Council*, 198 F.3d at 934 (achievability finding cannot be based on "mere speculation or conjecture"). The fact that a unit performed at a certain emission rate under ideal conditions in the past—i.e., the best conditions under which it has ever operated—does not indicate that it can repeat that performance under "the range of relevant conditions which may affect the emissions to be regulated." *Nat'l Lime*, 627 F.2d at 433.

Moreover, a substantial share of the variation in each unit's CO_2 emission rate is due to factors beyond the unit's control. Mitigation TSD at 2-39, JA___. Capacity factor alone accounts for up to 50 percent of variation in some steam generating units' efficiency, while ambient temperature conditions account for up to 30 percent. *Id.* at 2-35, 2-37, JA___, ___. Because these factors are beyond the unit's control, most if not all units are unable to match their best historical performance, which would have occurred when these conditions were favorable on a continuous basis. EPA's assumption is also inexplicable in light of its admission that a steam generating unit's efficiency—and the benefits of measures it may take to improve its efficiency—degrades over time, *id.* at 2-61, JA___, and that many of the available measures for improving efficiency are unavailable for some units or do not have additive benefits, *id.* at 2-10, JA___, further increasing the difficulty of returning to and continuously maintaining the unit's best historical performance.

EPA has not shown that its standard for modified sources is "within the realm of the adequately demonstrated system's efficiency." *Essex Chem.*, 486 F.2d at 433.

Because EPA neglected the most basic requirements of section 111, the standard for modified units must be vacated.

B. The Reconstructed Unit Standards Are Neither Based on, Nor Achievable Through Application of, an Adequately Demonstrated System of Emission Reduction.

EPA's standards for reconstructed steam generating units are likewise unlawful. EPA did not show that its "best system" has been demonstrated or applied *anywhere*, in *any* source category. The Agency's achievability analysis also relied on data that are unrepresentative of steam generating units. Accordingly, these standards must be vacated.

1. EPA's System of Emission Reduction Has Never Been Demonstrated.

EPA concluded that the best system for reconstructed steam generating units is the use of a boiler with supercritical steam conditions for large units and the use of a boiler with subcritical steam conditions for small units. 80 Fed. Reg. at 64,600, JA___. EPA emphasized that this means *converting* the unit to operate using "the most efficient steam conditions available, even if the boiler was not originally designed to do so." *Id.* at 64,546, JA___.

Yet, as commenters noted, no steam generating unit has *ever* converted from subcritical steam conditions to supercritical. *See, e.g.*, UARG Modified/Reconstructed Comments at 29, JA___. EPA did not refute this fact. *See* 80 Fed. Reg. at 64,600-01, JA___-___. Nor did it point to examples of boilers converting from subcritical to supercritical steam conditions in other industries and explain why that experience can be extrapolated to steam generating units. *See Lignite Energy Council*, 198 F.3d at 934 (extrapolating performance from utility boilers to industrial boilers). Indeed, as commenters showed, such a radical design change would be prohibitively expensive. UARG Modified/Reconstructed Comments, Attach. B, J. Edward Cichanowicz & Michael C. Hein, Evaluation of Heat Rate Improving Techniques For Coal-Fired Utility Boilers As A Response to Section 111(d) Mandates at 4-2 (Oct. 13, 2014), EPA-HQ-OAR-2013-0603-0215, JA___. EPA's standard here is akin to requiring the conversion of the family station wagon into a Formula One race car and assuming this is possible because the station wagon and the race car are both motor vehicles.

Lacking any examples of such a redesign of the boiler, EPA based its adequate demonstration finding on the fact that brand-new units have been built using supercritical boiler design. 80 Fed. Reg. at 64,600-01, JA___-___; 79 Fed. Reg. at 34,983, JA___. While true, this does not indicate that an *existing* subcritical boiler can be completely rebuilt to handle supercritical steam conditions, or that such a redesign would be reliable, efficient, and not unreasonably costly. Nowhere did EPA even attempt to analyze the changes that would be needed at a subcritical steam generating unit to handle the higher steam temperatures and pressures associated with supercritical boiler design, or the costs of undertaking such changes.

Elsewhere in the Rule, EPA posited that it could find a system adequately demonstrated that has not yet been applied by the source category if it "identif[ies] the major steps necessary … and give[s] plausible reasons for its belief that the industry will be able to solve those problems." 80 Fed. Reg. at 64,557 (internal quotation marks omitted), JA___. Even if future work to resolve acknowledged problems were permissible to establish a system is "demonstrated," EPA failed to actually identify the "major steps" that would be needed here. *See id.* at 64,600-01, JA___-___. And hoping that the industry will be able to fill *ex post* a void that EPA was required to fill *before* finalizing the Rule cannot cure EPA's deficiency. A system must be shown to be "adequately demonstrated" when the Rule is promulgated. EPA's conclusion that conversion from subcritical to supercritical boiler design has been adequately demonstrated is thus "mere speculation or conjecture," which is an unlawful basis for a performance standard. *Lignite Energy Council*, 198 F.3d at 934.

2. The Reconstructed Standards Have Not Been Shown To Be Achievable.

EPA also failed to show that its standards for reconstructed steam generating units (1,800 lb CO_2/MWh gross for large units and 2,000 lb CO_2/MWh gross for small units) are achievable through application of subcritical or supercritical boiler design. 40 C.F.R. pt. 60, Subpt. TTTT, Tbl. 1. The proposed rule's achievability analysis—which EPA did not update for the final Rule—relied on a speculative analysis of limited data from what EPA called the two "best performing facilities" in each subcategory. *See* Reconstruction TSD at 7, JA___. And EPA made the standards even more stringent than what these "best performing facilities" achieved without providing any basis for doing so.

As discussed above, a new source performance standard is broadly applicable and must be shown to be achievable by sources across the whole industry, under variable conditions, including the most adverse conditions that are reasonably likely to recur. *Nat'l Lime*, 627 F.2d at 431 n.46, 433. Despite EPA's acknowledgment that the existing steam generating unit fleet is "numerous and diverse in size and configuration," 79 Fed. Reg. at 34,982, JA___; *see also* Mitigation TSD at 2-7, EPA's achievability analysis focuses on just two units that are not representative of this diverse fleet. Reconstruction TSD at 7-8, JA___-___. Both units are relatively new and combust subbituminous coal. *Id.* at 8, JA___. Units combusting subbituminous coal may emit CO_2 at a rate that is 80-90 lb CO_2/MWh lower than lignite coal. *Supra* note 16. Both units operate at relatively high average capacity factors, indicating that they may operate more efficiently (and at a lower CO_2 emission rate) than units that operate less frequently. Reconstruction TSD at 8 Fig. 4, JA___. EPA's estimates of the emissions from these "best performing units" hardly support a finding that the standard is achievable for the industry as a whole, including under variable and adverse conditions affecting emissions.

Rather than recognizing the variable and adverse conditions reconstructed steam generating units may face and adjusting the standard accordingly, EPA instead further tightened the standards beyond even what those "best performing units" have achieved without providing any basis for its expectation of improved performance. *Id.* at 7, JA___. Accordingly, the Rule established an emission limit for small reconstructed steam units that has *never* been achieved by even the so-called "best performing unit" for that subcategory. *See id.* at 7-8 (Wygen emission rate 120 lb CO_2/MWh higher than standard EPA proposed and ultimately finalized).

Although EPA may, in some cases, "hold the industry to a standard of improved design and operational advances," it may do so only if it provides "substantial evidence that such improvements are feasible." *Sierra Club*, 657 F.2d at 364. Here, EPA adjusted the emission performance of the "best performing unit" to reflect what it calls a "normalized" emission rate based on improvements in unspecified "design factors" for a "*theoretical* reconstructed facility." Reconstruction TSD at 7, JA___ (emphasis added). Far from providing "substantial evidence" that improved performance is feasible, EPA admitted that it "does not have information" regarding the "design factors" and "operation and maintenance practices" that form the basis of the adjusted, more stringent emission rates it adopted as the standards. *Id.* Instead, EPA simply assumed, without explanation, that "[a] reconstructed EGU would be able to incorporate" these unknown design factors and operation and maintenance practices. *Id.* This pure "'crystal ball' inquiry" is unlawful. *Portland Cement*, 486 F.2d at 391. EPA's standards for reconstructed steam generating units must be vacated.

IV. EPA's Failure To Make the Requisite Section 111(b) Endangerment and Significant Contribution Findings Renders the Rule Unlawful.

EPA failed to make the statutorily required findings of endangerment and significant contribution, and the Rule is therefore invalid for failure to follow mandatory requirements. The CAA does not authorize section 111 new source standards unless EPA makes two findings: (i) the specific "air pollution" to be regulated is "reasonably … anticipated to endanger public health or welfare"; and (ii) the specific source category—in this case, defined by EPA as "fossil fuel-fired [electricity generating units]," 80 Fed. Reg. at 64,529-30, JA___-___—"causes, or contributes significantly to" that endangering air pollution. CAA § 111(b)(1)(A). Only if it validly makes both findings may EPA establish performance standards to address the specific pollution from the specific source category. Because EPA promulgated the Rule without making these threshold statutory findings, the Rule is unlawful.

EPA made three arguments as to why it has met its statutory obligations. First, it argued that because it previously made an endangerment finding for other pollutants emitted from the types of sources regulated here, it was not required to make a new finding for CO_2. Second, it claimed it may rely on a 2009 endangerment finding for motor vehicles. Third, it said that the "information and conclusions" in the Rule's preamble could fulfill this prerequisite. Each of these arguments fails.

A. EPA Was Wrong in Claiming that New CO_2-Specific Findings Were Unnecessary.

EPA claimed it need not make new endangerment and significant contribution findings for CO_2 because it was not listing a brand-new source category. 80 Fed. Reg. at 64,529, JA___. EPA insists that findings regarding *other* pollutants (not CO_2) made over 45 years ago for "steam generators," 36 Fed. Reg. 5931 (Mar. 31, 1971), JA___ (one-sentence finding), and nearly 40 years ago for "stationary gas turbines," 42 Fed. Reg. 53,657 (Oct. 3, 1977), JA___, suffice. Regulating CO_2 on the basis of findings made many years ago for different pollutants and different source categories ignores the text and structure of the CAA.

First, EPA incorrectly argued that it was not listing a new source category. It was. Its prior findings related to "steam generators" and "stationary combustion turbines." Here, EPA established an entirely new category—codified in a new subpart TTTT of its regulations—which was "specifically created for CAA 111(b) standards of performance for [greenhouse gas] emissions from fossil fuel-fired [electricity generating units]." 80 Fed. Reg. at 64,512, JA___.

Second, EPA's findings made *decades ago* addressed *different* pollutants from other source categories. These different findings do not give EPA a regulatory blank check *for all time* to regulate any other air pollutant emitted from the source category. EPA's interpretation has no limiting principle. Under EPA's view, it could regulate any air pollution from any source category, regardless of whether the specific pollutant endangers public health or welfare, and regardless of whether the source category is a significant contributor to that endangering air pollution. In contrast, the Committee Report accompanying the 1977 amendments explained that Congress did "not intend this [section 111 endangerment finding] language as a license for 'crystal ball' speculation. The Administrator's judgment … [is] subject to restraints of reasoned decisionmaking" and "the careful and thorough procedural safeguards" in the Act. H.R. Rep. No. 95-294, at 51 (1977), *reprinted in* 4 COMM. PRINT, A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1977, at 2465, 2518 (1978) ("1977 Legis. History"), JA___.

EPA concedes that other endangerment provisions in the CAA "do require the EPA to make endangerment findings for each particular pollutant that the EPA regulates under those provisions." 80 Fed. Reg. at 64,530 (citing CAA §§ 202(a)(1), 211(c)(1), 231(a)(2)(A)), JA___. EPA is wrong in claiming that the wording of section 111(b) somehow leads to a different result. Section 111(b)(1)(B) provides that EPA may issue performance standards for sources listed under section 111(b)(1)(A). A "standard of performance" is, by definition, tied to specific pollutants for which an endangerment finding has been made. *See* CAA § 111(a)(1) (defining a "standard of performance" as "a standard for emissions of *air pollutants*") (emphasis added). Any other reading would give EPA unfettered authority to regulate any air pollutant emitted by that source regardless of whether it endangers health or welfare, which the Supreme Court disavowed. *See Massachusetts v. EPA*, 549 U.S. 497, 532-33 (2007)

(EPA does not have "a roving license to ignore the statutory text"); *see generally id.* at 532-35.

Legislative history confirms that Congress viewed the endangerment sections in the CAA as "standardized" provisions and that "[t]his same basic formula is used" throughout the Act. H.R. Rep. No. 95-294 at 50 (1977), *reprinted in* 4 1977 Legis. Hist. at 2517, JA___. Indeed, in 2009, EPA observed that the CAA contains several endangerment provisions sharing a basic architecture: "[i]n all of the various provisions, there is broad similarity in the phrasing of the endangerment and contribution decision." 74 Fed. Reg. 66,496, 66,507 (Dec. 15, 2009), JA___, ___. The only difference EPA noted then was that section 111(b) creates a *higher* standard by requiring a finding of a "'*significant*' contribution." *Id.* at 66,506, JA___ (emphasis added). This higher standard means more—not less—evidence of endangerment is required.

Ultimately, even EPA does not really accept its own argument. It invents an extra-textual "rational basis" standard to try to cabin its otherwise limitless theory. *See* 80 Fed. Reg. at 64,530, JA___. But "rational basis" is found nowhere in section 111, and that deferential standard is not what Congress enacted. EPA is rewriting the statute to adopt an impermissibly lower standard for itself than Congress prescribed. *Coal. for Responsible Regulation*, 684 F.3d at 118 ("In *Massachusetts v. EPA*, the Supreme Court rebuffed an attempt by EPA itself to inject considerations of policy into its decision…. The statute speaks in terms of endangerment, not in terms of policy….").

B. EPA Cannot Rely on Its 2009 Finding Regarding Greenhouse Gas Emissions From Automobiles.

EPA alternatively points to its 2009 endangerment finding for motor vehicles under Title II of the CAA, 80 Fed. Reg. at 64,530, JA___, but that finding does not satisfy EPA's section 111(b)(1)(A) obligations. The 2009 endangerment finding determined that "six well-mixed greenhouse gases" in the "aggregate" endanger public health or welfare and that new motor vehicles contributed to that endangering air pollution. 74 Fed. Reg. at 66,497, 66,517, 66,519, 66,536, 66,537 n.36, 66,538 n.38, JA___, ___, ___, ___, ___, ___. Importantly, the "combined mix" of those six gases was defined as a single air pollutant, and therefore the 2009 finding was, by EPA's own definition, about a different air pollutant than the one controlled here (CO_2 alone). *Id.* at 66,516, JA___. Further, EPA emphasized that its finding was made for the *sole purpose* of establishing *motor vehicle* emission standards. *Id.* at 66,501, JA___. Indeed, EPA distinguished section 111 as imposing a *higher* standard. *Id.* at 66,506, JA___.

In contrast, the Rule here regulates *only* CO_2, 80 Fed. Reg. at 64,531 n.110, JA___, and EPA has *never* found that CO_2 alone endangers public health or welfare, much less that CO_2 from fossil fuel-fired electricity generating units (as opposed to motor vehicles) has that effect. Whether EPA believes it would be able to develop a record that would support such a finding is irrelevant. EPA's 2009 finding was made with respect to a different pollutant, from a different source category, and without any examination of "significant" contribution.

C. EPA's Attempt To Manufacture New "Findings" Fails.

Lastly, EPA claimed "the information and conclusions" contained in the Rule "should be considered to constitute the requisite endangerment finding" and "cause-or-contribute significantly findings." *Id.* at 64,530, JA___. EPA did not specify what "information and conclusions" it had in mind, but its argument fails nevertheless.

The Background section of the Rule's preamble broadly discusses "climate change impacts from [greenhouse gas] emissions, both on public health and public welfare," *id.* at 64,517, JA___, but it does not focus on CO_2 alone and recognizes that climate change is a complex phenomenon. *Id.* at 64,517-24, JA___-___; *see also* Intergovernmental Panel on Climate Change, Fourth Assessment, Working Group I, *Climate Change 2007: The Physical Science Basis* 539-65 (2007), http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm (discussing the roles of nitrogen, methane, and myriad other factors). The literature EPA relied upon is too general and outdated to constitute valid endangerment or significant contribution findings, given the requirements imposed by the CAA.

EPA's failure to make the requisite findings of endangerment and significant contribution violate the CAA, and this failure renders the Rule invalid. EPA is not entitled to *Chevron* deference here because its "regulation is 'procedurally defective.'" *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2125 (2016).

V. EPA Improperly Rejected Petitions for Reconsideration Regarding Its Failure To Reveal *Ex Parte* Contacts Prior to the Notice and Comment Period.[22]

The Agency's failure to place in the public docket critical *ex parte* communications between its employees and environmental groups, communications which formed a substantial basis of the Agency's action, violates section 307(d)(3) of the CAA. That section requires that "[a]ll data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule." The same failure also violates due process through promulgating a rule without permitting the public or affected parties to adequately understand the real basis and motivations for the Rule, or the origin of the basis of the Rule, and thus to meaningfully (and equally) comment or contribute to the Rule's development. Here, EPA did not place in the public docket numerous communications helping form the basis of the Rule, between the head of the task force developing the rules under section 111 of the CAA and environmental groups, even though these communications resulted in a Rule carefully calibrated to shut down existing coal power plants.

[22] This argument is raised only by Petitioner Energy & Environment Legal Institute.

In particular, Michael Goo, then EPA's Associate Administrator for the Office of Policy, was tasked with writing EPA's initial 'Options Memo' regarding regulating coal power plants. *See* JA__. Using his private email account — which he describes in certain such correspondence as a "channel" for "offline chats", *See* JA___ — rather than his official, required EPA email, Mr. Goo shared his draft options secretly, with lobbyists and high-level staffers at the Sierra Club, the Natural Resource Defense Council, and the Clean Air Task Force ("CATF") who in turn, also using his non-official account, told him how to draft or alter the policy that formed the basis for Goo's Options Memo presented to the Administrator, and ultimately implemented in the Rule.

Goo did not contemporaneously copy his EPA email account, and these records were not available at the legally required time, were not placed in the docket, and were uncovered through Freedom of Information Act requests only after the notice and comment period ended. These showed that on May 30, 2011, a Sierra Club lobbyist sent Mr. Goo an email to his personal address stating, in toto, "[Y]ou might want to change your personal email address, now that you have new job and all. Attached is a memo I didn't want to send in public." The two-page memo was entitled, "Standards of Performance for Existing Sources" and concluded: "EPA can therefore establish a performance standard for existing plants that is not achievable by any plant nearing the end of its 'remaining useful life' as defined by EPA." Only two hours after receiving this, Goo sent to other high ranking EPA staff a document entitled "NSPS new source options" which was withheld as being the Agency's internal deliberations. *See* JA___.

Additional documents showed that Goo, using his non-official email account, sent Sierra Club a draft of the EPA working group document titled the "NSPS Option X" laying out the proposed rule (despite the title, this memo and related correspondence were not limited to the NSPS rule, but also addressed existing-source regulation). He also sent Sierra Club another version of this document, one which reflected edits made the day before by staff for the outside activist group Clean Air Task Force, as extensively documented in Petitioners' Appendix, and again all on his private account. This version, "NSPS Option for Existing Utilities: Single Emission Rate Approach," was marked "Draft Deliberative." This meant that it reflected the deliberations of senior governmental policy-making officials.

Further records not included in the public docket showed that, through Goo's non-official, "offline channel," senior staff at NRDC sent Goo numerous consultant analyses/advocacy pieces (for which Goo thanked them), and an internal NRDC analysis titled "Retire v Co-fire," which told him they were "concerned that a coal only standard is not likely to achieve significant emissions reduction" and argued against allowing existing coal plants to reduce emissions by co-firing coal and natural gas and in favor of forcing those plants to close. JA___. Indeed the three NRDC staff Goo emailed from his private account, David Doniger, David Hawkins, and Daniel Lashof, were noted by a New York Times analysis of NRDC's influence on these GHG rules as having played an outsized role in developing the rule. It noted, e.g., what was "Indisputable, however, is that the Natural Resources Defense Council was far ahead of the E.P.A. in drafting the architecture of the proposed regulation" about which, the article quoted another supporter of the EPA's rule in saying, "The NRDC's proposal has its fingerprints throughout this."[23]

Emails also showed that Goo informed CATF of when he planned to brief the EPA administrator on the proposed rule and was told "I know you said the NSPS briefing for the Administrator is today. Here is the latest on our development of a "function" for use in a EGU NSPS rule." CATF also sent a multi-page presentation done by its own contractor by the "offline channel". (*See* JA___) Later CATF received a "read out" by this "offline channel" from Goo's meeting on the options with the Administrator, and responded saying "I wanted to give you some brief reactions from CATF staff to your read out from the meeting with the Administrator."

Through these and other communications E&E Legal obtained under FOIA, and by heavily incorporating the advocates' work into EPA's own deliberative drafts, Goo made CATF and these other groups effectively part of EPA's taskforce. None of these communications were docketed in the public record when the Notice of Proposed Rulemaking ("NPRM") was released for comments. Goo only provided these records to

[23] See Coral Davenport, *Taking Oil Industry Cue, Environmentalists Drew Emissions Blueprint*, New York Times, July 6, 2014. http://www.nytimes.com/2014/07/07/us/how-environmentalists-drew-blueprint-for-obama-emissions-rule.html.

EPA in late August 2013, nearly two and a half years after much of the correspondence occurred, while preparing to leave the Agency's employ. Yet EPA did have these records in its possession in time to place them in the public docket when it released its NPRM. The result of this deficiency is that commenters could not have known that the Rule was drafted through such extensive *ex parte* contacts with environmental groups with whom Mr. Goo once worked when employed by NRDC. Such secrecy is inconsistent with fundamental principles of due process, fair notice, and accountable government. This far exceeds what, in December 2015, the General Accounting Office criticized as improper practices in finding that EPA violated federal law by engaging in "covert propaganda" and "grassroots lobbying" in connection with another rule.[24]

In rejecting the petitions for reconsideration which included the documents evidencing these *ex parte* contacts and which noted the Agency's obligations to place such records in the docket prior to the notice and comment period, EPA made several critical factual and legal errors. In rejecting the petitions for reconsideration, EPA erroneously determined that this rule is somehow unrelated to all the documented *ex parte* contacts, noting that there were two proposed rules, one in 2012 and one in 2014. Yet the 2014 rule 79 FR 1430 (January 8, 2014) was built entirely on the back of the 2012 proposal which was withdrawn the very day the 2014 proposal was issued (79 FR 1352 (January 8, 2014) (withdrawing the 2012 proposal)). The Agency cannot pretend these proposals are

[24] *See* GAO, Environmental Protection Agency — Application of Publicity or Propaganda and Anti-Lobbying Provisions, B-326944 (Dec. 14, 2015).

somehow distinct and unrelated. The Agency also rejected the petitions for reconsideration on the basis that the record contained adequate support for the proposed rule, yet the documented evidence suggests that these *ex parte* contacts contained the key motivations, organic input and support for the rule.

Most critically, EPA improperly determined that this Circuit's rule against *ex parte* contacts does not apply to informal rulemakings such as this one. JA___. In *Home Box Office, Inc. v. FCC*, 567 F.2d 9 (D.C. Cir. 1977), this Court opined that "[i]f actual positions were not revealed in public comments . . . and, further, if the Commission relied on these apparently more candid private discussions in framing the final . . . rules, then the elaborate public discussion in these dockets has been reduced to a sham." *Id.* at 52–54. Such secrecy is inconsistent "with fundamental notions of fairness implicit in due process and with the ideal of reasoned decision making on the merits." *Id.* at 56.

EPA cited *Sierra Club v. Costle*, 657 F. 2d 298, 400-402 (D.C. Cir. 1981) in claiming that the rule crafted in *HBO* does not apply to informal rulemakings. However, the Court in *Costle* made clear this was not accurate, stating that "but we believe that a fair inference can be drawn that in some instances such docketing may be needed in order to give practical effect to section 307(d)(4)(B)(i), which provides that all documents "of central relevance to the rulemaking" shall be placed in the docket as soon as possible after their availability." While the Court here was speaking about *ex parte* contacts made after the close of the notice and comment period, the need for such docketing when those contacts occurred during the formation of the rule is even more critical. EPA erroneously conflates the notion that no *ex parte* contacts are permitted at all, which is of course not the case, with its obligation to publicly docket and make available information about those contacts. EPA conspicuously failed to docket these contacts here, despite having all the documents needed to do so well in hand before opening the notice and comment period. It is that failure to transparently make the information available to the public that renders the Rule defective, not merely the existence of the *ex parte* contacts.

CONCLUSION

For the foregoing reasons, the petitions should be granted and the Rule vacated.

Dated: October 13, 2016

Respectfully submitted,

/s/ Geoffrey K. Barnes
Geoffrey K. Barnes
J. Van Carson
Wendlene M. Lavey
John D. Lazzaretti
Robert D. Cheren
SQUIRE PATTON BOGGS (US) LLP
4900 Key Tower
127 Public Square
Cleveland, OH 44114
Tel: (216) 479-8646
geoffrey.barnes@squirepb.com

Counsel for Petitioner Murray Energy Corporation

/s/ Allison D. Wood
F. William Brownell
Allison D. Wood
Henry V. Nickel
Tauna M. Szymanski
Andrew D. Knudsen
HUNTON & WILLIAMS LLP
2200 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
Tel: (202) 955-1500
Fax: (202) 778-2201
bbrownell@hunton.com
awood@hunton.com
hnickel@hunton.com
tszymanski@hunton.com
aknudsen@hunton.com

Counsel for Petitioners Utility Air Regulatory Group and American Public Power Association

/s/ Stacey Turner
Stacey Turner
SOUTHERN COMPANY SERVICES, INC.
600 18th Street North
BIN 14N-8195
Birmingham, AL 35203
Tel: (205) 257-2823
staturne@southernco.com

Counsel for Petitioners Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, and Southern Power Company

/s/ C. Grady Moore III
C. Grady Moore III
Steven G. McKinney
BALCH & BINGHAM LLP
1901 Sixth Avenue North, Suite 1500
Birmingham, AL 35303-4642
Tel: (205) 251-8100
Fax: (205) 488-5704
gmoore@balch.com
smckinney@balch.com

Counsel for Petitioner Alabama Power Company

/s/ Margaret Claiborne Campbell
Margaret Claiborne Campbell
Angela J. Levin
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308-2216
Tel: (404) 885-3000
margaret.campbell@troutmansanders.com
angela.levin@troutmansanders.com

Counsel for Petitioner Georgia Power Company

/s/ Jeffrey A. Stone
Jeffrey A. Stone
BEGGS & LANE, RLLP
501 Commendencia Street
Pensacola, FL 32502
Tel: (850) 432-2451
JAS@beggslane.com

James S. Alves
2110 Trescott Drive
Tallahassee, FL 32308
Tel: (850) 566-7607
jim.s.alves@outlook.com

Counsel for Petitioner Gulf Power Company

/s/ Terese T. Wyly
Terese T. Wyly
Ben H. Stone
BALCH & BINGHAM LLP
1310 Twenty Fifth Avenue
Gulfport, MS 39501-1931
Tel: (228) 214-0413
twyly@balch.com
bstone@balch.com

Counsel for Petitioner Mississippi Power Company

/s/ Randy E. Brogdon
Randy E. Brogdon
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308-2216
Tel: (404) 885-3000
randy.brogdon@troutmansanders.com

Counsel for Petitioner Southern Power Company

/s/ David M. Flannery
David M. Flannery
Kathy G. Beckett
Edward L. Kropp
STEPTOE & JOHNSON, PLLC
707 Virginia Street East
Charleston, WV 25326
Tel: (304) 353-8000
dave.flannery@steptoe-johnson.com
kathy.beckett@steptoe-johnson.com
skipp.kropp@steptoe-johnson.com

Stephen L. Miller
STEPTOE & JOHNSON, PLLC
700 N. Hurstbourne Parkway, Suite 115
Louisville, KY 40222
Tel: (502) 423-2000
steve.miller@steptoe-johnson.com

Counsel for Petitioner Indiana Utility Group

/s/ P. Stephen Gidiere III
P. Stephen Gidiere III
Thomas L. Casey III
Julia B. Barber
BALCH & BINGHAM LLP
1901 6th Avenue N., Suite 1500
Birmingham, AL 35203
Tel: (205) 251-8100
sgidiere@balch.com

Stephanie Z. Moore
Vice President & General Counsel
TCEH CORP.
1601 Bryan Street, 22nd Floor
Dallas, TX 75201

Daniel J. Kelly
Vice President & Associate General Counsel
TCEH CORP.
1601 Bryan Street, 43rd Floor
Dallas, TX 75201

Counsel for Petitioners Luminant Generation Company LLC; Oak Grove Management Company LLC; Big Brown Power Company LLC; Sandow Power Company LLC; Big Brown Lignite Company LLC; Luminant Mining Company LLC; and Luminant Big Brown Mining Company LLC

/s/ Thomas A. Lorenzen
Thomas A. Lorenzen
CROWELL & MORING LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Tel: (202) 624-2500
tlorenzen@crowell.com

Counsel for Petitioners National Rural Electric Cooperative Association; Sunflower Electric Power Corporation; and Tri-State Generation and Transmission Association, Inc.

Of Counsel

Rae Cronmiller
Environmental Counsel
NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
4301 Wilson Boulevard
Arlington, VA 22203
Tel: (703) 907-5500
rae.cronmiller@nreca.coop

/s/ Christina F. Gomez
Christina F. Gomez
Garrison W. Kaufman
Lawrence E. Volmert
HOLLAND & HART LLP
555 Seventeenth Street, Suite 3200
Denver, CO 80202
Tel: (303) 295-8000
Fax: (303) 295-8261
cgomez@hollandhart.com
gwkaufman@hollandhart.com
lvolmert@hollandhart.com

Patrick R. Day
HOLLAND & HART LLP
2515 Warren Avenue, Suite 450
Cheyenne, WY 82001
Tel: (307) 778-4200
Fax: (307) 778-8175
pday@hollandhart.com

Counsel for Petitioner Basin Electric Power Cooperative

/s/ John M. Holloway III
John M. Holloway III
SUTHERLAND ASBILL & BRENNAN LLP
700 Sixth Street, N.W., Suite 700
Washington, D.C. 20001
Tel: (202) 383-0100
Fax: (202) 383-3593
jay.holloway@sutherland.com

Counsel for Petitioners East Kentucky Power Cooperative, Inc.; Hoosier Energy Rural Electric Cooperative, Inc.; and Minnkota Power Cooperative, Inc.

/s/ Peter S. Glaser
Peter S. Glaser
TROUTMAN SANDERS LLP
401 Ninth Street N.W., Suite 1000
Washington, D.C. 20004
Tel: (202) 274-2998
Fax: (202) 654-5611
peter.glaser@troutmansanders.com

Carroll W. McGuffey III
Justin T. Wong
TROUTMAN SANDERS LLP
600 Peachtree Street, N.E., Suite 5200
Atlanta, GA 30308
Tel: (404) 885-3000
mack.mcguffey@troutmansanders.com
justin.wong@troutmansanders.com

Counsel for Petitioner National Mining Association

/s/ Jeffrey R. Holmstead
Jeffrey R. Holmstead
BRACEWELL LLP
2001 M Street, N.W., Suite 900
Washington, D.C. 20036
Tel: (202) 828-5852
Fax: (202) 857-4812
jeff.holmstead@bracewelllaw.com

Counsel for Petitioner American Coalition for Clean Coal Electricity

/s/ Chaim Mandelbaum
Chaim Mandelbaum
Litigation Manager
FREE MARKET ENVIRONMENTAL LAW CLINIC
726 N. Nelson Street, Suite 9
Arlington, VA 22203
Tel: (703) 577-9973
chaim12@gmail.com

Counsel for Petitioner Energy and Environment Legal Institute

/s/ Tristan L. Duncan
Tristan L. Duncan
Thomas J. Grever
Justin D. Smith
SHOOK HARDY & BACON L.L.P.
2555 Grand Boulevard
Kansas City, MO 64018
Tel: (816) 474-6550
Fax: (816) 421-5547
tlduncan@shb.com
tgrever@shb.com
jxsmith@shb.com

Jonathan S. Massey
MASSEY & GAIL, LLP
1325 G Street, N.W., Suite 500
Washington, D.C. 20005
Tel: (202) 652-4511
Fax: (312) 379-0467

Counsel for Petitioner Peabody Energy Corporation

/s/ Eugene M. Trisko
Eugene M. Trisko
LAW OFFICES OF EUGENE M. TRISKO
P.O. Box 596
Berkeley Springs, WV 25411
Tel: (304) 258-1977
Tel: (301) 639-5238 (cell)
emtrisko7@gmail.com

Counsel for Petitioner International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers, AFL-CIO

/s/ Grant F. Crandall
Grant F. Crandall
General Counsel
UNITED MINE WORKERS OF AMERICA
18354 Quantico Gateway Drive
Triangle, VA 22172
Tel: (703) 291-2429
gcrandall@umwa.org

Arthur Traynor, III
Staff Counsel
UNITED MINE WORKERS OF AMERICA
18354 Quantico Gateway Drive
Triangle, VA 22172
Tel: (703) 291-2457
atraynor@umwa.org

Eugene M. Trisko
LAW OFFICES OF EUGENE M. TRISKO
P.O. Box 596
Berkeley Springs, WV 25411
Tel: (304) 258-1977
emtrisko7@gmail.com

Counsel for Petitioner United Mine Workers of America, AFL-CIO

/s/ Peter D. Keisler
Peter D. Keisler
Roger R. Martella, Jr.
C. Frederick Beckner III
Paul L. Zidlicky
SIDLEY AUSTIN, LLP
1501 K Street, N.W.
Washington, D.C. 20005
Tel: (202) 736-8027
pkeisler@sidley.com

Counsel for Petitioners Chamber of Commerce of the United States of America; National Association of Manufacturers; American Fuel & Petrochemical Manufacturers; National Federation of Independent Business; American Chemistry Council; American Coke and Coal Chemicals Institute; American Forest & Paper Association; American Foundry Society; American Iron and Steel Institute; American Wood Council; Brick Industry Association; Electricity Consumers Resource Council; National Lime Association; National Oilseed Processors Association; and Portland Cement Association

/s/ Steven P. Lehotsky
Steven P. Lehotsky
Sheldon B. Gilbert
U.S. CHAMBER LITIGATION CENTER, INC.
1615 H Street, N.W.
Washington, D.C. 20062
Tel: (202) 463-5337
slehotsky@uschamber.com

Counsel for Petitioner Chamber of Commerce of the United States of America

/s/ Quentin Riegel
Linda E. Kelly
Quentin Riegel
Leland P. Frost
MANUFACTURERS' CENTER FOR LEGAL ACTION
733 10th Street, N.W., Suite 700
Washington, D.C. 20001
Tel: (202) 637-3000
qriegel@nam.org

Counsel for Petitioner National Association of Manufacturers

/s/ Richard S. Moskowitz
Richard S. Moskowitz
AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS
1667 K Street, N.W., Suite 700
Washington, D.C. 20006
Tel: (202) 457-0480
rmoskowitz@afpm.org

Counsel for Petitioner American Fuel & Petrochemical Manufacturers

/s/ Karen R. Harned
Karen R. Harned
Executive Director
Elizabeth A. Gaudio
Senior Executive Counsel
NATIONAL FEDERATION OF
INDEPENDENT BUSINESS
SMALL BUSINESS LEGAL CENTER
1201 F Street, N.W., Suite 200
Washington, D.C. 20004
Tel: (202) 314-2061
karen.harned@nfib.org
elizabeth.milito@nfib.org

Counsel for Petitioner National Federation of Independent Business

CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure and Circuit Rules 32(e)(1) and 32(e)(2)(C), I hereby certify that the foregoing final form Opening Brief of Non-State Petitioners contains 17,950 words, as counted by a word processing system that includes headings, footnotes, quotations, and citations in the count, and therefore is within the word limit set by the Court.

Dated: October 13, 2016

/s/ Allison D. Wood
Allison D. Wood

CERTIFICATE OF SERVICE

I hereby certify that, on this 13th day of October 2016, a copy of the foregoing Opening Brief of Non-State Petitioners was served electronically through the Court's CM/ECF system on all ECF-registered counsel.

/s/ Allison D. Wood
Allison D. Wood

Attachment 1

DECLARATION OF RYAN MURRAY

BEFORE ME, the undersigned authority, personally appeared Ryan Murray, who after being duly sworn states as follows:

Background

1. My name is Ryan Murray. I am the Vice President of Operations of Murray Energy Corporation ("Murray Energy").

2. I am providing this Declaration in connection with finalization by the United States Environmental Protection Agency ("EPA") of the final rule "Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units." 80 Fed. Reg. 64510 (Oct. 23, 2015) (the "Standards").

3. I make this Declaration based upon personal knowledge or information supplied to me in the ordinary course of my job responsibilities at Murray Energy.

4. I have a bachelor's degree in mining engineering from West Virginia University and an MBA from Ohio State University.

5. My responsibilities at Murray Energy involve oversight of company operations including the general management of all mines owned by Murray Energy Corporation. In this role, I have input on long-range planning, and routinely track and anticipate trends in coal markets in order to adjust production.

The Business of Murray Energy Corporation

6. Formed in 1988 with the purchase of a single mining operation in the Ohio Valley, Murray Energy is now the largest underground coal mining company and the largest privately-held coal company in America, with combined operations that currently produce and ship about 50 million tons of bituminous coal annually.

7. Murray Energy also owns a substantial interest in Foresight Energy GP LLC and Foresight Energy LP ("Foresight Energy"), a leading producer of coal in the United States.

8. Employment by Murray Energy peaked in 2015 at about 8,400 persons, but has since declined to about 4,600.

9. Together, Murray Energy and Foresight Energy currently operate fourteen (14) active mines in the United States located in three major high-Btu coal-producing regions — Northern Appalachia in Ohio and West Virginia, the Illinois Basin in Illinois and Kentucky, and the Uintah Basin in Utah, and one mine in Colombia, South America.

10. Murray Energy and Foresight Energy own or control over 5.0 billion tons of proven and probable coal reserves in the United States, strategically located near our customers, near favorable transportation, and high in heat value.

11. Additionally, Murray Energy and Foresight Energy own over 120 subsidiary and support companies directly or indirectly related to the domestic coal industry, including factories located in Illinois, Ohio, Kentucky and West

Virginia where the vast majority of the mining equipment used at its mines is built.

12. Murray Energy and Foresight Energy mines have supplied coal directly to electric utility generating units ("power plants") located in at least twenty-three (23) different States, providing affordable energy to households and businesses across the country.

Fossil Fuel Power Plants and the Market for Baseload Power Generation

13. Electricity generation must match electricity demand to avoid intentional or unintentional blackouts. Accordingly, the nation's fleet of power plants must vary the amount of generation with demand. To most efficiently perform this task, one portion of the fleet is optimized for continuous operation over long periods of time to meet the minimum "baseload" demand, and another portion of the fleet is optimized for variable operation to serve the additional "peaking" demand requirements above that minimum.

14. There are three basic ways electricity is generated using fossil fuels. First, a steam generator burns fuel to create heat and generate steam that drives a generator. Second, a combustion turbine compresses and combusts non-solid fuel in a turbine that drives a generator. Coal can be used in a combustion turbine only if it is first "gasified," which is a highly energy intensive process. Third, these two are combined so that exhaust heat from a combustion turbine is used in a steam generator (referred to as a "combined cycle" unit).

15. Combustion turbines are more cost effective than steam generators and combined cycle units for variable operation. These "simple cycle" combustion turbines burn natural gas and are primarily constructed to provide peaking power.

16. Steam generators burning coal and natural gas combined cycle units are more cost effective than simple cycle combustion turbines for continuous operation, and are therefore primarily built to provide baseload power.

17. For a new baseload power plant, without regard for the impact of existing or threatened environmental regulations, the choice between steam coal and combined cycle natural gas as the method for electric generation largely depends on fuel access and fuel costs, which vary significantly by location and over time.

18. Given the significant geographic diversity in access and costs, at any given time steam coal can be economic for baseload capacity in some places while combined cycle natural gas is more economic for baseload capacity in other places.

19. As fuel prices change over time in certain areas of the country, the most economic choice for new baseload capacity can change from steam coal to combined cycle natural gas. When this happens, construction of new baseload capacity and retirement of existing baseload capacity results in shift in fuel use from coal to natural gas. Under these conditions, the construction of new power plants in those areas directly and unavoidably reduces coal sales.

20. At this time, there is significant political and regulatory pressure to reduce the overall emissions of carbon dioxide from fossil fuel power plants. Assuming carbon dioxide emissions from the power sector are limited to a given level of emissions this century, new uncontrolled baseload natural gas power plants likely hasten the retirement of existing coal units because they consume room in any such carbon budget that would otherwise be available to existing coal units.

21. The coal industry and coal miners are harmed by the construction of new baseload natural gas units.

EPA Regulation of New Coal-Fired Units

22. On April 13, 2012, EPA proposed a standard for all new fossil fuel power plants of 1,000 lbs of carbon dioxide per megawatt hour, which EPA found could only be met by natural gas-fired units, 77 Fed. Reg. 22392, 22418 (April 13, 2012), effectively choosing the fuel source for future growth or replacement because a final Section 111 new source standard retroactively applies to any project that begins construction after the date of *proposal*.

23. At that time, several coal power plants were under development, and the United States Energy Information Administration ("EIA") projected in its 2012 Annual Energy Outlook that at least 10 GW of new coal power plants would be built by 2020.

24. As of September 7, 2011, Sierra Club was tracking 15 to 20 new coal power plant projects that were in the permitting process. E-mail from

John Coequyt, Sierra Club, to Alex Barron, United States Environmental Protection Agency (Sept. 7, 2011), *available at* http://eelegal.org/wp-content/uploads/2014/01/Final-8-1-13-release_Redactions-applied.pdf (page 30 of 407).

25. But as of the proposal date, utilities and independent power providers could not risk building a new coal power plant that EPA's proposal, if finalized, would retroactively outlaw.

26. Several pending coal power plant projects were halted, stranding millions of dollars of investments, including projects by Tenaska Trailblazer Partners, LLC, Power4Georgians, and White Stallion Energy Center, LLC. Another (Holcomb 2 project) had to fight to be carved out of the proposed rule's requirements in order to avoid losing a $60 million investment by Sunflower and Tri-State Generation.

27. On January 8, 2014, EPA published a replacement proposal with a standard of 1,100 lbs of carbon dioxide per megawatt hour for coal units based on carbon capture and sequestration ("CCS"), and a separate standard for baseload natural gas units of 1,000 lbs based on "no control," which had the continuing practical effect of precluding the use of coal for new baseload generating capacity.

28. EPA's final rule published October 23, 2015, closely mirrors the 2014 proposal by again setting a standard for coal units based on the use of unworkable and exorbitantly costly carbon controls, while recognizing that

those carbon controls were not appropriate for new baseload natural gas power plants.

29. Based on EIA's publicly available data, while natural gas prices for electric power generation have remained stable since 2009, there has nonetheless been a dramatic end in construction of new conventional steam coal power plants since 2012, with only those that had already commenced construction as of 2012 coming online.

30. In all, Sierra Club's Carl Pope credits EPA's actions since 2012 with preventing the construction of "80 brand new white elephant coal plants." Intelligence Squared Debate Transcript at 6 (Sept. 7, 2016), *available at* http://www.intelligencesquaredus.org/sites/default/files/20160907_climatechangetheepahasgoneoverboard_transcript_1.pdf.

31. While EPA has stated that it "does not expect the construction of any new non-compliant coal-fired capacity" between now and 2020 (Final Rule Regulatory Impact Analysis at 4-3), its proposals in 2012 and 2014 have ensured no conventional steam coal power plant projects are currently under development.

32. Additionally, as it did in the 2012 proposal, EPA continued to rely on modeling that assumes a nearly 30% increase in capital costs for new coal power plants (from 11.1 percent to 14.1 percent) to reflect potential future climate change regulations (essentially representing a carbon tax), with no such premium on the cost of obtaining capital for new natural gas power plants. *See* EPA-HQ-OAR-2011-0660-9935 at 5.

33. In comparing levelized costs of electricity for new steam coal power plants and baseload natural gas combined cycle power plants (RIA at 4-28), EPA also assumed low natural gas prices and higher coal costs than are found in many parts of the country, avoided the possibility that natural gas prices will rise, and assumed the existence of the necessary infrastructure to deliver sufficient supplies of natural gas. For example, EPA assumed a delivered coal cost of $2.94/MMBtu even though the average delivered coal cost for electric utilities in Ohio and Illinois in 2014 was $2.16/MMBtu and $2.04/MMBtu, respectively.

34. Changing these assumptions to more accurately reflect real-world conditions, new steam coal power plants is the most economic choice for new electricity generating capacity in many areas of the country.

35. Additionally, some new coal plants would be built in areas where coal can provide fuel diversity and a hedge against spikes in natural gas prices. EPA has acknowledged that the desire for fuel diversity can cause utilities to choose to build coal plants even if they are not the most economic choice. 80 Fed. Reg. at 64,563.

36. EIA's Annual Energy Outlook had projected a mix of new steam coal and new natural gas would be built by 2020 in each of its annually published estimates from 2009 to 2014.

37. Specifically, the 2014 Annual Energy Outlook projects: (1) 1.6 GW of planned new coal without CCS by 2020 (assuming an arbitrary 30 percent increase in capital costs for new coal power plants to reflect potential

future climate change regulations without any commensurate increase in capital costs for natural gas power plants); and (2) 3.2 GW of new coal without CCS by 2030 if the capital cost penalty is not assumed.

38. Instead, EPA's rule takes coal off the table as an option for new capacity (and has since the 2012 proposal).

Harm to Murray Energy and Foresight Energy

39. Murray Energy and Foresight Energy have low cost coal reserves that would be supplied to the new coal power plants that are prevented from being built because EPA's rule dramatically increases the costs and risks of using coal, and to the existing coal power plants that are forced to retire prematurely.

40. Murray Energy, Foresight Energy, and thousands of employees depend upon the presence of a stable and continuing domestic market for coal. Every coal power plant that is shut down and replaced with a new baseload natural gas power plant affects the financial condition of Murray Energy and Foresight Energy and threatens the well paid and well benefited jobs of our employees.

I make this Declaration under penalty of perjury under the laws of the United States, and I state that the foregoing is true and correct to the best of my knowledge, information, and belief.

Ryan M Murray

Ryan Murray

Dated: October 13, 2016

ORAL ARGUMENT NOT YET SCHEDULED

No. 15-1381 (and consolidated cases)

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

STATE OF NORTH DAKOTA, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Petitions for Review of Final Agency Action of the United States Environmental Protection Agency 80 Fed. Reg. 64,510 (Oct. 23, 2015) and 81 Fed. Reg. 27,442 (May 6, 2016)

ADDENDUM PURSUANT TO CIRCUIT RULE 28(a)(5) TO OPENING BRIEF OF NON-STATE PETITIONERS

Geoffrey K. Barnes
J. Van Carson
Wendlene M. Lavey
John D. Lazzaretti
Robert D. Cheren
SQUIRE PATTON BOGGS (US) LLP
4900 Key Tower
127 Public Square
Cleveland, OH 44114
Tel: (216) 479-8646
geoffrey.barnes@squirepb.com
van.carson@squirepb.com
wendy.lavey@squirepb.com
john.lazzaretti@squirepb.com
bobby.cheren@squirepb.com

Counsel for Petitioner Murray Energy Corporation

F. William Brownell
Allison D. Wood
Henry V. Nickel
Tauna M. Szymanski
Andrew D. Knudsen
HUNTON & WILLIAMS LLP
2200 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
Tel: (202) 955-1500
Fax: (202) 778-2201
bbrownell@hunton.com
awood@hunton.com
hnickel@hunton.com
tszymanski@hunton.com
aknudsen@hunton.com

Counsel for Petitioners Utility Air Regulatory Group and American Public Power Association

DATED: October 13, 2016

Additional counsel listed on Opening Brief of Non-State Petitioners filed concurrently

TABLE OF CONTENTS

Page

Federal Statutes:

<u>International Statutes</u>:

<u>Federal Regulations</u>:

§ 705. Relief pending review

When an agency finds that justice so requires, it may postpone the effective date of action taken by it, pending judicial review. On such conditions as may be required and to the extent necessary to prevent irreparable injury, the reviewing court, including the court to which a case may be taken on appeal from or on application for certiorari or other writ to a reviewing court, may issue all necessary and appropriate process to postpone the effective date of an agency action or to preserve status or rights pending conclusion of the review proceedings.

(Pub. L. 89–554, Sept. 6, 1966, 80 Stat. 393.)

HISTORICAL AND REVISION NOTES

Derivation	*U.S. Code*	*Revised Statutes and Statutes at Large*
....	5 U.S.C. 1009(d).	June 11, 1946, ch. 324, §10(d), 60 Stat. 243.

Standard changes are made to conform with the definitions applicable and the style of this title as outlined in the preface of this report.

§ 706. Scope of review

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

(Pub. L. 89–554, Sept. 6, 1966, 80 Stat. 393.)

HISTORICAL AND REVISION NOTES

Derivation	*U.S. Code*	*Revised Statutes and Statutes at Large*
....	5 U.S.C. 1009(e).	June 11, 1946, ch. 324, §10(e), 60 Stat. 243.

Standard changes are made to conform with the definitions applicable and the style of this title as outlined in the preface of this report.

ABBREVIATION OF RECORD

Pub. L. 85–791, Aug. 28, 1958, 72 Stat. 941, which authorized abbreviation of record on review or enforcement of orders of administrative agencies and review on the original papers, provided, in section 35 thereof, that: ''This Act [see Tables for classification] shall not be construed to repeal or modify any provision of the Administrative Procedure Act [see Short Title note set out preceding section 551 of this title].''

CHAPTER 8—CONGRESSIONAL REVIEW OF AGENCY RULEMAKING

§ 801. Congressional review

(a)(1)(A) Before a rule can take effect, the Federal agency promulgating such rule shall submit to each House of the Congress and to the Comptroller General a report containing—

(i) a copy of the rule;

(ii) a concise general statement relating to the rule, including whether it is a major rule; and

(iii) the proposed effective date of the rule.

(B) On the date of the submission of the report under subparagraph (A), the Federal agency promulgating the rule shall submit to the Comptroller General and make available to each House of Congress—

(i) a complete copy of the cost-benefit analysis of the rule, if any;

(ii) the agency's actions relevant to sections 603, 604, 605, 607, and 609;

(iii) the agency's actions relevant to sections 202, 203, 204, and 205 of the Unfunded Mandates Reform Act of 1995; and

(iv) any other relevant information or requirements under any other Act and any relevant Executive orders.

(C) Upon receipt of a report submitted under subparagraph (A), each House shall provide copies of the report to the chairman and ranking member of each standing committee with jurisdiction under the rules of the House of Representatives or the Senate to report a bill to amend the provision of law under which the rule is issued.

(2)(A) The Comptroller General shall provide a report on each major rule to the committees of jurisdiction in each House of the Congress by the end of 15 calendar days after the submission or publication date as provided in section 802(b)(2). The report of the Comptroller General shall include an assessment of the agency's compliance with procedural steps required by paragraph (1)(B).

(B) Federal agencies shall cooperate with the Comptroller General by providing information relevant to the Comptroller General's report under subparagraph (A).

(3) A major rule relating to a report submitted under paragraph (1) shall take effect on the latest of—

not made, shall be determined as though this section (other than this paragraph) has not been enacted.

''(D) RULES RELATING TO ELECTIONS.—An election under this paragraph shall be made not later than the day which is 90 days after the date of the enactment of this Act [Oct. 4, 1976], by filing a notification of such election with the national office of the Internal Revenue Service. Such an election, once made, shall be irrevocable.''

ENTITLEMENT TO CREDIT

Pub. L. 94–455, title VIII, § 804(d), Oct. 4, 1976, 90 Stat. 1596, as amended by Pub. L. 99–514, § 2, Oct. 22, 1986, 100 Stat. 2095, provided that: ''Paragraph (1) of section 48(k) of the Internal Revenue Code of 1986 [formerly I.R.C. 1954] (relating to entitlement to credit) shall apply to any motion picture film or video tape placed in service in any taxable year beginning before January 1, 1975.''

INCREASE IN BASIS OF PROPERTY PLACED IN SERVICE BEFORE JANUARY 1, 1964

Pub. L. 88–272, title II, § 203(a)(2), Feb. 26, 1964, 78 Stat. 33, as amended by Pub. L. 99–514, § 2, Oct. 22, 1986, 100 Stat. 2095, provided that:

''(A) The basis of any section 38 property (as defined in section 48(a) of the Internal Revenue Code of 1986 [formerly I.R.C. 1954]) placed in service before January 1, 1964, shall be increased, under regulations prescribed by the Secretary of the Treasury or his delegate, by an amount equal to 7 percent of the qualified investment with respect to such property under section 46(c) of the Internal Revenue Code of 1986. If there has been any increase with respect to such property under section 48(g)(2) of such Code, the increase under the preceding sentence shall be appropriately reduced therefor.

''(B) If a lessor made the election provided by section 48(d) of the Internal Revenue Code of 1986 with respect to property placed in service before January 1, 1964—

''(i) subparagraph (A) shall not apply with respect to such property, but

''(ii) under regulations prescribed by the Secretary of the Treasury or his delegate, the deductions otherwise allowable under section 162 of such Code to the lessee for amounts paid to the lessor under the lease (or, if such lessee has purchased such property, the basis of such property) shall be adjusted in a manner consistent with subparagraph (A).

''(C) The adjustments under this paragraph shall be made as of the first day of the taxpayer's first taxable year which begins after December 31, 1963.''

§ 48A. Qualifying advanced coal project credit

(a) In general

For purposes of section 46, the qualifying advanced coal project credit for any taxable year is an amount equal to—

(1) 20 percent of the qualified investment for such taxable year in the case of projects described in subsection (d)(3)(B)(i),

(2) 15 percent of the qualified investment for such taxable year in the case of projects described in subsection (d)(3)(B)(ii), and

(3) 30 percent of the qualified investment for such taxable year in the case of projects described in clause (iii) of subsection (d)(3)(B).

(b) Qualified investment

(1) In general

For purposes of subsection (a), the qualified investment for any taxable year is the basis of eligible property placed in service by the taxpayer during such taxable year which is part of a qualifying advanced coal project—

(A)(i) the construction, reconstruction, or erection of which is completed by the taxpayer, or

(ii) which is acquired by the taxpayer if the original use of such property commences with the taxpayer, and

(B) with respect to which depreciation (or amortization in lieu of depreciation) is allowable.

(2) Special rule for certain subsidized property

Rules similar to section 48(a)(4) (without regard to subparagraph (D) thereof) shall apply for purposes of this section.

(3) Certain qualified progress expenditures rules made applicable

Rules similar to the rules of subsections (c)(4) and (d) of section 46 (as in effect on the day before the enactment of the Revenue Reconciliation Act of 1990) shall apply for purposes of this section.

(c) Definitions

For purposes of this section—

(1) Qualifying advanced coal project

The term ''qualifying advanced coal project'' means a project which meets the requirements of subsection (e).

(2) Advanced coal-based generation technology

The term ''advanced coal-based generation technology'' means a technology which meets the requirements of subsection (f).

(3) Eligible property

The term ''eligible property'' means—

(A) in the case of any qualifying advanced coal project using an integrated gasification combined cycle, any property which is a part of such project and is necessary for the gasification of coal, including any coal handling and gas separation equipment, and

(B) in the case of any other qualifying advanced coal project, any property which is a part of such project.

(4) Coal

The term ''coal'' means anthracite, bituminous coal, subbituminous coal, lignite, and peat.

(5) Greenhouse gas capture capability

The term ''greenhouse gas capture capability'' means an integrated gasification combined cycle technology facility capable of adding components which can capture, separate on a long-term basis, isolate, remove, and sequester greenhouse gases which result from the generation of electricity.

(6) Electric generation unit

The term ''electric generation unit'' means any facility at least 50 percent of the total annual net output of which is electrical power, including an otherwise eligible facility which is used in an industrial application.

(7) Integrated gasification combined cycle

The term ''integrated gasification combined cycle'' means an electric generation unit which produces electricity by converting coal to synthesis gas which is used to fuel a combined-cycle plant which produces electricity from both a combustion turbine (including a combustion turbine/fuel cell hybrid) and a steam turbine.

(d) Qualifying advanced coal project program

(1) Establishment

Not later than 180 days after the date of enactment of this section, the Secretary, in consultation with the Secretary of Energy, shall establish a qualifying advanced coal project program for the deployment of advanced coal-based generation technologies.

(2) Certification

(A) Application period

Each applicant for certification under this paragraph shall submit an application meeting the requirements of subparagraph (B). An applicant may only submit an application—

(i) for an allocation from the dollar amount specified in clause (i) or (ii) of paragraph (3)(B) during the 3-year period beginning on the date the Secretary establishes the program under paragraph (1), and

(ii) for an allocation from the dollar amount specified in paragraph (3)(B)(iii) during the 3-year period beginning at the earlier of the termination of the period described in clause (i) or the date prescribed by the Secretary.

(B) Requirements for applications for certification

An application under subparagraph (A) shall contain such information as the Secretary may require in order to make a determination to accept or reject an application for certification as meeting the requirements under subsection (e)(1). Any information contained in the application shall be protected as provided in section 552(b)(4) of title 5, United States Code.

(C) Time to act upon applications for certification

The Secretary shall issue a determination as to whether an applicant has met the requirements under subsection (e)(1) within 60 days following the date of submittal of the application for certification.

(D) Time to meet criteria for certification

Each applicant for certification shall have 2 years from the date of acceptance by the Secretary of the application during which to provide to the Secretary evidence that the criteria set forth in subsection (e)(2) have been met.

(E) Period of issuance

An applicant which receives a certification shall have 5 years from the date of issuance of the certification in order to place the project in service and if such project is not placed in service by that time period then the certification shall no longer be valid.

(3) Aggregate credits

(A) In general

The aggregate credits allowed under subsection (a) for projects certified by the Secretary under paragraph (2) may not exceed $2,550,000,000.

(B) Particular projects

Of the dollar amount in subparagraph (A), the Secretary is authorized to certify—

(i) $800,000,000 for integrated gasification combined cycle projects the application for which is submitted during the period described in paragraph (2)(A)(i),

(ii) $500,000,000 for projects which use other advanced coal-based generation technologies the application for which is submitted during the period described in paragraph (2)(A)(i), and

(iii) $1,250,000,000 for advanced coal-based generation technology projects the application for which is submitted during the period described in paragraph (2)(A)(ii).

(4) Review and redistribution

(A) Review

Not later than 6 years after the date of enactment of this section, the Secretary shall review the credits allocated under this section as of the date which is 6 years after the date of enactment of this section.

(B) Redistribution

The Secretary may reallocate credits available under clauses (i) and (ii) of paragraph (3)(B) if the Secretary determines that—

(i) there is an insufficient quantity of qualifying applications for certification pending at the time of the review, or

(ii) any certification made pursuant to paragraph (2) has been revoked pursuant to paragraph (2)(D) because the project subject to the certification has been delayed as a result of third party opposition or litigation to the proposed project.

(C) Reallocation

If the Secretary determines that credits under clause (i) or (ii) of paragraph (3)(B) are available for reallocation pursuant to the requirements set forth in paragraph (2), the Secretary is authorized to conduct an additional program for applications for certification.

(5) Disclosure of allocations

The Secretary shall, upon making a certification under this subsection or section 48B(d), publicly disclose the identity of the applicant and the amount of the credit certified with respect to such applicant.

(e) Qualifying advanced coal projects

(1) Requirements

For purposes of subsection (c)(1), a project shall be considered a qualifying advanced coal project that the Secretary may certify under subsection (d)(2) if the Secretary determines that, at a minimum—

(A) the project uses an advanced coal-based generation technology—

(i) to power a new electric generation unit; or

(ii) to retrofit or repower an existing electric generation unit (including an existing natural gas-fired combined cycle unit);

(B) the fuel input for the project, when completed, is at least 75 percent coal;

(C) the project, consisting of one or more electric generation units at one site, will have a total nameplate generating capacity of at least 400 megawatts;

(D) the applicant provides evidence that a majority of the output of the project is reasonably expected to be acquired or utilized;

(E) the applicant provides evidence of ownership or control of a site of sufficient size to allow the proposed project to be constructed and to operate on a long-term basis;

(F) the project will be located in the United States; and

(G) in the case of any project the application for which is submitted during the period described in subsection (d)(2)(A)(ii), the project includes equipment which separates and sequesters at least 65 percent (70 percent in the case of an application for reallocated credits under subsection (d)(4)) of such project's total carbon dioxide emissions.

(2) Requirements for certification

For the purpose of subsection (d)(2)(D), a project shall be eligible for certification only if the Secretary determines that—

(A) the applicant for certification has received all Federal and State environmental authorizations or reviews necessary to commence construction of the project; and

(B) the applicant for certification, except in the case of a retrofit or repower of an existing electric generation unit, has purchased or entered into a binding contract for the purchase of the main steam turbine or turbines for the project, except that such contract may be contingent upon receipt of a certification under subsection (d)(2).

(3) Priority for certain projects

In determining which qualifying advanced coal projects to certify under subsection (d)(2), the Secretary shall—

(A) certify capacity, in accordance with the procedures set forth in subsection (d), in relatively equal amounts to—

(i) projects using bituminous coal as a primary feedstock,

(ii) projects using subbituminous coal as a primary feedstock, and

(iii) projects using lignite as a primary feedstock,

(B) give high priority to projects which include, as determined by the Secretary—

(i) greenhouse gas capture capability,

(ii) increased by-product utilization,

(iii) applicant participants who have a research partnership with an eligible educational institution (as defined in section 529(e)(5)), and

(iv) other benefits, and

(C) give highest priority to projects with the greatest separation and sequestration percentage of total carbon dioxide emissions.

(f) Advanced coal-based generation technology

(1) In general

For the purpose of this section, an electric generation unit uses advanced coal-based generation technology if—

(A) the unit—

(i) uses integrated gasification combined cycle technology, or

(ii) except as provided in paragraph (3), has a design net heat rate of 8530 Btu/kWh (40 percent efficiency), and

(B) the unit is designed to meet the performance requirements in the following table:

Performance characteristic:	Design level for project:
SO_2 (percent removal)	99 percent
NO_x (emissions)	0.07 lbs/MMBTU
PM* (emissions)	0.015 lbs/MMBTU
Hg (percent removal)	90 percent

For purposes of the performance requirement specified for the removal of SO_2 in the table contained in subparagraph (B), the SO_2 removal design level in the case of a unit designed for the use of feedstock substantially all of which is subbituminous coal shall be 99 percent SO_2 removal or the achievement of an emission level of 0.04 pounds or less of SO_2 per million Btu, determined on a 30-day average.

(2) Design net heat rate

For purposes of this subsection, design net heat rate with respect to an electric generation unit shall—

(A) be measured in Btu per kilowatt hour (higher heating value),

(B) be based on the design annual heat input to the unit and the rated net electrical power, fuels, and chemicals output of the unit (determined without regard to the cogeneration of steam by the unit),

(C) be adjusted for the heat content of the design coal to be used by the unit—

(i) if the heat content is less than 13,500 Btu per pound, but greater than 7,000 Btu per pound, according to the following formula: design net heat rate = unit net heat rate x [1–[((13,500-design coal heat content, Btu per pound)/1,000)* 0.013]], and

(ii) if the heat content is less than or equal to 7,000 Btu per pound, according to the following formula: design net heat rate = unit net heat rate x [1–[((13,500-design coal heat content, Btu per pound)/1,000)* 0.018]], and

(D) be corrected for the site reference conditions of—

(i) elevation above sea level of 500 feet,

(ii) air pressure of 14.4 pounds per square inch absolute,

(iii) temperature, dry bulb of 63°F,

(iv) temperature, wet bulb of 54°F, and

(v) relative humidity of 55 percent.

(3) Existing units

In the case of any electric generation unit in existence on the date of the enactment of this section, such unit uses advanced coal-based generation technology if, in lieu of the requirements under paragraph (1)(A)(ii), such unit achieves a minimum efficiency of 35 percent and an overall thermal design efficiency improvement, compared to the efficiency of the unit as operated, of not less than—

(A) 7 percentage points for coal of more than 9,000 Btu,

(B) 6 percentage points for coal of 7,000 to 9,000 Btu, or

(C) 4 percentage points for coal of less than 7,000 Btu.

(g) Applicability

No use of technology (or level of emission reduction solely by reason of the use of the technology), and no achievement of any emission reduction by the demonstration of any technology or performance level, by or at one or more facilities with respect to which a credit is allowed under this section, shall be considered to indicate that the technology or performance level is—

(1) adequately demonstrated for purposes of section 111 of the Clean Air Act (42 U.S.C. 7411);

(2) achievable for purposes of section 169 of that Act (42 U.S.C. 7479); or

(3) achievable in practice for purposes of section 171 of such Act (42 U.S.C. 7501).

(h) Competitive certification awards modification authority

In implementing this section or section 48B, the Secretary is directed to modify the terms of any competitive certification award and any associated closing agreement where such modification—

(1) is consistent with the objectives of such section,

(2) is requested by the recipient of the competitive certification award, and

(3) involves moving the project site to improve the potential to capture and sequester carbon dioxide emissions, reduce costs of transporting feedstock, and serve a broader customer base,

unless the Secretary determines that the dollar amount of tax credits available to the taxpayer under such section would increase as a result of the modification or such modification would result in such project not being originally certified. In considering any such modification, the Secretary shall consult with other relevant Federal agencies, including the Department of Energy.

(i) Recapture of credit for failure to sequester

The Secretary shall provide for recapturing the benefit of any credit allowable under subsection (a) with respect to any project which fails to attain or maintain the separation and sequestration requirements of subsection (e)(1)(G).

(Added Pub. L. 109–58, title XIII, § 1307(b), Aug. 8, 2005, 119 Stat. 999; amended Pub. L. 109–432, div. A, title II, § 203(a), Dec. 20, 2006, 120 Stat. 2945; Pub. L. 110–172, § 11(a)(10), Dec. 29, 2007, 121 Stat. 2485; Pub. L. 110–234, title XV, § 15346(a), May 22, 2008, 122 Stat. 1523; Pub. L. 110–246, § 4(a), title XV, § 15346(a), June 18, 2008, 122 Stat. 1664, 2285; Pub. L. 110–343, div. B, title I, § 111(a)–(d), Oct. 3, 2008, 122 Stat. 3822, 3823; Pub. L. 111–5, div. B, title I, § 1103(b)(2)(C), Feb. 17, 2009, 123 Stat. 321.)

REFERENCES IN TEXT

The enactment of the Revenue Reconciliation Act of 1990, referred to in subsec. (b)(3), is the date of enactment of title XI of Pub. L. 101–508, which was approved Nov. 5, 1990.

The date of enactment of this section, referred to in subsecs. (d)(1), (4)(A) and (f)(3), is the date of enactment of Pub. L. 109–58, which was approved Aug. 8, 2005.

CODIFICATION

Pub. L. 110–234 and Pub. L. 110–246 made identical amendments to this section. The amendments by Pub. L. 110–234 were repealed by section 4(a) of Pub. L. 110–246.

AMENDMENTS

2009—Subsec. (b)(2). Pub. L. 111–5 inserted "(without regard to subparagraph (D) thereof)" after "section 48(a)(4)".

2008—Subsec. (a)(3). Pub. L. 110–343, § 111(a), added par. (3).

Subsec. (d)(2)(A). Pub. L. 110–343, § 111(c)(2), reenacted heading without change and amended text generally. Prior to amendment, text read as follows: "Each applicant for certification under this paragraph shall submit an application meeting the requirements of subparagraph (B). An applicant may only submit an application during the 3-year period beginning on the date the Secretary establishes the program under paragraph (1)."

Subsec. (d)(3)(A). Pub. L. 110–343, § 111(b), substituted "$2,550,000,000" for "$1,300,000,000".

Subsec. (d)(3)(B). Pub. L. 110–343, § 111(c)(1), reenacted heading without change and amended text generally. Prior to amendment, text read as follows: "Of the dollar amount in subparagraph (A), the Secretary is authorized to certify—

"(i) $800,000,000 for integrated gasification combined cycle projects, and

"(ii) $500,000,000 for projects which use other advanced coal-based generation technologies."

Subsec. (d)(5). Pub. L. 110–343, § 111(d), added par. (5).

Subsec. (e)(1)(G). Pub. L. 110–343, § 111(c)(3)(A), added subpar. (G).

Subsec. (e)(3). Pub. L. 110–343, § 111(c)(5), substituted "certain" for "integrated gasification combined cycle" in heading.

Subsec. (e)(3)(B)(iii), (iv). Pub. L. 110–343, § 111(c)(4), added cl. (iii) and redesignated former cl. (iii) as (iv).

Subsec. (e)(3)(C). Pub. L. 110–343, § 111(c)(3)(B), added subpar. (C).

Subsec. (h). Pub. L. 110–246, § 15346(a), added subsec. (h).

Subsec. (i). Pub. L. 110–343, § 111(c)(3)(C), added subsec. (i).

2007—Subsec. (d)(4)(B)(ii). Pub. L. 110–172 struck out "subsection" before "paragraph" in two places.

2006—Subsec. (f)(1). Pub. L. 109–432 inserted concluding provisions.

EFFECTIVE DATE OF 2009 AMENDMENT

Amendment by Pub. L. 111–5 applicable to periods after Dec. 31, 2008, under rules similar to the rules of section 48(m) of this title as in effect on the day before Nov. 5, 1990, see section 1103(c)(1) of Pub. L. 111–5, set out as a note under section 25C of this title.

EFFECTIVE DATE OF 2008 AMENDMENT

Pub. L. 110–343, div. B, title I, § 111(e), Oct. 3, 2008, 122 Stat. 3823, provided that:

"(1) IN GENERAL.—Except as otherwise provided in this subsection, the amendments made by this section [amending this section] shall apply to credits the application for which is submitted during the period described in section 48A(d)(2)(A)(ii) of the Internal Revenue Code of 1986 and which are allocated or reallocated after the date of the enactment of this Act [Oct. 3, 2008].

"(2) DISCLOSURE OF ALLOCATIONS.—The amendment made by subsection (d) [amending this section] shall apply to certifications made after the date of the enactment of this Act.

"(3) CLERICAL AMENDMENT.—The amendment made by subsection (c)(5) [amending this section] shall take effect as if included in the amendment made by section 1307(b) of the Energy Tax Incentives Act of 2005 [Pub. L. 109–58]."

Amendment of this section and repeal of Pub. L. 110–234 by Pub. L. 110–246 effective May 22, 2008, the

SAVINGS PROVISION

Pub. L. 91–604, §16, Dec. 31, 1970, 84 Stat. 1713, provided that:

"(a)(1) Any implementation plan adopted by any State and submitted to the Secretary of Health, Education, and Welfare, or to the Administrator pursuant to the Clean Air Act [this chapter] prior to enactment of this Act [Dec. 31, 1970] may be approved under section 110 of the Clean Air Act [this section] (as amended by this Act) [Pub. L. 91–604] and shall remain in effect, unless the Administrator determines that such implementation plan, or any portion thereof, is not consistent with applicable requirements of the Clean Air Act [this chapter] (as amended by this Act) and will not provide for the attainment of national primary ambient air quality standards in the time required by such Act. If the Administrator so determines, he shall, within 90 days after promulgation of any national ambient air quality standards pursuant to section 109(a) of the Clean Air Act [section 7409(a) of this title], notify the State and specify in what respects changes are needed to meet the additional requirements of such Act, including requirements to implement national secondary ambient air quality standards. If such changes are not adopted by the State after public hearings and within six months after such notification, the Administrator shall promulgate such changes pursuant to section 110(c) of such Act [subsec. (c) of this section].

"(2) The amendments made by section 4(b) [amending sections 7403 and 7415 of this title] shall not be construed as repealing or modifying the powers of the Administrator with respect to any conference convened under section 108(d) of the Clean Air Act [section 7415 of this title] before the date of enactment of this Act [Dec. 31, 1970].

"(b) Regulations or standards issued under this title II of the Clean Air Act [subchapter II of this chapter] prior to the enactment of this Act [Dec. 31, 1970] shall continue in effect until revised by the Administrator consistent with the purposes of such Act [this chapter]."

FEDERAL ENERGY ADMINISTRATOR

"Federal Energy Administrator", for purposes of this chapter, to mean Administrator of Federal Energy Administration established by Pub. L. 93–275, May 7, 1974, 88 Stat. 97, which is classified to section 761 et seq. of Title 15, Commerce and Trade, but with the term to mean any officer of the United States designated as such by the President until Federal Energy Administrator takes office and after Federal Energy Administration ceases to exist, see section 798 of Title 15, Commerce and Trade.

Federal Energy Administration terminated and functions vested by law in Administrator thereof transferred to Secretary of Energy (unless otherwise specifically provided) by sections 7151(a) and 7293 of this title.

CAA § 111

§7411. Standards of performance for new stationary sources

(a) Definitions

For purposes of this section:

(1) The term "standard of performance" means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

(2) The term "new source" means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

(3) The term "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.

(4) The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(5) The term "owner or operator" means any person who owns, leases, operates, controls, or supervises a stationary source.

(6) The term "existing source" means any stationary source other than a new source.

(7) The term "technological system of continuous emission reduction" means—

(A) a technological process for production or operation by any source which is inherently low-polluting or nonpolluting, or

(B) a technological system for continuous reduction of the pollution generated by a source before such pollution is emitted into the ambient air, including precombustion cleaning or treatment of fuels.

(8) A conversion to coal (A) by reason of an order under section 2(a) of the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C. 792(a)] or any amendment thereto, or any subsequent enactment which supersedes such Act [15 U.S.C. 791 et seq.], or (B) which qualifies under section 7413(d)(5)(A)(ii)[1] of this title, shall not be deemed to be a modification for purposes of paragraphs (2) and (4) of this subsection.

(b) List of categories of stationary sources; standards of performance; information on pollution control techniques; sources owned or operated by United States; particular systems; revised standards

(1)(A) The Administrator shall, within 90 days after December 31, 1970, publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one year after such publication, such standards with such modifications as he deems appropriate. The Administrator shall, at least every 8 years, review and, if appropriate,

[1] See References in Text note below.

CAA § 111 (continued)

revise such standards following the procedure required by this subsection for promulgation of such standards. Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard. Standards of performance or revisions thereof shall become effective upon promulgation. When implementation and enforcement of any requirement of this chapter indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(3) The Administrator shall, from time to time, issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(4) The provisions of this section shall apply to any new source owned or operated by the United States.

(5) Except as otherwise authorized under subsection (h) of this section, nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

(6) The revised standards of performance required by enactment of subsection (a)(1)(A)(i) and (ii)[1] of this section shall be promulgated not later than one year after August 7, 1977. Any new or modified fossil fuel fired stationary source which commences construction prior to the date of publication of the proposed revised standards shall not be required to comply with such revised standards.

(c) State implementation and enforcement of standards of performance

(1) Each State may develop and submit to the Administrator a procedure for implementing and enforcing standards of performance for new sources located in such State. If the Administrator finds the State procedure is adequate, he shall delegate to such State any authority he has under this chapter to implement and enforce such standards.

(2) Nothing in this subsection shall prohibit the Administrator from enforcing any applicable standard of performance under this section.

(d) Standards of performance for existing sources; remaining useful life of source

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority—

(A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 7410(c) of this title in the case of failure to submit an implementation plan, and

(B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections 7413 and 7414 of this title with respect to an implementation plan.

In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

(e) Prohibited acts

After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

(f) New source standards of performance

(1) For those categories of major stationary sources that the Administrator listed under subsection (b)(1)(A) of this section before November 15, 1990, and for which regulations had not been proposed by the Administrator by November 15, 1990, the Administrator shall—

(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within 2 years after November 15, 1990;

(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within 4 years after November 15, 1990; and

(C) propose regulations for the remaining categories of sources within 6 years after November 15, 1990.

(2) In determining priorities for promulgating standards for categories of major stationary sources for the purpose of paragraph (1), the Administrator shall consider—

(A) the quantity of air pollutant emissions which each such category will emit, or will be designed to emit;

(B) the extent to which each such pollutant may reasonably be anticipated to endanger public health or welfare; and

CAA § 111 (continued)

(C) the mobility and competitive nature of each such category of sources and the consequent need for nationally applicable new source standards of performance.

(3) Before promulgating any regulations under this subsection or listing any category of major stationary sources as required under this subsection, the Administrator shall consult with appropriate representatives of the Governors and of State air pollution control agencies.

(g) Revision of regulations

(1) Upon application by the Governor of a State showing that the Administrator has failed to specify in regulations under subsection (f)(1) of this section any category of major stationary sources required to be specified under such regulations, the Administrator shall revise such regulations to specify any such category.

(2) Upon application of the Governor of a State, showing that any category of stationary sources which is not included in the list under subsection (b)(1)(A) of this section contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare (notwithstanding that such category is not a category of major stationary sources), the Administrator shall revise such regulations to specify such category of stationary sources.

(3) Upon application of the Governor of a State showing that the Administrator has failed to apply properly the criteria required to be considered under subsection (f)(2) of this section, the Administrator shall revise the list under subsection (b)(1)(A) of this section to apply properly such criteria.

(4) Upon application of the Governor of a State showing that—

(A) a new, innovative, or improved technology or process which achieves greater continuous emission reduction has been adequately demonstrated for any category of stationary sources, and

(B) as a result of such technology or process, the new source standard of performance in effect under this section for such category no longer reflects the greatest degree of emission limitation achievable through application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) has been adequately demonstrated,

the Administrator shall revise such standard of performance for such category accordingly.

(5) Unless later deadlines for action of the Administrator are otherwise prescribed under this section, the Administrator shall, not later than three months following the date of receipt of any application by a Governor of a State, either—

(A) find that such application does not contain the requisite showing and deny such application, or

(B) grant such application and take the action required under this subsection.

(6) Before taking any action required by subsection (f) of this section or by this subsection, the Administrator shall provide notice and opportunity for public hearing.

(h) Design, equipment, work practice, or operational standard; alternative emission limitation

(1) For purposes of this section, if in the judgment of the Administrator, it is not feasible to prescribe or enforce a standard of performance, he may instead promulgate a design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. In the event the Administrator promulgates a design or equipment standard under this subsection, he shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

(2) For the purpose of this subsection, the phrase "not feasible to prescribe or enforce a standard of performance" means any situation in which the Administrator determines that (A) a pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State, or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations.

(3) If after notice and opportunity for public hearing, any person establishes to the satisfaction of the Administrator that an alternative means of emission limitation will achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such air pollutant achieved under the requirements of paragraph (1), the Administrator shall permit the use of such alternative by the source for purposes of compliance with this section with respect to such pollutant.

(4) Any standard promulgated under paragraph (1) shall be promulgated in terms of standard of performance whenever it becomes feasible to promulgate and enforce such standard in such terms.

(5) Any design, equipment, work practice, or operational standard, or any combination thereof, described in this subsection shall be treated as a standard of performance for purposes of the provisions of this chapter (other than the provisions of subsection (a) of this section and this subsection).

(i) Country elevators

Any regulations promulgated by the Administrator under this section applicable to grain elevators shall not apply to country elevators (as defined by the Administrator) which have a storage capacity of less than two million five hundred thousand bushels.

(j) Innovative technological systems of continuous emission reduction

(1)(A) Any person proposing to own or operate a new source may request the Administrator for one or more waivers from the requirements of

CAA § 111 (continued)

this section for such source or any portion thereof with respect to any air pollutant to encourage the use of an innovative technological system or systems of continuous emission reduction. The Administrator may, with the consent of the Governor of the State in which the source is to be located, grant a waiver under this paragraph, if the Administrator determines after notice and opportunity for public hearing, that—

(i) the proposed system or systems have not been adequately demonstrated,

(ii) the proposed system or systems will operate effectively and there is a substantial likelihood that such system or systems will achieve greater continuous emission reduction than that required to be achieved under the standards of performance which would otherwise apply, or achieve at least an equivalent reduction at lower cost in terms of energy, economic, or nonair quality environmental impact,

(iii) the owner or operator of the proposed source has demonstrated to the satisfaction of the Administrator that the proposed system will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction, and

(iv) the granting of such waiver is consistent with the requirements of subparagraph (C).

In making any determination under clause (ii), the Administrator shall take into account any previous failure of such system or systems to operate effectively or to meet any requirement of the new source performance standards. In determining whether an unreasonable risk exists under clause (iii), the Administrator shall consider, among other factors, whether and to what extent the use of the proposed technological system will cause, increase, reduce, or eliminate emissions of any unregulated pollutants; available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such system; and the availability of other technological systems which may be used to conform to standards under this section without causing or contributing to such unreasonable risk. The Administrator may conduct such tests and may require the owner or operator of the proposed source to conduct such tests and provide such information as is necessary to carry out clause (iii) of this subparagraph. Such requirements shall include a requirement for prompt reporting of the emission of any unregulated pollutant from a system if such pollutant was not emitted, or was emitted in significantly lesser amounts without use of such system.

(B) A waiver under this paragraph shall be granted on such terms and conditions as the Administrator determines to be necessary to assure—

(i) emissions from the source will not prevent attainment and maintenance of any national ambient air quality standards, and

(ii) proper functioning of the technological system or systems authorized.

Any such term or condition shall be treated as a standard of performance for the purposes of subsection (e) of this section and section 7413 of this title.

(C) The number of waivers granted under this paragraph with respect to a proposed technological system of continuous emission reduction shall not exceed such number as the Administrator finds necessary to ascertain whether or not such system will achieve the conditions specified in clauses (ii) and (iii) of subparagraph (A).

(D) A waiver under this paragraph shall extend to the sooner of—

(i) the date determined by the Administrator, after consultation with the owner or operator of the source, taking into consideration the design, installation, and capital cost of the technological system or systems being used, or

(ii) the date on which the Administrator determines that such system has failed to—

(I) achieve at least an equivalent continuous emission reduction to that required to be achieved under the standards of performance which would otherwise apply, or

(II) comply with the condition specified in paragraph (1)(A)(iii),

and that such failure cannot be corrected.

(E) In carrying out subparagraph (D)(i), the Administrator shall not permit any waiver for a source or portion thereof to extend beyond the date—

(i) seven years after the date on which any waiver is granted to such source or portion thereof, or

(ii) four years after the date on which such source or portion thereof commences operation,

whichever is earlier.

(F) No waiver under this subsection shall apply to any portion of a source other than the portion on which the innovative technological system or systems of continuous emission reduction is used.

(2)(A) If a waiver under paragraph (1) is terminated under clause (ii) of paragraph (1)(D), the Administrator shall grant an extension of the requirements of this section for such source for such minimum period as may be necessary to comply with the applicable standard of performance under this section. Such period shall not extend beyond the date three years from the time such waiver is terminated.

(B) An extension granted under this paragraph shall set forth emission limits and a compliance schedule containing increments of progress which require compliance with the applicable standards of performance as expeditiously as practicable and include such measures as are necessary and practicable in the interim to minimize emissions. Such schedule shall be treated as a standard of performance for purposes of subsection (e) of this section and section 7413 of this title.

(July 14, 1955, ch. 360, title I, §111, as added Pub. L. 91–604, §4(a), Dec. 31, 1970, 84 Stat. 1683; amended Pub. L. 92–157, title III, §302(f), Nov. 18, 1971, 85 Stat. 464; Pub. L. 95–95, title I, §109(a)–(d)(1), (e), (f), title IV, §401(b), Aug. 7, 1977, 91 Stat. 697–703, 791; Pub. L. 95–190, §14(a)(7)–(9), Nov. 16, 1977, 91 Stat. 1399; Pub. L. 95–623, §13(a), Nov. 9, 1978, 92 Stat. 3457; Pub. L.

CAA § 111 (continued)

101–549, title I, § 108(e)–(g), title III, § 302(a), (b), title IV, § 403(a), Nov. 15, 1990, 104 Stat. 2467, 2574, 2631.)

REFERENCES IN TEXT

Such Act, referred to in subsec. (a)(8), means Pub. L. 93–319, June 22, 1974, 88 Stat. 246, as amended, known as the Energy Supply and Environmental Coordination Act of 1974, which is classified principally to chapter 16C (§ 791 et seq.) of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 791 of Title 15 and Tables.

Section 7413 of this title, referred to in subsec. (a)(8), was amended generally by Pub. L. 101–549, title VII, § 701, Nov. 15, 1990, 104 Stat. 2672, and, as so amended, subsec. (d) of section 7413 no longer relates to final compliance orders.

Subsection (a)(1) of this section, referred to in subsec. (b)(6), was amended generally by Pub. L. 101–549, title VII, § 403(a), Nov. 15, 1990, 104 Stat. 2631, and, as so amended, no longer contains subpars.

CODIFICATION

Section was formerly classified to section 1857c–6 of this title.

PRIOR PROVISIONS

A prior section 111 of act July 14, 1955, was renumbered section 118 by Pub. L. 91–604 and is classified to section 7418 of this title.

AMENDMENTS

1990—Subsec. (a)(1). Pub. L. 101–549, § 403(a), amended par. (1) generally, substituting provisions defining ''standard of performance'' with respect to any air pollutant for provisions defining such term with respect to subsec. (b) fossil fuel fired and other stationary sources and subsec. (d) particular sources.

Subsec. (a)(3). Pub. L. 101–549, § 108(f), inserted at end ''Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.''

Subsec. (b)(1)(B). Pub. L. 101–549, § 108(e)(1), substituted ''Within one year'' for ''Within 120 days'', ''within one year'' for ''within 90 days'', and ''every 8 years'' for ''every four years'', inserted before last sentence ''Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard.'', and inserted at end ''When implementation and enforcement of any requirement of this chapter indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.''

Subsec. (d)(1)(A)(i). Pub. L. 101–549, § 302(a), which directed the substitution of ''7412(b)'' for ''7412(b)(1)(A)'', could not be executed, because of the prior amendment by Pub. L. 101–549, § 108(g), see below.

Pub. L. 101–549, § 108(g), substituted ''or emitted from a source category which is regulated under section 7412 of this title'' for ''or 7412(b)(1)(A)''.

Subsec. (f)(1). Pub. L. 101–549, § 108(e)(2), amended par. (1) generally, substituting present provisions for provisions requiring the Administrator to promulgate regulations listing the categories of major stationary sources not on the required list by Aug. 7, 1977, and regulations establishing standards of performance for such categories.

Subsec. (g)(5) to (8). Pub. L. 101–549, § 302(b), redesignated par. (7) as (5) and struck out ''or section 7412 of this title'' after ''this section'', redesignated par. (8) as (6), and struck out former pars. (5) and (6) which read as follows:

''(5) Upon application by the Governor of a State showing that the Administrator has failed to list any air pollutant which causes, or contributes to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness as a hazardous air pollutant under section 7412 of this title the Administrator shall revise the list of hazardous air pollutants under such section to include such pollutant.

''(6) Upon application by the Governor of a State showing that any category of stationary sources of a hazardous air pollutant listed under section 7412 of this title is not subject to emission standards under such section, the Administrator shall propose and promulgate such emission standards applicable to such category of sources.''

1978—Subsecs. (d)(1)(A)(ii), (g)(4)(B). Pub. L. 95–623, § 13(a)(2), substituted ''under this section'' for ''under subsection (b) of this section''.

Subsec. (h)(5). Pub. L. 95–623, § 13(a)(1), added par. (5).

Subsec. (j). Pub. L. 95–623, § 13(a)(3), substituted in pars. (1)(A) and (2)(A) ''standards under this section'' and ''under this section'' for ''standards under subsection (b) of this section'' and ''under subsection (b) of this section'', respectively.

1977—Subsec. (a)(1). Pub. L. 95–95, § 109(c)(1)(A), added subpars. (A), (B), and (C), substituted ''For the purpose of subparagraphs (A)(i) and (ii) and (B), a standard of performance shall reflect'' for ''a standard for emissions of air pollutants which reflects'', ''and the percentage reduction achievable'' for ''achievable'', and ''technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environment impact and energy requirements)'' for ''system of emission reduction which (taking into account the cost of achieving such reduction)'' in existing provisions, and inserted provision that, for the purpose of subparagraph (1)(A)(ii), any cleaning of the fuel or reduction in the pollution characteristics of the fuel after extraction and prior to combustion may be credited, as determined under regulations promulgated by the Administrator, to a source which burns such fuel.

Subsec. (a)(7). Pub. L. 95–95, § 109(c)(1)(B), added par. (7) defining ''technological system of continuous emission reduction''.

Pub. L. 95–95, § 109(f), added par. (7) directing that under certain circumstances a conversion to coal not be deemed a modification for purposes of pars. (2) and (4).

Subsec. (a)(7), (8). Pub. L. 95–190, § 14(a)(7), redesignated second par. (7) as (8).

Subsec. (b)(1)(A). Pub. L. 95–95, § 401(b), substituted ''such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger'' for ''such list if he determines it may contribute significantly to air pollution which causes or contributes to the endangerment of''.

Subsec. (b)(1)(B). Pub. L. 95–95, § 109(c)(2), substituted ''shall, at least every four years, review and, if appropriate,'' for ''may, from time to time,''.

Subsec. (b)(5), (6). Pub. L. 95–95, § 109(c)(3), added pars. (5) and (6).

Subsec. (c)(1). Pub. L. 95–95, § 109(d)(1), struck out ''(except with respect to new sources owned or operated by the United States)'' after ''implement and enforce such standards''.

Subsec. (d)(1). Pub. L. 95–95, § 109(b)(1), substituted ''standards of performance'' for ''emission standards'' and inserted provisions directing that regulations of the Administrator permit the State, in applying a standard of performance to any particular source under a submitted plan, to take into consideration, among other factors, the remaining useful life of the existing source to which the standard applies.

Subsec. (d)(2). Pub. L. 95–95, § 109(b)(2), provided that, in promulgating a standard of performance under a plan, the Administrator take into consideration, among other factors, the remaining useful lives of the

CAA § 111 (continued)

sources in the category of sources to which the standard applies.

Subsecs. (f) to (i). Pub. L. 95–95, § 109(a), added subsecs. (f) to (i).

Subsecs. (j), (k). Pub. L. 95–190, § 14(a)(8), (9), redesignated subsec. (k) as (j) and, as so redesignated, substituted ''(B)'' for ''(8)'' as designation for second subpar. in par. (2). Former subsec. (j), added by Pub. L. 95–95, § 109(e), which related to compliance with applicable standards of performance, was struck out.

Pub. L. 95–95, § 109(e), added subsec. (k).

1971—Subsec. (b)(1)(B). Pub. L. 92–157 substituted in first sentence ''publish proposed'' for ''propose''.

Effective Date of 1977 Amendment

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

Regulations

Pub. L. 101–549, title IV, § 403(b), (c), Nov. 15, 1990, 104 Stat. 2631, provided that:

''(b) Revised Regulations.—Not later than three years after the date of enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990], the Administrator shall promulgate revised regulations for standards of performance for new fossil fuel fired electric utility units commencing construction after the date on which such regulations are proposed that, at a minimum, require any source subject to such revised standards to emit sulfur dioxide at a rate not greater than would have resulted from compliance by such source with the applicable standards of performance under this section [amending sections 7411 and 7479 of this title] prior to such revision.

''(c) Applicability.—The provisions of subsections (a) [amending this section] and (b) apply only so long as the provisions of section 403(e) of the Clean Air Act [42 U.S.C. 7651b(e)] remain in effect.''

Transfer of Functions

Enforcement functions of Administrator or other official in Environmental Protection Agency related to compliance with new source performance standards under this section with respect to pre-construction, construction, and initial operation of transportation system for Canadian and Alaskan natural gas transferred to Federal Inspector, Office of Federal Inspector for the Alaska Natural Gas Transportation System, until first anniversary of date of initial operation of Alaska Natural Gas Transportation System, see Reorg. Plan No. 1 of 1979, eff. July 1, 1979, §§ 102(a), 203(a), 44 F.R. 33663, 33666, 93 Stat. 1373, 1376, set out in the Appendix to Title 5, Government Organization and Employees. Office of Federal Inspector for the Alaska Natural Gas Transportation System abolished and functions and authority vested in Inspector transferred to Secretary of Energy by section 3012(b) of Pub. L. 102–486, set out as an Abolition of Office of Federal Inspector note under section 719e of Title 15, Commerce and Trade. Functions and authority vested in Secretary of Energy subsequently transferred to Federal Coordinator for Alaska Natural Gas Transportation Projects by section 720d(f) of Title 15.

Pending Actions and Proceedings

Suits, actions, and other proceedings lawfully commenced by or against the Administrator or any other officer or employee of the United States in his official capacity or in relation to the discharge of his official duties under act July 14, 1955, the Clean Air Act, as in effect immediately prior to the enactment of Pub. L. 95–95 [Aug. 7, 1977], not to abate by reason of the taking effect of Pub. L. 95–95, see section 406(a) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

Modification or Rescission of Rules, Regulations, Orders, Determinations, Contracts, Certifications, Authorizations, Delegations, and Other Actions

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95–95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95–95 [this chapter], see section 406(b) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

Power Sector Carbon Pollution Standards

Memorandum of President of the United States, June 25, 2013, 78 F.R. 39535, provided:

Memorandum for the Administrator of the Environmental Protection Agency

With every passing day, the urgency of addressing climate change intensifies. I made clear in my State of the Union address that my Administration is committed to reducing carbon pollution that causes climate change, preparing our communities for the consequences of climate change, and speeding the transition to more sustainable sources of energy.

The Environmental Protection Agency (EPA) has already undertaken such action with regard to carbon pollution from the transportation sector, issuing Clean Air Act standards limiting the greenhouse gas emissions of new cars and light trucks through 2025 and heavy duty trucks through 2018. The EPA standards were promulgated in conjunction with the Department of Transportation, which, at the same time, established fuel efficiency standards for cars and trucks as part of a harmonized national program. Both agencies engaged constructively with auto manufacturers, labor unions, States, and other stakeholders, and the resulting standards have received broad support. These standards will reduce the Nation's carbon pollution and dependence on oil, and also lead to greater innovation, economic growth, and cost savings for American families.

The United States now has the opportunity to address carbon pollution from the power sector, which produces nearly 40 percent of such pollution. As a country, we can continue our progress in reducing power plant pollution, thereby improving public health and protecting the environment, while supplying the reliable, affordable power needed for economic growth and advancing cleaner energy technologies, such as efficient natural gas, nuclear power, renewables such as wind and solar energy, and clean coal technology.

Investments in these technologies will also strengthen our economy, as the clean and efficient production and use of electricity will ensure that it remains reliable and affordable for American businesses and families.

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to reduce power plant carbon pollution, building on actions already underway in States and the power sector, I hereby direct the following:

Section 1. *Flexible Carbon Pollution Standards for Power Plants*. (a) Carbon Pollution Standards for Future Power Plants. On April 13, 2012, the EPA published a Notice of Proposed Rulemaking entitled ''Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units,'' 77 Fed. Reg. 22392. In light of the information conveyed in more than two million comments on that proposal and ongoing developments in the industry, you have indicated EPA's intention to issue a new proposal. I therefore direct you to issue a new proposal by

CAA § 111 (continued)

no later than September 20, 2013. I further direct you to issue a final rule in a timely fashion after considering all public comments, as appropriate.

(b) *Carbon Pollution Regulation for Modified, Reconstructed, and Existing Power Plants*. To ensure continued progress in reducing harmful carbon pollution, I direct you to use your authority under sections 111(b) and 111(d) of the Clean Air Act to issue standards, regulations, or guidelines, as appropriate, that address carbon pollution from modified, reconstructed, and existing power plants and build on State efforts to move toward a cleaner power sector. In addition, I request that you:

(i) issue proposed carbon pollution standards, regulations, or guidelines, as appropriate, for modified, reconstructed, and existing power plants by no later than June 1, 2014;

(ii) issue final standards, regulations, or guidelines, as appropriate, for modified, reconstructed, and existing power plants by no later than June 1, 2015; and

(iii) include in the guidelines addressing existing power plants a requirement that States submit to EPA the implementation plans required under section 111(d) of the Clean Air Act and its implementing regulations by no later than June 30, 2016.

(c) *Development of Standards, Regulations, or Guidelines for Power Plants*. In developing standards, regulations, or guidelines pursuant to subsection (b) of this section, and consistent with Executive Orders 12866 of September 30, 1993, as amended, and 13563 of January 18, 2011, you shall ensure, to the greatest extent possible, that you:

(i) launch this effort through direct engagement with States, as they will play a central role in establishing and implementing standards for existing power plants, and, at the same time, with leaders in the power sector, labor leaders, non-governmental organizations, other experts, tribal officials, other stakeholders, and members of the public, on issues informing the design of the program;

(ii) consistent with achieving regulatory objectives and taking into account other relevant environmental regulations and policies that affect the power sector, tailor regulations and guidelines to reduce costs;

(iii) develop approaches that allow the use of market-based instruments, performance standards, and other regulatory flexibilities;

(iv) ensure that the standards enable continued reliance on a range of energy sources and technologies;

(v) ensure that the standards are developed and implemented in a manner consistent with the continued provision of reliable and affordable electric power for consumers and businesses; and

(vi) work with the Department of Energy and other Federal and State agencies to promote the reliable and affordable provision of electric power through the continued development and deployment of cleaner technologies and by increasing energy efficiency, including through stronger appliance efficiency standards and other measures.

SEC. 2. *General Provisions*. (a) This memorandum shall be implemented consistent with applicable law, including international trade obligations, and subject to the availability of appropriations.

(b) Nothing in this memorandum shall be construed to impair or otherwise affect:

(i) the authority granted by law to a department, agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(c) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(d) You are hereby authorized and directed to publish this memorandum in the Federal Register.

BARACK OBAMA.

§ 7412. Hazardous air pollutants

(a) Definitions

For purposes of this section, except subsection (r) of this section—

(1) Major source

The term ''major source'' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

(2) Area source

The term ''area source'' means any stationary source of hazardous air pollutants that is not a major source. For purposes of this section, the term ''area source'' shall not include motor vehicles or nonroad vehicles subject to regulation under subchapter II of this chapter.

(3) Stationary source

The term ''stationary source'' shall have the same meaning as such term has under section 7411(a) of this title.

(4) New source

The term ''new source'' means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such source.

(5) Modification

The term ''modification'' means any physical change in, or change in the method of operation of, a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.

(6) Hazardous air pollutant

The term ''hazardous air pollutant'' means any air pollutant listed pursuant to subsection (b) of this section.

(7) Adverse environmental effect

The term ''adverse environmental effect'' means any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

(8) Electric utility steam generating unit

The term ''electric utility steam generating unit'' means any fossil fuel fired combustion

tion 7474(a) of this title, then such regulations shall be deemed amended so as to conform with such requirements. In the case of a facility on which construction was commenced (in accordance with the definition of ''commenced'' in section 7479(2) of this title) after June 1, 1975, and prior to August 7, 1977, the review and permitting of such facility shall be in accordance with the regulations for the prevention of significant deterioration in effect prior to August 7, 1977.

(July 14, 1955, ch. 360, title I, §168, as added Pub. L. 95–95, title I, §127(a), Aug. 7, 1977, 91 Stat. 740; amended Pub. L. 95–190, §14(a)(52), Nov. 16, 1977, 91 Stat. 1402.)

AMENDMENTS

1977—Subsec. (b). Pub. L. 95–190 substituted ''(in accordance with the definition of 'commenced' in section 7479(2) of this title)'' for ''in accordance with this definition''.

CAA § 169

§ 7479. Definitions

For purposes of this part—

(1) The term ''major emitting facility'' means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

(2)(A) The term ''commenced'' as applied to construction of a major emitting facility means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (i) begun, or caused to begin, a continuous program of physical onsite construction of the facility or (ii) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(B) The term ''necessary preconstruction approvals or permits'' means those permits or approvals, required by the permitting authority as a precondition to undertaking any activity under clauses (i) or (ii) of subparagraph (A) of this paragraph.

(C) The term ''construction'' when used in connection with any source or facility, includes the modification (as defined in section 7411(a) of this title) of any source or facility.

(3) The term ''best available control technology'' means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of ''best available control technology'' result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 7411 or 7412 of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

(4) The term ''baseline concentration'' means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

(July 14, 1955, ch. 360, title I, §169, as added Pub. L. 95–95, title I, §127(a), Aug. 7, 1977, 91 Stat. 740; amended Pub. L. 95–190, §14(a)(54), Nov. 16, 1977, 91 Stat. 1402; Pub. L. 101–549, title III, §305(b), title IV, §403(d), Nov. 15, 1990, 104 Stat. 2583, 2631.)

AMENDMENTS

1990—Par. (1). Pub. L. 101–549, §305(b), struck out ''two hundred and'' after ''municipal incinerators capable of charging more than''.

(c) Inadequate plans

Implementation plans for nonattainment areas for sulfur oxides or nitrogen dioxide with plans that were approved by the Administrator before November 15, 1990, but, subsequent to such approval, were found by the Administrator to be substantially inadequate, shall provide for attainment of the relevant primary standard within 5 years from the date of such finding.

(July 14, 1955, ch. 360, title I, § 192, as added Pub. L. 101–549, title I, § 106, Nov. 15, 1990, 104 Stat. 2463.)

SUBPART 6—SAVINGS PROVISIONS

§ 7515. General savings clause

Each regulation, standard, rule, notice, order and guidance promulgated or issued by the Administrator under this chapter, as in effect before November 15, 1990, shall remain in effect according to its terms, except to the extent otherwise provided under this chapter, inconsistent with any provision of this chapter, or revised by the Administrator. No control requirement in effect, or required to be adopted by an order, settlement agreement, or plan in effect before November 15, 1990, in any area which is a nonattainment area for any air pollutant may be modified after November 15, 1990, in any manner unless the modification insures equivalent or greater emission reductions of such air pollutant.

(July 14, 1955, ch. 360, title I, § 193, as added Pub. L. 101–549, title I, § 108(*l*), Nov. 15, 1990, 104 Stat. 2469.)

SUBCHAPTER II—EMISSION STANDARDS FOR MOVING SOURCES

PART A—MOTOR VEHICLE EMISSION AND FUEL STANDARDS

CAA § 202

§ 7521. Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section—

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(3)(A) IN GENERAL.—(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or categories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

(B) REVISED STANDARDS FOR HEAVY DUTY TRUCKS.—(i) On the basis of information available to the Administrator concerning the effects of air pollutants emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare, and taking costs into account, the Administrator may promulgate regulations under paragraph (1) of this subsection revising any standard promulgated under, or before the date of, the enactment of the Clean Air Act Amendments of 1990 (or previously revised under this subparagraph) and applicable to classes or categories of heavy-duty vehicles or engines.

(ii) Effective for the model year 1998 and thereafter, the regulations under paragraph (1) of this subsection applicable to emissions of oxides of nitrogen (NO_x) from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour (gbh).

(C) LEAD TIME AND STABILITY.—Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.

(D) REBUILDING PRACTICES.—The Administrator shall study the practice of rebuilding heavy-duty engines and the impact rebuilding has on engine emissions. On the basis of that study and other information available to the Administrator, the Administrator may prescribe requirements to control rebuilding practices, including standards applicable to emissions from any rebuilt heavy-duty engines (whether or not the engine is past its statutory useful life), which in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare taking costs into account. Any regulation shall take effect after a period the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors.

CAA § 202 (continued)

(E) MOTORCYCLES.—For purposes of this paragraph, motorcycles and motorcycle engines shall be treated in the same manner as heavy-duty vehicles and engines (except as otherwise permitted under section 7525(f)(1)[1] of this title) unless the Administrator promulgates a rule reclassifying motorcycles as light-duty vehicles within the meaning of this section or unless the Administrator promulgates regulations under subsection (a) of this section applying standards applicable to the emission of air pollutants from motorcycles as a separate class or category. In any case in which such standards are promulgated for such emissions from motorcycles as a separate class or category, the Administrator, in promulgating such standards, shall consider the need to achieve equivalency of emission reductions between motorcycles and other motor vehicles to the maximum extent practicable.

(4)(A) Effective with respect to vehicles and engines manufactured after model year 1978, no emission control device, system, or element of design shall be used in a new motor vehicle or new motor vehicle engine for purposes of complying with requirements prescribed under this subchapter if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.

(B) In determining whether an unreasonable risk exists under subparagraph (A), the Administrator shall consider, among other factors, (i) whether and to what extent the use of any device, system, or element of design causes, increases, reduces, or eliminates emissions of any unregulated pollutants; (ii) available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such device, system, or element of design, and (iii) the availability of other devices, systems, or elements of design which may be used to conform to requirements prescribed under this subchapter without causing or contributing to such unreasonable risk. The Administrator shall include in the consideration required by this paragraph all relevant information developed pursuant to section 7548 of this title.

(5)(A) If the Administrator promulgates final regulations which define the degree of control required and the test procedures by which compliance could be determined for gasoline vapor recovery of uncontrolled emissions from the fueling of motor vehicles, the Administrator shall, after consultation with the Secretary of Transportation with respect to motor vehicle safety, prescribe, by regulation, fill pipe standards for new motor vehicles in order to insure effective connection between such fill pipe and any vapor recovery system which the Administrator determines may be required to comply with such vapor recovery regulations. In promulgating such standards the Administrator shall take into consideration limits on fill pipe diameter, minimum design criteria for nozzle retainer lips, limits on the location of the unleaded fuel restrictors, a minimum access zone surrounding a fill pipe, a minimum pipe or nozzle insertion angle, and such other factors as he deems pertinent.

[1] See References in Text note below.

(B) Regulations prescribing standards under subparagraph (A) shall not become effective until the introduction of the model year for which it would be feasible to implement such standards, taking into consideration the restraints of an adequate leadtime for design and production.

(C) Nothing in subparagraph (A) shall (i) prevent the Administrator from specifying different nozzle and fill neck sizes for gasoline with additives and gasoline without additives or (ii) permit the Administrator to require a specific location, configuration, modeling, or styling of the motor vehicle body with respect to the fuel tank fill neck or fill nozzle clearance envelope.

(D) For the purpose of this paragraph, the term ''fill pipe'' shall include the fuel tank fill pipe, fill neck, fill inlet, and closure.

(6) ONBOARD VAPOR RECOVERY.—Within 1 year after November 15, 1990, the Administrator shall, after consultation with the Secretary of Transportation regarding the safety of vehicle-based (''onboard'') systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year in which the standards are promulgated and thereafter shall be equipped with such systems. The standards required under this paragraph shall apply to a percentage of each manufacturer's fleet of new light-duty vehicles beginning with the fourth model year after the model year in which the standards are promulgated. The percentage shall be as specified in the following table:

IMPLEMENTATION SCHEDULE FOR ONBOARD VAPOR RECOVERY REQUIREMENTS

Model year commencing after standards promulgated	Percentage*
Fourth	40
Fifth	80
After Fifth	100

*Percentages in the table refer to a percentage of the manufacturer's sales volume.

The standards shall require that such systems provide a minimum evaporative emission capture efficiency of 95 percent. The requirements of section 7511a(b)(3) of this title (relating to stage II gasoline vapor recovery) for areas classified under section 7511 of this title as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 7511a(b)(3) of this title for areas classified under section 7511 of this title as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet.

(b) Emissions of carbon monoxide, hydrocarbons, and oxides of nitrogen; annual report to Congress; waiver of emission standards; research objectives

(1)(A) The regulations under subsection (a) of this section applicable to emissions of carbon monoxide and hydrocarbons from light-duty ve-

vehicle emission device inspection and emission testing programs.

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

CAA § 211

§ 7545. Regulation of fuels

(a) Authority of Administrator to regulate

The Administrator may by regulation designate any fuel or fuel additive (including any fuel or fuel additive used exclusively in nonroad engines or nonroad vehicles) and, after such date or dates as may be prescribed by him, no manufacturer or processor of any such fuel or additive may sell, offer for sale, or introduce into commerce such fuel or additive unless the Administrator has registered such fuel or additive in accordance with subsection (b) of this section.

(b) Registration requirement

(1) For the purpose of registration of fuels and fuel additives, the Administrator shall require—

(A) the manufacturer of any fuel to notify him as to the commercial identifying name and manufacturer of any additive contained in such fuel; the range of concentration of any additive in the fuel; and the purpose-in-use of any such additive; and

(B) the manufacturer of any additive to notify him as to the chemical composition of such additive.

(2) For the purpose of registration of fuels and fuel additives, the Administrator shall, on a regular basis, require the manufacturer of any fuel or fuel additive—

(A) to conduct tests to determine potential public health and environmental effects of the fuel or additive (including carcinogenic, teratogenic, or mutagenic effects); and

(B) to furnish the description of any analytical technique that can be used to detect and measure any additive in such fuel, the recommended range of concentration of such additive, and the recommended purpose-in-use of such additive, and such other information as is reasonable and necessary to determine the emissions resulting from the use of the fuel or additive contained in such fuel, the effect of such fuel or additive on the emission control performance of any vehicle, vehicle engine, nonroad engine or nonroad vehicle, or the extent to which such emissions affect the public health or welfare.

Tests under subparagraph (A) shall be conducted in conformity with test procedures and protocols established by the Administrator. The result of such tests shall not be considered confidential.

(3) Upon compliance with the provision of this subsection, including assurances that the Administrator will receive changes in the information required, the Administrator shall register such fuel or fuel additive.

(4) STUDY ON CERTAIN FUEL ADDITIVES AND BLENDSTOCKS.—

(A) IN GENERAL.—Not later than 2 years after August 8, 2005, the Administrator shall—

(i) conduct a study on the effects on public health (including the effects on children, pregnant women, minority or low-income communities, and other sensitive populations), air quality, and water resources of increased use of, and the feasibility of using as substitutes for methyl tertiary butyl ether in gasoline—

(I) ethyl tertiary butyl ether;

(II) tertiary amyl methyl ether;

(III) di-isopropyl ether;

(IV) tertiary butyl alcohol;

(V) other ethers and heavy alcohols, as determined by then[1] Administrator;

(VI) ethanol;

(VII) iso-octane; and

(VIII) alkylates; and

(ii) conduct a study on the effects on public health (including the effects on children, pregnant women, minority or low-income communities, and other sensitive populations), air quality, and water resources of the adjustment for ethanol-blended reformulated gasoline to the volatile organic compounds performance requirements that are applicable under paragraphs (1) and (3) of subsection (k) of this section; and

(iii) submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives a report describing the results of the studies under clauses (i) and (ii).

(B) CONTRACTS FOR STUDY.—In carrying out this paragraph, the Administrator may enter into one or more contracts with nongovernmental entities such as—

(i) the national energy laboratories; and

(ii) institutions of higher education (as defined in section 1001 of title 20).

(c) Offending fuels and fuel additives; control; prohibition

(1) The Administrator may, from time to time on the basis of information obtained under subsection (b) of this section or other information available to him, by regulation, control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine or nonroad vehicle if, in the judgment of the Administrator, any fuel or fuel additive or any emission product of such fuel or fuel additive causes, or contributes, to air pollution or water pollution (including any degradation in the quality of groundwater) that may reasonably be anticipated to endanger the public health or welfare, or (B)[2] if emission products of such fuel or fuel additive will impair to a significant degree the performance of any emission control device or system which is in general use, or which the Administrator finds has been developed to a point where in a reasonable time it would be in general use were such regulation to be promulgated.

(2)(A) No fuel, class of fuels, or fuel additive may be controlled or prohibited by the Adminis-

[1] So in original. Probably should be "the".

[2] So in original. Par. (1) does not contain a cl. (A).

CAA § 211 (continued)

trator pursuant to clause (A) of paragraph (1) except after consideration of all relevant medical and scientific evidence available to him, including consideration of other technologically or economically feasible means of achieving emission standards under section 7521 of this title.

(B) No fuel or fuel additive may be controlled or prohibited by the Administrator pursuant to clause (B) of paragraph (1) except after consideration of available scientific and economic data, including a cost benefit analysis comparing emission control devices or systems which are or will be in general use and require the proposed control or prohibition with emission control devices or systems which are or will be in general use and do not require the proposed control or prohibition. On request of a manufacturer of motor vehicles, motor vehicle engines, fuels, or fuel additives submitted within 10 days of notice of proposed rulemaking, the Administrator shall hold a public hearing and publish findings with respect to any matter he is required to consider under this subparagraph. Such findings shall be published at the time of promulgation of final regulations.

(C) No fuel or fuel additive may be prohibited by the Administrator under paragraph (1) unless he finds, and publishes such finding, that in his judgment such prohibition will not cause the use of any other fuel or fuel additive which will produce emissions which will endanger the public health or welfare to the same or greater degree than the use of the fuel or fuel additive proposed to be prohibited.

(3)(A) For the purpose of obtaining evidence and data to carry out paragraph (2), the Administrator may require the manufacturer of any motor vehicle or motor vehicle engine to furnish any information which has been developed concerning the emissions from motor vehicles resulting from the use of any fuel or fuel additive, or the effect of such use on the performance of any emission control device or system.

(B) In obtaining information under subparagraph (A), section 7607(a) of this title (relating to subpenas) shall be applicable.

(4)(A) Except as otherwise provided in subparagraph (B) or (C), no State (or political subdivision thereof) may prescribe or attempt to enforce, for purposes of motor vehicle emission control, any control or prohibition respecting any characteristic or component of a fuel or fuel additive in a motor vehicle or motor vehicle engine—

(i) if the Administrator has found that no control or prohibition of the characteristic or component of a fuel or fuel additive under paragraph (1) is necessary and has published his finding in the Federal Register, or

(ii) if the Administrator has prescribed under paragraph (1) a control or prohibition applicable to such characteristic or component of a fuel or fuel additive, unless State prohibition or control is identical to the prohibition or control prescribed by the Administrator.

(B) Any State for which application of section 7543(a) of this title has at any time been waived under section 7543(b) of this title may at any time prescribe and enforce, for the purpose of motor vehicle emission control, a control or prohibition respecting any fuel or fuel additive.

(C)(i) A State may prescribe and enforce, for purposes of motor vehicle emission control, a control or prohibition respecting the use of a fuel or fuel additive in a motor vehicle or motor vehicle engine if an applicable implementation plan for such State under section 7410 of this title so provides. The Administrator may approve such provision in an implementation plan, or promulgate an implementation plan containing such a provision, only if he finds that the State control or prohibition is necessary to achieve the national primary or secondary ambient air quality standard which the plan implements. The Administrator may find that a State control or prohibition is necessary to achieve that standard if no other measures that would bring about timely attainment exist, or if other measures exist and are technically possible to implement, but are unreasonable or impracticable. The Administrator may make a finding of necessity under this subparagraph even if the plan for the area does not contain an approved demonstration of timely attainment.

(ii) The Administrator may temporarily waive a control or prohibition respecting the use of a fuel or fuel additive required or regulated by the Administrator pursuant to subsection (c), (h), (i), (k), or (m) of this section or prescribed in an applicable implementation plan under section 7410 of this title approved by the Administrator under clause (i) of this subparagraph if, after consultation with, and concurrence by, the Secretary of Energy, the Administrator determines that—

(I) extreme and unusual fuel or fuel additive supply circumstances exist in a State or region of the Nation which prevent the distribution of an adequate supply of the fuel or fuel additive to consumers;

(II) such extreme and unusual fuel and fuel additive supply circumstances are the result of a natural disaster, an Act of God, a pipeline or refinery equipment failure, or another event that could not reasonably have been foreseen or prevented and not the lack of prudent planning on the part of the suppliers of the fuel or fuel additive to such State or region; and

(III) it is in the public interest to grant the waiver (for example, when a waiver is necessary to meet projected temporary shortfalls in the supply of the fuel or fuel additive in a State or region of the Nation which cannot otherwise be compensated for).

(iii) If the Administrator makes the determinations required under clause (ii), such a temporary extreme and unusual fuel and fuel additive supply circumstances waiver shall be permitted only if—

(I) the waiver applies to the smallest geographic area necessary to address the extreme and unusual fuel and fuel additive supply circumstances;

(II) the waiver is effective for a period of 20 calendar days or, if the Administrator determines that a shorter waiver period is adequate, for the shortest practicable time period necessary to permit the correction of the extreme and unusual fuel and fuel additive supply circumstances and to mitigate impact on air quality;

CAA § 211
(continued)

(III) the waiver permits a transitional period, the exact duration of which shall be determined by the Administrator (but which shall be for the shortest practicable period), after the termination of the temporary waiver to permit wholesalers and retailers to blend down their wholesale and retail inventory;

(IV) the waiver applies to all persons in the motor fuel distribution system; and

(V) the Administrator has given public notice to all parties in the motor fuel distribution system, and local and State regulators, in the State or region to be covered by the waiver.

The term ''motor fuel distribution system'' as used in this clause shall be defined by the Administrator through rulemaking.

(iv) Within 180 days of August 8, 2005, the Administrator shall promulgate regulations to implement clauses (ii) and (iii).

(v)[3] Nothing in this subparagraph shall—

(I) limit or otherwise affect the application of any other waiver authority of the Administrator pursuant to this section or pursuant to a regulation promulgated pursuant to this section; and

(II) subject any State or person to an enforcement action, penalties, or liability solely arising from actions taken pursuant to the issuance of a waiver under this subparagraph.

(v)(I)[3] The Administrator shall have no authority, when considering a State implementation plan or a State implementation plan revision, to approve under this paragraph any fuel included in such plan or revision if the effect of such approval increases the total number of fuels approved under this paragraph as of September 1, 2004, in all State implementation plans.

(II) The Administrator, in consultation with the Secretary of Energy, shall determine the total number of fuels approved under this paragraph as of September 1, 2004, in all State implementation plans and shall publish a list of such fuels, including the States and Petroleum Administration for Defense District in which they are used, in the Federal Register for public review and comment no later than 90 days after August 8, 2005.

(III) The Administrator shall remove a fuel from the list published under subclause (II) if a fuel ceases to be included in a State implementation plan or if a fuel in a State implementation plan is identical to a Federal fuel formulation implemented by the Administrator, but the Administrator shall not reduce the total number of fuels authorized under the list published under subclause (II).

(IV) Subclause (I) shall not limit the Administrator's authority to approve a control or prohibition respecting any new fuel under this paragraph in a State implementation plan or revision to a State implementation plan if such new fuel—

(aa) completely replaces a fuel on the list published under subclause (II); or

(bb) does not increase the total number of fuels on the list published under subclause (II) as of September 1, 2004.

In the event that the total number of fuels on the list published under subclause (II) at the time of the Administrator's consideration of a control or prohibition respecting a new fuel is lower than the total number of fuels on such list as of September 1, 2004, the Administrator may approve a control or prohibition respecting a new fuel under this subclause if the Administrator, after consultation with the Secretary of Energy, publishes in the Federal Register after notice and comment a finding that, in the Administrator's judgment, such control or prohibition respecting a new fuel will not cause fuel supply or distribution interruptions or have a significant adverse impact on fuel producibility in the affected area or contiguous areas.

(V) The Administrator shall have no authority under this paragraph, when considering any particular State's implementation plan or a revision to that State's implementation plan, to approve any fuel unless that fuel was, as of the date of such consideration, approved in at least one State implementation plan in the applicable Petroleum Administration for Defense District. However, the Administrator may approve as part of a State implementation plan or State implementation plan revision a fuel with a summertime Reid Vapor Pressure of 7.0 psi. In no event shall such approval by the Administrator cause an increase in the total number of fuels on the list published under subclause (II).

(VI) Nothing in this clause shall be construed to have any effect regarding any available authority of States to require the use of any fuel additive registered in accordance with subsection (b) of this section, including any fuel additive registered in accordance with subsection (b) of this section after August 8, 2005.

(d) Penalties and injunctions

(1) Civil penalties

Any person who violates subsection (a), (f), (g), (k), (*l*), (m), (n), or (*o*) of this section or the regulations prescribed under subsection (c), (h), (i), (k), (*l*), (m), (n), or (*o*) of this section or who fails to furnish any information or conduct any tests required by the Administrator under subsection (b) of this section shall be liable to the United States for a civil penalty of not more than the sum of $25,000 for every day of such violation and the amount of economic benefit or savings resulting from the violation. Any violation with respect to a regulation prescribed under subsection (c), (k), (*l*), (m), or (*o*) of this section which establishes a regulatory standard based upon a multiday averaging period shall constitute a separate day of violation for each and every day in the averaging period. Civil penalties shall be assessed in accordance with subsections (b) and (c) of section 7524 of this title.

(2) Injunctive authority

The district courts of the United States shall have jurisdiction to restrain violations of subsections (a), (f), (g), (k), (*l*), (m), (n), and (*o*) of this section and of the regulations prescribed under subsections (c), (h), (i), (k), (*l*), (m), (n), and (*o*) of this section, to award other appropriate relief, and to compel the furnishing of information and the conduct of tests re-

[3] So in original. Two cls. (v) have been enacted.

section (b) of this section) that all new urban buses purchased or placed into service by owners or operators of urban buses in all metropolitan statistical areas or consolidated metropolitan statistical areas with a 1980 population of 750,000 or more shall be capable of operating, and shall be exclusively operated, on low-polluting fuels. The Administrator shall establish the pass-fail rate for purposes of testing under this subparagraph.

(B) The Administrator shall promulgate a schedule phasing in any low-polluting fuel requirement established pursuant to this paragraph to an increasing percentage of new urban buses purchased or placed into service in each of the first 5 model years commencing 3 years after the determination under subparagraph (A). Under such schedule 100 percent of new urban buses placed into service in the fifth model year commencing 3 years after the determination under subparagraph (A) shall comply with the low-polluting fuel requirement established pursuant to this paragraph.

(C) The Administrator may extend the requirements of this paragraph to metropolitan statistical areas or consolidated metropolitan statistical areas with a 1980 population of less than 750,000, if the Administrator determines that a significant benefit to public health could be expected to result from such extension.

(d) Retrofit requirements

Not later than 12 months after November 15, 1990, the Administrator shall promulgate regulations under section 7521(a) of this title requiring that urban buses which—

(1) are operating in areas referred to in subparagraph (A) of subsection (c)(2) of this section (or subparagraph (C) of subsection (c)(2) of this section if the Administrator has taken action under that subparagraph);

(2) were not subject to standards in effect under the regulations under subsection (a) of this section; and

(3) have their engines replaced or rebuilt after January 1, 1995,

shall comply with an emissions standard or emissions control technology requirement established by the Administrator in such regulations. Such emissions standard or emissions control technology requirement shall reflect the best retrofit technology and maintenance practices reasonably achievable.

(e) Procedures for administration and enforcement

The Administrator shall establish, within 18 months after November 15, 1990, and in accordance with section 7525(h) of this title, procedures for the administration and enforcement of standards for buses subject to standards under this section, testing procedures, sampling protocols, in-use compliance requirements, and criteria governing evaluation of buses. Procedures for testing (including, but not limited to, certification testing) shall reflect actual operating conditions.

(f) Definitions

For purposes of this section—

(1) Urban bus

The term ''urban bus'' has the meaning provided under regulations of the Administrator promulgated under section 7521(a) of this title.

(2) Low-polluting fuel

The term ''low-polluting fuel'' means methanol, ethanol, propane, or natural gas, or any comparably low-polluting fuel. In determining whether a fuel is comparably low-polluting, the Administrator shall consider both the level of emissions of air pollutants from vehicles using the fuel and the contribution of such emissions to ambient levels of air pollutants. For purposes of this paragraph, the term ''methanol'' includes any fuel which contains at least 85 percent methanol unless the Administrator increases such percentage as he deems appropriate to protect public health and welfare.

(July 14, 1955, ch. 360, title II, § 219, as added Pub. L. 101–549, title II, § 227[(a)], Nov. 15, 1990, 104 Stat. 2505.)

PART B—AIRCRAFT EMISSION STANDARDS

§ 7571. Establishment of standards CAA § 231

(a) Study; proposed standards; hearings; issuance of regulations

(1) Within 90 days after December 31, 1970, the Administrator shall commence a study and investigation of emissions of air pollutants from aircraft in order to determine—

(A) the extent to which such emissions affect air quality in air quality control regions throughout the United States, and

(B) the technological feasibility of controlling such emissions.

(2)(A) The Administrator shall, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in his judgment causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B)(i) The Administrator shall consult with the Administrator of the Federal Aviation Administration on aircraft engine emission standards.

(ii) The Administrator shall not change the aircraft engine emission standards if such change would significantly increase noise and adversely affect safety.

(3) The Administrator shall hold public hearings with respect to such proposed standards. Such hearings shall, to the extent practicable, be held in air quality control regions which are most seriously affected by aircraft emissions. Within 90 days after the issuance of such proposed regulations, he shall issue such regulations with such modifications as he deems appropriate. Such regulations may be revised from time to time.

(b) Effective date of regulations

Any regulation prescribed under this section (and any revision thereof) shall take effect after such period as the Administrator finds necessary (after consultation with the Secretary of Transportation) to permit the development and

CAA § 231 (continued)

application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(c) Regulations which create hazards to aircraft safety

Any regulations in effect under this section on August 7, 1977, or proposed or promulgated thereafter, or amendments thereto, with respect to aircraft shall not apply if disapproved by the President, after notice and opportunity for public hearing, on the basis of a finding by the Secretary of Transportation that any such regulation would create a hazard to aircraft safety. Any such finding shall include a reasonably specific statement of the basis upon which the finding was made.

(July 14, 1955, ch. 360, title II, §231, as added Pub. L. 91–604, §11(a)(1), Dec. 31, 1970, 84 Stat. 1703; amended Pub. L. 95–95, title II, §225, title IV, §401(f), Aug. 7, 1977, 91 Stat. 769, 791; Pub. L. 104–264, title IV, §406(b), Oct. 9, 1996, 110 Stat. 3257.)

CODIFICATION

Section was formerly classified to section 1857f–9 of this title.

AMENDMENTS

1996—Subsec. (a)(2). Pub. L. 104–264 designated existing provisions as subpar. (A) and added subpar. (B).

1977—Subsec. (a)(2). Pub. L. 95–95, §401(f), substituted ''The Administrator shall, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in his judgment causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare'' for ''Within 180 days after commencing such study and investigation, the Administrator shall publish a report of such study and investigation and shall issue proposed emission standards applicable to emissions of any air pollutant from any class or classes of aircraft or aircraft engines which in his judgment cause or contribute to or are likely to cause or contribute to air pollution which endangers the public health or welfare''.

Subsec. (c). Pub. L. 95–95, §225, substituted ''Any regulations in effect under this section on August 7, 1977, or proposed or promulgated thereafter, or amendments thereto, with respect to aircraft shall not apply if disapproved by the President, after notice and opportunity for public hearing, on the basis of a finding by the Secretary of Transportation that any such regulation would create a hazard to aircraft safety'' for ''Any regulations under this section, or amendments thereto, with respect to aircraft, shall be prescribed only after consultation with the Secretary of Transportation in order to assure appropriate consideration for aircraft safety'' and inserted provision that findings include a reasonably specific statement of the basis upon which the finding was made.

EFFECTIVE DATE OF 1996 AMENDMENT

Except as otherwise specifically provided, amendment by Pub. L. 104–264 applicable only to fiscal years beginning after Sept. 30, 1996, and not to be construed as affecting funds made available for a fiscal year ending before Oct. 1, 1996, see section 3 of Pub. L. 104–264, set out as a note under section 106 of Title 49, Transportation.

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

MODIFICATION OR RESCISSION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95–95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95–95 [this chapter], see section 406(b) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

STUDY AND INVESTIGATION OF UNINSTALLED AIRCRAFT ENGINES

Pub. L. 101–549, title II, §233, Nov. 15, 1990, 104 Stat. 2529, provided that:

''(a) STUDY.—The Administrator of the Environmental Protection Agency and the Secretary of Transportation, in consultation with the Secretary of Defense, shall commence a study and investigation of the testing of uninstalled aircraft engines in enclosed test cells that shall address at a minimum the following issues and such other issues as they shall deem appropriate—

''(1) whether technologies exist to control some or all emissions of oxides of nitrogen from test cells;

''(2) the effectiveness of such technologies;

''(3) the cost of implementing such technologies;

''(4) whether such technologies affect the safety, design, structure, operation, or performance of aircraft engines;

''(5) whether such technologies impair the effectiveness and accuracy of aircraft engine safety design, and performance tests conducted in test cells; and

''(6) the impact of not controlling such oxides of nitrogen in the applicable nonattainment areas and on other sources, stationary and mobile, on oxides of nitrogen in such areas.

''(b) REPORT, AUTHORITY TO REGULATE.—Not later than 24 months after enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990], the Administrator of the Environmental Protection Agency and the Secretary of Transportation shall submit to Congress a report of the study conducted under this section. Following the completion of such study, any of the States may adopt or enforce any standard for emissions of oxides of nitrogen from test cells only after issuing a public notice stating whether such standards are in accordance with the findings of the study.''

§ 7572. Enforcement of standards

(a) Regulations to insure compliance with standards

The Secretary of Transportation, after consultation with the Administrator, shall prescribe regulations to insure compliance with all standards prescribed under section 7571 of this title by the Administrator. The regulations of the Secretary of Transportation shall include provisions making such standards applicable in the issuance, amendment, modification, suspension, or revocation of any certificate authorized by part A of subtitle VII of title 49 or the Department of Transportation Act. Such Secretary shall insure that all necessary inspections are accomplished, and,[1] may execute any power or duty vested in him by any other provision of law

[1] So in original. The comma probably should not appear.

Pub. L. 95–95, title III, § 305(e), Aug. 7, 1977, 91 Stat. 776; Pub. L. 101–549, title I, §§ 107(d), 108(i), Nov. 15, 1990, 104 Stat. 2464, 2467.)

CODIFICATION

Section was formerly classified to section 1857g of this title.

AMENDMENTS

1990—Subsec. (a)(1). Pub. L. 101–549, § 108(i), inserted ''subject to section 7607(d) of this title'' after ''regulations''.

Subsec. (d). Pub. L. 101–549, § 107(d), added subsec. (d).

1977—Subsec. (a). Pub. L. 95–95 designated existing provisions as par. (1) and added par. (2).

1970—Subsec. (a). Pub. L. 91–604, § 15(c)(2), substituted ''Administrator'' for ''Secretary'' and ''Environmental Protection Agency'' for ''Department of Health, Education, and Welfare''.

Subsec. (b). Pub. L. 91–604, § 3(b)(2), substituted ''Environmental Protection Agency'' for ''Public Health Service'' and struck out provisions covering the payment of salaries and allowances.

Subsec. (c). Pub. L. 91–604, § 15(c)(2), substituted ''Administrator'' for ''Secretary''.

1967—Pub. L. 90–148 reenacted section without change.

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

MODIFICATION OR RESCISSION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95–95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95–95 [this chapter], see section 406(b) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

DISADVANTAGED BUSINESS CONCERNS; USE OF QUOTAS PROHIBITED

Pub. L. 101–549, title X, Nov. 15, 1990, 104 Stat. 2708, provided that:

''SEC. 1001. DISADVANTAGED BUSINESS CONCERNS.

''(a) IN GENERAL.—In providing for any research relating to the requirements of the amendments made by the Clean Air Act Amendments of 1990 [Pub. L. 101–549, see Tables for classification] which uses funds of the Environmental Protection Agency, the Administrator of the Environmental Protection Agency shall, to the extent practicable, require that not less than 10 percent of total Federal funding for such research will be made available to disadvantaged business concerns.

''(b) DEFINITION.—

''(1)(A) For purposes of subsection (a), the term 'disadvantaged business concern' means a concern—

''(i) which is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of a publicly traded company, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

''(ii) the management and daily business operations of which are controlled by such individuals.

''(B)(i) A for-profit business concern is presumed to be a disadvantaged business concern for purposes of subsection (a) if it is at least 51 percent owned by, or in the case of a concern which is a publicly traded company at least 51 percent of the stock of the company is owned by, one or more individuals who are members of the following groups:

''(I) Black Americans.

''(II) Hispanic Americans.

''(III) Native Americans.

''(IV) Asian Americans.

''(V) Women.

''(VI) Disabled Americans.

''(ii) The presumption established by clause (i) may be rebutted with respect to a particular business concern if it is reasonably established that the individual or individuals referred to in that clause with respect to that business concern are not experiencing impediments to establishing or developing such concern as a result of the individual's identification as a member of a group specified in that clause.

''(C) The following institutions are presumed to be disadvantaged business concerns for purposes of subsection (a):

''(i) Historically black colleges and universities, and colleges and universities having a student body in which 40 percent of the students are Hispanic.

''(ii) Minority institutions (as that term is defined by the Secretary of Education pursuant to the General Education Provision Act (20 U.S.C. 1221 et seq.)).

''(iii) Private and voluntary organizations controlled by individuals who are socially and economically disadvantaged.

''(D) A joint venture may be considered to be a disadvantaged business concern under subsection (a), notwithstanding the size of such joint venture, if—

''(i) a party to the joint venture is a disadvantaged business concern; and

''(ii) that party owns at least 51 percent of the joint venture.

A person who is not an economically disadvantaged individual or a disadvantaged business concern, as a party to a joint venture, may not be a party to more than 2 awarded contracts in a fiscal year solely by reason of this subparagraph.

''(E) Nothing in this paragraph shall prohibit any member of a racial or ethnic group that is not listed in subparagraph (B)(i) from establishing that they have been impeded in establishing or developing a business concern as a result of racial or ethnic discrimination.

''SEC. 1002. USE OF QUOTAS PROHIBITED.—Nothing in this title shall permit or require the use of quotas or a requirement that has the effect of a quota in determining eligibility under section 1001.''

§ 7602. Definitions CAA § 302

When used in this chapter—

(a) The term ''Administrator'' means the Administrator of the Environmental Protection Agency.

(b) The term ''air pollution control agency'' means any of the following:

(1) A single State agency designated by the Governor of that State as the official State air pollution control agency for purposes of this chapter.

(2) An agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution.

(3) A city, county, or other local government health authority, or, in the case of any city, county, or other local government in which there is an agency other than the health authority charged with responsibility for enforcing ordinances or laws relating to the prevention and control of air pollution, such other agency.

CAA § 302
(continued)

(4) An agency of two or more municipalities located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution.

(5) An agency of an Indian tribe.

(c) The term ''interstate air pollution control agency'' means—

(1) an air pollution control agency established by two or more States, or

(2) an air pollution control agency of two or more municipalities located in different States.

(d) The term ''State'' means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa and includes the Commonwealth of the Northern Mariana Islands.

(e) The term ''person'' includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.

(f) The term ''municipality'' means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

(g) The term ''air pollutant'' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term ''air pollutant'' is used.

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

(i) The term ''Federal land manager'' means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(j) Except as otherwise expressly provided, the terms ''major stationary source'' and ''major emitting facility'' mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

(k) The terms ''emission limitation'' and ''emission standard'' mean a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter..[1]

(*l*) The term ''standard of performance'' means a requirement of continuous emission reduction, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction.

(m) The term ''means of emission limitation'' means a system of continuous emission reduction (including the use of specific technology or fuels with specified pollution characteristics).

(n) The term ''primary standard attainment date'' means the date specified in the applicable implementation plan for the attainment of a national primary ambient air quality standard for any air pollutant.

(*o*) The term ''delayed compliance order'' means an order issued by the State or by the Administrator to an existing stationary source, postponing the date required under an applicable implementation plan for compliance by such source with any requirement of such plan.

(p) The term ''schedule and timetable of compliance'' means a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, other limitation, prohibition, or standard.

(q) For purposes of this chapter, the term ''applicable implementation plan'' means the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 7410 of this title, or promulgated under section 7410(c) of this title, or promulgated or approved pursuant to regulations promulgated under section 7601(d) of this title and which implements the relevant requirements of this chapter.

(r) INDIAN TRIBE.—The term ''Indian tribe'' means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(s) VOC.—The term ''VOC'' means volatile organic compound, as defined by the Administrator.

(t) PM–10.—The term ''PM–10'' means particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers, as measured by such method as the Administrator may determine.

(u) NAAQS AND CTG.—The term ''NAAQS'' means national ambient air quality standard. The term ''CTG'' means a Control Technique Guideline published by the Administrator under section 7408 of this title.

(v) NO_x.—The term ''NO_x'' means oxides of nitrogen.

(w) CO.—The term ''CO'' means carbon monoxide.

(x) SMALL SOURCE.—The term ''small source'' means a source that emits less than 100 tons of regulated pollutants per year, or any class of persons that the Administrator determines, through regulation, generally lack technical ability or knowledge regarding control of air pollution.

[1] So in original.

CAA § 302
(continued)

(y) FEDERAL IMPLEMENTATION PLAN.—The term ''Federal implementation plan'' means a plan (or portion thereof) promulgated by the Administrator to fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan, and which includes enforceable emission limitations or other control measures, means or techniques (including economic incentives, such as marketable permits or auctions of emissions allowances), and provides for attainment of the relevant national ambient air quality standard.

(z) STATIONARY SOURCE.—The term ''stationary source'' means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of this title.

(July 14, 1955, ch. 360, title III, §302, formerly §9, as added Pub. L. 88–206, §1, Dec. 17, 1963, 77 Stat. 400, renumbered Pub. L. 89–272, title I, §101(4), Oct. 20, 1965, 79 Stat. 992; amended Pub. L. 90–148, §2, Nov. 21, 1967, 81 Stat. 504; Pub. L. 91–604, §15(a)(1), (c)(1), Dec. 31, 1970, 84 Stat. 1710, 1713; Pub. L. 95–95, title II, §218(c), title III, §301, Aug. 7, 1977, 91 Stat. 761, 769; Pub. L. 95–190, §14(a)(76), Nov. 16, 1977, 91 Stat. 1404; Pub. L. 101–549, title I, §§101(d)(4), 107(a), (b), 108(j), 109(b), title III, §302(e), title VII, §709, Nov. 15, 1990, 104 Stat. 2409, 2464, 2468, 2470, 2574, 2684.)

CODIFICATION

Section was formerly classified to section 1857h of this title.

PRIOR PROVISIONS

Provisions similar to those in subsecs. (b) and (d) of this section were contained in a section 1857e of this title, act July 14, 1955, ch. 360, §6, 69 Stat. 323, prior to the general amendment of this chapter by Pub. L. 88–206.

AMENDMENTS

1990—Subsec. (b)(1) to (3). Pub. L. 101–549, §107(a)(1), (2), struck out ''or'' at end of par. (3) and substituted periods for semicolons at end of pars. (1) to (3).

Subsec. (b)(5). Pub. L. 101–549, §107(a)(3), added par. (5).

Subsec. (g). Pub. L. 101–549, §108(j)(2), inserted at end ''Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.''

Subsec. (h). Pub. L. 101–549, §109(b), inserted before period at end '', whether caused by transformation, conversion, or combination with other air pollutants''.

Subsec. (k). Pub. L. 101–549, §303(e), inserted before period at end '', and any design, equipment, work practice or operational standard promulgated under this chapter.''

Subsec. (q). Pub. L. 101–549, §101(d)(4), added subsec. (q).

Subsec. (r). Pub. L. 101–549, §107(b), added subsec. (r).

Subsecs. (s) to (y). Pub. L. 101–549, §108(j)(1), added subsecs. (s) to (y).

Subsec. (z). Pub. L. 101–549, §709, added subsec. (z).

1977—Subsec. (d). Pub. L. 95–95, §218(c), inserted ''and includes the Commonwealth of the Northern Mariana Islands'' after ''American Samoa''.

Subsec. (e). Pub. L. 95–190 substituted ''individual, corporation'' for ''individual corporation''.

Pub. L. 95–95, §301(b), expanded definition of ''person'' to include agencies, departments, and instrumentalities of the United States and officers, agents, and employees thereof.

Subsec. (g). Pub. L. 95–95, §301(c), expanded definition of ''air pollutant'' so as, expressly, to include physical, chemical, biological, and radioactive substances or matter emitted into or otherwise entering the ambient air.

Subsecs. (i) to (p). Pub. L. 95–95, §301(a), added subsecs. (i) to (p).

1970—Subsec. (a). Pub. L. 91–604, §15(c)(1), substituted definition of ''Administrator'' as meaning Administrator of the Environmental Protection Agency for definition of ''Secretary'' as meaning Secretary of Health, Education, and Welfare.

Subsecs. (g), (h). Pub. L. 91–604, §15(a)(1), added subsec. (g) defining ''air pollutant'', redesignated former subsec. (g) as (h) and substituted references to effects on soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate for references to injury to agricultural crops and livestock, and inserted references to effects on economic values and on personal comfort and well being.

1967—Pub. L. 90–148 reenacted section without change.

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

§ 7603. Emergency powers

Notwithstanding any other provision of this chapter, the Administrator, upon receipt of evidence that a pollution source or combination of sources (including moving sources) is presenting an imminent and substantial endangerment to public health or welfare, or the environment, may bring suit on behalf of the United States in the appropriate United States district court to immediately restrain any person causing or contributing to the alleged pollution to stop the emission of air pollutants causing or contributing to such pollution or to take such other action as may be necessary. If it is not practicable to assure prompt protection of public health or welfare or the environment by commencement of such a civil action, the Administrator may issue such orders as may be necessary to protect public health or welfare or the environment. Prior to taking any action under this section, the Administrator shall consult with appropriate State and local authorities and attempt to confirm the accuracy of the information on which the action proposed to be taken is based. Any order issued by the Administrator under this section shall be effective upon issuance and shall remain in effect for a period of not more than 60 days, unless the Administrator brings an action pursuant to the first sentence of this section before the expiration of that period. Whenever the Administrator brings such an action within the 60-day period, such order shall remain in effect for an additional 14 days or for such longer period as may be authorized by the court in which such action is brought.

(July 14, 1955, ch. 360, title III, §303, as added Pub. L. 91–604, §12(a), Dec. 31, 1970, 84 Stat. 1705; amended Pub. L. 95–95, title III, §302(a), Aug. 7, 1977, 91 Stat. 770; Pub. L. 101–549, title VII, §704, Nov. 15, 1990, 104 Stat. 2681.)

CODIFICATION

Section was formerly classified to section 1857h–1 of this title.

SEC. 2. *Designation of Facilities*. (a) The Administrator of the Environmental Protection Agency (hereinafter referred to as ''the Administrator'') shall be responsible for the attainment of the purposes and objectives of this Order.

(b) In carrying out his responsibilities under this Order, the Administrator shall, in conformity with all applicable requirements of law, designate facilities which have given rise to a conviction for an offense under section 113(c)(1) of the Air Act [42 U.S.C. 7413(c)(1)] or section 309(c) of the Water Act [33 U.S.C. 1319(c)]. The Administrator shall, from time to time, publish and circulate to all Federal agencies lists of those facilities, together with the names and addresses of the persons who have been convicted of such offenses. Whenever the Administrator determines that the condition which gave rise to a conviction has been corrected, he shall promptly remove the facility and the name and address of the person concerned from the list.

SEC. 3. *Contracts, Grants, or Loans*. (a) Except as provided in section 8 of this Order, no Federal agency shall enter into any contract for the procurement of goods, materials, or services which is to be performed in whole or in part in a facility then designated by the Administrator pursuant to section 2.

(b) Except as provided in section 8 of this Order, no Federal agency authorized to extend Federal assistance by way of grant, loan, or contract shall extend such assistance in any case in which it is to be used to support any activity or program involving the use of a facility then designated by the Administrator pursuant to section 2.

SEC. 4. *Procurement, Grant, and Loan Regulations*. The Federal Procurement Regulations, the Armed Services Procurement Regulations, and to the extent necessary, any supplemental or comparable regulations issued by any agency of the Executive Branch shall, following consultation with the Administrator, be amended to require, as a condition of entering into, renewing, or extending any contract for the procurement of goods, materials, or services or extending any assistance by way of grant, loan, or contract, inclusion of a provision requiring compliance with the Air Act, the Water Act, and standards issued pursuant thereto in the facilities in which the contract is to be performed, or which are involved in the activity or program to receive assistance.

SEC. 5. *Rules and Regulations*. The Administrator shall issue such rules, regulations, standards, and guidelines as he may deem necessary or appropriate to carry out the purposes of this Order.

SEC. 6. *Cooperation and Assistance*. The head of each Federal agency shall take such steps as may be necessary to insure that all officers and employees of this agency whose duties entail compliance or comparable functions with respect to contracts, grants, and loans are familiar with the provisions of this Order. In addition to any other appropriate action, such officers and employees shall report promptly any condition in a facility which may involve noncompliance with the Air Act or the Water Act or any rules, regulations, standards, or guidelines issued pursuant to this Order to the head of the agency, who shall transmit such reports to the Administrator.

SEC. 7. *Enforcement*. The Administrator may recommend to the Department of Justice or other appropriate agency that legal proceedings be brought or other appropriate action be taken whenever he becomes aware of a breach of any provision required, under the amendments issued pursuant to section 4 of this Order, to be included in a contract or other agreement.

SEC. 8. *Exemptions—Reports to Congress*. (a) Upon a determination that the paramount interest of the United States so requires—

(1) The head of a Federal agency may exempt any contract, grant, or loan, and, following consultation with the Administrator, any class of contracts, grants or loans from the provisions of this Order. In any such case, the head of the Federal agency granting such exemption shall (A) promptly notify the Administrator of such exemption and the justification therefor; (B) review the necessity for each such exemption annually; and (C) report to the Administrator annually all such exemptions in effect. Exemptions granted pursuant to this section shall be for a period not to exceed one year. Additional exemptions may be granted for periods not to exceed one year upon the making of a new determination by the head of the Federal agency concerned.

(2) The Administrator may, by rule or regulation, exempt any or all Federal agencies from any or all of the provisions of this Order with respect to any class or classes of contracts, grants, or loans, which (A) involve less than specified dollar amounts, or (B) have a minimal potential impact upon the environment, or (C) involve persons who are not prime contractors or direct recipients of Federal assistance by way of contracts, grants, or loans.

(b) Federal agencies shall reconsider any exemption granted under subsection (a) whenever requested to do so by the Administrator.

(c) The Administrator shall annually notify the President and the Congress of all exemptions granted, or in effect, under this Order during the preceding year.

SEC. 9. *Related Actions*. The imposition of any sanction or penalty under or pursuant to this Order shall not relieve any person of any legal duty to comply with any provisions of the Air Act or the Water Act.

SEC. 10. *Applicability*. This Order shall not apply to contracts, grants, or loans involving the use of facilities located outside the United States.

SEC. 11. *Uniformity*. Rules, regulations, standards, and guidelines issued pursuant to this order and section 508 of the Water Act [33 U.S.C. 1368] shall, to the maximum extent feasible, be uniform with regulations issued pursuant to this order, Executive Order No. 11602 of June 29, 1971 [formerly set out above], and section 306 of the Air Act [this section].

SEC. 12. *Order Superseded*. Executive Order No. 11602 of June 29, 1971, is hereby superseded.

RICHARD NIXON.

§ 7607. Administrative proceedings and judicial review

CAA § 307

(a) Administrative subpenas; confidentiality; witnesses

In connection with any determination under section 7410(f) of this title, or for purposes of obtaining information under section 7521(b)(4)[1] or 7545(c)(3) of this title, any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under the[2] chapter (including but not limited to section 7413, section 7414, section 7420, section 7429, section 7477, section 7524, section 7525, section 7542, section 7603, or section 7606 of this title),,[3] the Administrator may issue subpenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. Except for emission data, upon a showing satisfactory to the Administrator by such owner or operator that such papers, books, documents, or information or particular part thereof, if made public, would divulge trade secrets or secret processes of such owner or operator, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of title 18, except that such paper, book, document, or information may be dis-

[1] See References in Text note below.
[2] So in original. Probably should be ''this''.
[3] So in original.

CAA § 307 (continued)

closed to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter, to persons carrying out the National Academy of Sciences' study and investigation provided for in section 7521(c) of this title, or when relevant in any proceeding under this chapter. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpena served upon any person under this subparagraph,[4] the district court of the United States for any district in which such person is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(b) Judicial review

(1) A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any emission standard or requirement under section 7412 of this title, any standard of performance or requirement under section 7411 of this title,,[3] any standard under section 7521 of this title (other than a standard required to be prescribed under section 7521(b)(1) of this title), any determination under section 7521(b)(5)[1] of this title, any control or prohibition under section 7545 of this title, any standard under section 7571 of this title, any rule issued under section 7413, 7419, or under section 7420 of this title, or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this chapter may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under section 7410 of this title or section 7411(d) of this title, any order under section 7411(j) of this title, under section 7412 of this title, under section 7419 of this title, or under section 7420 of this title, or his action under section 1857c–10(c)(2)(A), (B), or (C) of this title (as in effect before August 7, 1977) or under regulations thereunder, or revising regulations for enhanced monitoring and compliance certification programs under section 7414(a)(3) of this title, or any other final action of the Administrator under this chapter (including any denial or disapproval by the Administrator under subchapter I of this chapter) which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination. Any petition for review under this subsection shall be filed within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise. The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action.

(2) Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil or criminal proceedings for enforcement. Where a final decision by the Administrator defers performance of any nondiscretionary statutory action to a later time, any person may challenge the deferral pursuant to paragraph (1).

(c) Additional evidence

In any judicial proceeding in which review is sought of a determination under this chapter required to be made on the record after notice and opportunity for hearing, if any party applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, in such manner and upon such terms and conditions as to[5] the court may deem proper. The Administrator may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken and he shall file such modified or new findings, and his recommendation, if any, for the modification or setting aside of his original determination, with the return of such additional evidence.

(d) Rulemaking

(1) This subsection applies to—

(A) the promulgation or revision of any national ambient air quality standard under section 7409 of this title,

(B) the promulgation or revision of an implementation plan by the Administrator under section 7410(c) of this title,

(C) the promulgation or revision of any standard of performance under section 7411 of this title, or emission standard or limitation under section 7412(d) of this title, any standard under section 7412(f) of this title, or any regulation under section 7412(g)(1)(D) and (F) of this title, or any regulation under section 7412(m) or (n) of this title,

(D) the promulgation of any requirement for solid waste combustion under section 7429 of this title,

[4] So in original. Probably should be "subsection,".

[5] So in original. The word "to" probably should not appear.

CAA § 307 (continued)

(E) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under section 7545 of this title,

(F) the promulgation or revision of any aircraft emission standard under section 7571 of this title,

(G) the promulgation or revision of any regulation under subchapter IV–A of this chapter (relating to control of acid deposition),

(H) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under section 7419 of this title (but not including the granting or denying of any such order),

(I) promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection),

(J) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility),

(K) promulgation or revision of regulations under section 7521 of this title and test procedures for new motor vehicles or engines under section 7525 of this title, and the revision of a standard under section 7521(a)(3) of this title,

(L) promulgation or revision of regulations for noncompliance penalties under section 7420 of this title,

(M) promulgation or revision of any regulations promulgated under section 7541 of this title (relating to warranties and compliance by vehicles in actual use),

(N) action of the Administrator under section 7426 of this title (relating to interstate pollution abatement),

(O) the promulgation or revision of any regulation pertaining to consumer and commercial products under section 7511b(e) of this title,

(P) the promulgation or revision of any regulation pertaining to field citations under section 7413(d)(3) of this title,

(Q) the promulgation or revision of any regulation pertaining to urban buses or the clean-fuel vehicle, clean-fuel fleet, and clean fuel programs under part C of subchapter II of this chapter,

(R) the promulgation or revision of any regulation pertaining to nonroad engines or nonroad vehicles under section 7547 of this title,

(S) the promulgation or revision of any regulation relating to motor vehicle compliance program fees under section 7552 of this title,

(T) the promulgation or revision of any regulation under subchapter IV–A of this chapter (relating to acid deposition),

(U) the promulgation or revision of any regulation under section 7511b(f) of this title pertaining to marine vessels, and

(V) such other actions as the Administrator may determine.

The provisions of section 553 through 557 and section 706 of title 5 shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies. This subsection shall not apply in the case of any rule or circumstance referred to in subparagraphs (A) or (B) of subsection 553(b) of title 5.

(2) Not later than the date of proposal of any action to which this subsection applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a ''rule''). Whenever a rule applies only within a particular State, a second (identical) docket shall be simultaneously established in the appropriate regional office of the Environmental Protection Agency.

(3) In the case of any rule to which this subsection applies, notice of proposed rulemaking shall be published in the Federal Register, as provided under section 553(b) of title 5, shall be accompanied by a statement of its basis and purpose and shall specify the period available for public comment (hereinafter referred to as the ''comment period''). The notice of proposed rulemaking shall also state the docket number, the location or locations of the docket, and the times it will be open to public inspection. The statement of basis and purpose shall include a summary of—

(A) the factual data on which the proposed rule is based;

(B) the methodology used in obtaining the data and in analyzing the data; and

(C) the major legal interpretations and policy considerations underlying the proposed rule.

The statement shall also set forth or summarize and provide a reference to any pertinent findings, recommendations, and comments by the Scientific Review Committee established under section 7409(d) of this title and the National Academy of Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences. All data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule.

(4)(A) The rulemaking docket required under paragraph (2) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personnel costs to do the copying.

(B)(i) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.

(ii) The drafts of proposed rules submitted by the Administrator to the Office of Management

CAA § 307 (continued)

and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be placed in the docket no later than the date of promulgation.

(5) In promulgating a rule to which this subsection applies (i) the Administrator shall allow any person to submit written comments, data, or documentary information; (ii) the Administrator shall give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions; (iii) a transcript shall be kept of any oral presentation; and (iv) the Administrator shall keep the record of such proceeding open for thirty days after completion of the proceeding to provide an opportunity for submission of rebuttal and supplementary information.

(6)(A) The promulgated rule shall be accompanied by (i) a statement of basis and purpose like that referred to in paragraph (3) with respect to a proposed rule and (ii) an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

(B) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

(C) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

(7)(A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

(10) Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than six months after date of proposal may be extended to not more than six months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the agency, adequate opportunity to carry out the purposes of this subsection.

(11) The requirements of this subsection shall take effect with respect to any rule the proposal of which occurs after ninety days after August 7, 1977.

(e) Other methods of judicial review not authorized

Nothing in this chapter shall be construed to authorize judicial review of regulations or orders of the Administrator under this chapter, except as provided in this section.

(f) Costs

In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.

(g) Stay, injunction, or similar relief in proceedings relating to noncompliance penalties

In any action respecting the promulgation of regulations under section 7420 of this title or the administration or enforcement of section 7420 of this title no court shall grant any stay, injunctive, or similar relief before final judgment by such court in such action.

(h) Public participation

It is the intent of Congress that, consistent with the policy of subchapter II of chapter 5 of

CAA § 307 (continued)

title 5, the Administrator in promulgating any regulation under this chapter, including a regulation subject to a deadline, shall ensure a reasonable period for public participation of at least 30 days, except as otherwise expressly provided in section[6] 7407(d), 7502(a), 7511(a) and (b), and 7512(a) and (b) of this title.

(July 14, 1955, ch. 360, title III, § 307, as added Pub. L. 91–604, § 12(a), Dec. 31, 1970, 84 Stat. 1707; amended Pub. L. 92–157, title III, § 302(a), Nov. 18, 1971, 85 Stat. 464; Pub. L. 93–319, § 6(c), June 22, 1974, 88 Stat. 259; Pub. L. 95–95, title III, §§ 303(d), 305(a), (c), (f)–(h), Aug. 7, 1977, 91 Stat. 772, 776, 777; Pub. L. 95–190, § 14(a)(79), (80), Nov. 16, 1977, 91 Stat. 1404; Pub. L. 101–549, title I, §§ 108(p), 110(5), title III, § 302(g), (h), title VII, §§ 702(c), 703, 706, 707(h), 710(b), Nov. 15, 1990, 104 Stat. 2469, 2470, 2574, 2681–2684.)

References in Text

Section 7521(b)(4) of this title, referred to in subsec. (a), was repealed by Pub. L. 101–549, title II, § 230(2), Nov. 15, 1990, 104 Stat. 2529.

Section 7521(b)(5) of this title, referred to in subsec. (b)(1), was repealed by Pub. L. 101–549, title II, § 230(3), Nov. 15, 1990, 104 Stat. 2529.

Section 1857c–10(c)(2)(A), (B), or (C) of this title (as in effect before August 7, 1977), referred to in subsec. (b)(1), was in the original ''section 119(c)(2)(A), (B), or (C) (as in effect before the date of enactment of the Clean Air Act Amendments of 1977)'', meaning section 119 of act July 14, 1955, ch. 360, title I, as added June 22, 1974, Pub. L. 93–319, § 3, 88 Stat. 248, (which was classified to section 1857c–10 of this title) as in effect prior to the enactment of Pub. L. 95–95, Aug. 7, 1977, 91 Stat. 691, effective Aug. 7, 1977. Section 112(b)(1) of Pub. L. 95–95 repealed section 119 of act July 14, 1955, ch. 360, title I, as added by Pub. L. 93–319, and provided that all references to such section 119 in any subsequent enactment which supersedes Pub. L. 93–319 shall be construed to refer to section 113(d) of the Clean Air Act and to paragraph (5) thereof in particular which is classified to subsec. (d)(5) of section 7413 of this title. Section 7413(d) of this title was subsequently amended generally by Pub. L. 101–549, title VII, § 701, Nov. 15, 1990, 104 Stat. 2672, and, as so amended, no longer relates to final compliance orders. Section 117(b) of Pub. L. 95–95 added a new section 119 of act July 14, 1955, which is classified to section 7419 of this title.

Part C of subchapter I of this chapter, referred to in subsec. (d)(1)(J), was in the original ''subtitle C of title I'', and was translated as reading ''part C of title I'' to reflect the probable intent of Congress, because title I does not contain subtitles.

Codification

In subsec. (h), ''subchapter II of chapter 5 of title 5'' was substituted for ''the Administrative Procedures Act'' on authority of Pub. L. 89–554, § 7(b), Sept. 6, 1966, 80 Stat. 631, the first section of which enacted Title 5, Government Organization and Employees.

Section was formerly classified to section 1857h–5 of this title.

Prior Provisions

A prior section 307 of act July 14, 1955, was renumbered section 314 by Pub. L. 91–604 and is classified to section 7614 of this title.

Another prior section 307 of act July 14, 1955, ch. 360, title III, formerly § 14, as added Dec. 17, 1963, Pub. L. 88–206, § 1, 77 Stat. 401, was renumbered section 307 by Pub. L. 89–272, renumbered section 310 by Pub. L. 90–148, and renumbered section 317 by Pub. L. 91–604, and is set out as a Short Title note under section 7401 of this title.

[6] So in original. Probably should be ''sections''.

Amendments

1990—Subsec. (a). Pub. L. 101–549, § 703, struck out par. (1) designation at beginning, inserted provisions authorizing issuance of subpoenas and administration of oaths for purposes of investigations, monitoring, reporting requirements, entries, compliance inspections, or administrative enforcement proceedings under this chapter, and struck out ''or section 7521(b)(5)'' after ''section 7410(f)''.

Subsec. (b)(1). Pub. L. 101–549, § 706(2), which directed amendment of second sentence by striking ''under section 7413(d) of this title'' immediately before ''under section 7419 of this title'', was executed by striking ''under section 7413(d) of this title,'' before ''under section 7419 of this title'', to reflect the probable intent of Congress.

Pub. L. 101–549, § 706(1), inserted at end: ''The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action.''

Pub. L. 101–549, § 702(c), inserted ''or revising regulations for enhanced monitoring and compliance certification programs under section 7414(a)(3) of this title,'' before ''or any other final action of the Administrator''.

Pub. L. 101–549, § 302(g), substituted ''section 7412'' for ''section 7412(c)''.

Subsec. (b)(2). Pub. L. 101–549, § 707(h), inserted sentence at end authorizing challenge to deferrals of performance of nondiscretionary statutory actions.

Subsec. (d)(1)(C). Pub. L. 101–549, § 110(5)(A), amended subpar. (C) generally. Prior to amendment, subpar. (C) read as follows: ''the promulgation or revision of any standard of performance under section 7411 of this title or emission standard under section 7412 of this title,''.

Subsec. (d)(1)(D), (E). Pub. L. 101–549, § 302(h), added subpar. (D) and redesignated former subpar. (D) as (E). Former subpar. (E) redesignated (F).

Subsec. (d)(1)(F). Pub. L. 101–549, § 302(h), redesignated subpar. (E) as (F). Former subpar. (F) redesignated (G).

Pub. L. 101–549, § 110(5)(B), amended subpar. (F) generally. Prior to amendment, subpar. (F) read as follows: ''promulgation or revision of regulations pertaining to orders for coal conversion under section 7413(d)(5) of this title (but not including orders granting or denying any such orders),''.

Subsec. (d)(1)(G), (H). Pub. L. 101–549, § 302(h), redesignated subpars. (F) and (G) as (G) and (H), respectively. Former subpar. (H) redesignated (I).

Subsec. (d)(1)(I). Pub. L. 101–549, § 710(b), which directed that subpar. (H) be amended by substituting ''subchapter VI of this chapter'' for ''part B of subchapter I of this chapter'', was executed by making the substitution in subpar. (I), to reflect the probable intent of Congress and the intervening redesignation of subpar. (H) as (I) by Pub. L. 101–549, § 302(h), see below.

Pub. L. 101–549, § 302(h), redesignated subpar. (H) as (I). Former subpar. (I) redesignated (J).

Subsec. (d)(1)(J) to (M). Pub. L. 101–549, § 302(h), redesignated subpars. (I) to (L) as (J) to (M), respectively. Former subpar. (M) redesignated (N).

Subsec. (d)(1)(N). Pub. L. 101–549, § 302(h), redesignated subpar. (M) as (N). Former subpar. (N) redesignated (O).

Pub. L. 101–549, § 110(5)(C), added subpar. (N) and redesignated former subpar. (N) as (U).

Subsec. (d)(1)(O) to (T). Pub. L. 101–549, § 302(h), redesignated subpars. (N) to (S) as (O) to (T), respectively. Former subpar. (T) redesignated (U).

Pub. L. 101–549, § 110(5)(C), added subpars. (O) to (T).

Subsec. (d)(1)(U). Pub. L. 101–549, § 302(h), redesignated subpar. (T) as (U). Former subpar. (U) redesignated (V).

Pub. L. 101–549, § 110(5)(C), redesignated former subpar. (N) as (U).

Subsec. (d)(1)(V). Pub. L. 101–549, § 302(h), redesignated subpar. (U) as (V).

CAA § 307 (continued)

Subsec. (h). Pub. L. 101–549, § 108(p), added subsec. (h).

1977—Subsec. (b)(1). Pub. L. 95–190 in text relating to filing of petitions for review in the United States Court of Appeals for the District of Columbia inserted provision respecting requirements under sections 7411 and 7412 of this title, and substituted provisions authorizing review of any rule issued under section 7413, 7419, or 7420 of this title, for provisions authorizing review of any rule or order issued under section 7420 of this title, relating to noncompliance penalties, and in text relating to filing of petitions for review in the United States Court of Appeals for the appropriate circuit inserted provision respecting review under section 7411(j), 7412(c), 7413(d), or 7419 of this title, provision authorizing review under section 1857c–10(c)(2)(A), (B), or (C) to the period prior to Aug. 7, 1977, and provisions authorizing review of denials or disapprovals by the Administrator under subchapter I of this chapter.

Pub. L. 95–95, § 305(c), (h), inserted rules or orders issued under section 7420 of this title (relating to noncompliance penalties) and any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this chapter to the enumeration of actions of the Administrator for which a petition for review may be filed only in the United States Court of Appeals for the District of Columbia, added the approval or promulgation by the Administrator of orders under section 7420 of this title, or any other final action of the Administrator under this chapter which is locally or regionally applicable to the enumeration of actions by the Administrator for which a petition for review may be filed only in the United States Court of Appeals for the appropriate circuit, inserted provision that petitions otherwise capable of being filed in the Court of Appeals for the appropriate circuit may be filed only in the Court of Appeals for the District of Columbia if the action is based on a determination of nationwide scope, and increased from 30 days to 60 days the period during which the petition must be filed.

Subsec. (d). Pub. L. 95–95, § 305(a), added subsec. (d).

Subsec. (e). Pub. L. 95–95, § 303(d), added subsec. (e).

Subsec. (f). Pub. L. 95–95, § 305(f), added subsec. (f).

Subsec. (g). Pub. L. 95–95, § 305(g), added subsec. (g).

1974—Subsec. (b)(1). Pub. L. 93–319 inserted reference to the Administrator's action under section 1857c–10(c)(2)(A), (B), or (C) of this title or under regulations thereunder and substituted reference to the filing of a petition within 30 days from the date of promulgation, approval, or action for reference to the filing of a petition within 30 days from the date of promulgation or approval.

1971—Subsec. (a)(1). Pub. L. 92–157 substituted reference to section ''7545(c)(3)'' for ''7545(c)(4)'' of this title.

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

TERMINATION OF ADVISORY COMMITTEES

Advisory committees established after Jan. 5, 1973, to terminate not later than the expiration of the 2-year period beginning on the date of their establishment, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided for by law. See section 14 of Pub. L. 92–463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

PENDING ACTIONS AND PROCEEDINGS

Suits, actions, and other proceedings lawfully commenced by or against the Administrator or any other officer or employee of the United States in his official capacity or in relation to the discharge of his official duties under act July 14, 1955, the Clean Air Act, as in effect immediately prior to the enactment of Pub. L. 95–95 [Aug. 7, 1977], not to abate by reason of the taking effect of Pub. L. 95–95, see section 406(a) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

MODIFICATION OR RESCISSION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95–95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95–95 [this chapter], see section 406(b) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

§ 7608. Mandatory licensing

Whenever the Attorney General determines, upon application of the Administrator—

(1) that—

(A) in the implementation of the requirements of section 7411, 7412, or 7521 of this title, a right under any United States letters patent, which is being used or intended for public or commercial use and not otherwise reasonably available, is necessary to enable any person required to comply with such limitation to so comply, and

(B) there are no reasonable alternative methods to accomplish such purpose, and

(2) that the unavailability of such right may result in a substantial lessening of competition or tendency to create a monopoly in any line of commerce in any section of the country,

the Attorney General may so certify to a district court of the United States, which may issue an order requiring the person who owns such patent to license it on such reasonable terms and conditions as the court, after hearing, may determine. Such certification may be made to the district court for the district in which the person owning the patent resides, does business, or is found.

(July 14, 1955, ch. 360, title III, § 308, as added Pub. L. 91–604, § 12(a), Dec. 31, 1970, 84 Stat. 1708.)

CODIFICATION

Section was formerly classified to section 1857h–6 of this title.

PRIOR PROVISIONS

A prior section 308 of act July 14, 1955, was renumbered section 315 by Pub. L. 91–604 and is classified to section 7615 of this title.

MODIFICATION OR RESCISSION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect

(b) Authority under agreement

The Administrator shall be authorized to—

(1) accept from a refiner a consolidated application for all permits required from the Environmental Protection Agency, to the extent consistent with other applicable law;

(2) enter into memoranda of agreement with other Federal agencies to coordinate consideration of refinery applications and permits among Federal agencies; and

(3) enter into memoranda of agreement with a State, under which Federal and State review of refinery permit applications will be coordinated and concurrently considered, to the extent practicable.

(c) State assistance

The Administrator is authorized to provide financial assistance to State governments to facilitate the hiring of additional personnel with expertise in fields relevant to consideration of refinery permits.

(d) Other assistance

The Administrator is authorized to provide technical, legal, or other assistance to State governments to facilitate their review of applications to build new refineries.

(Pub. L. 109–58, title III, § 392, Aug. 8, 2005, 119 Stat. 749.)

SUBCHAPTER IV—COAL

PART A—CLEAN COAL POWER INITIATIVE

§ 15961. Authorization of appropriations

(a) Clean coal power initiative

There are authorized to be appropriated to the Secretary to carry out the activities authorized by this part $200,000,000 for each of fiscal years 2006 through 2014, to remain available until expended.

(b) Report

The Secretary shall submit to Congress the report required by this subsection not later than March 31, 2007. The report shall include, with respect to subsection (a), a plan containing—

(1) a detailed assessment of whether the aggregate funding levels provided under subsection (a) are the appropriate funding levels for that program;

(2) a detailed description of how proposals will be solicited and evaluated, including a list of all activities expected to be undertaken;

(3) a detailed list of technical milestones for each coal and related technology that will be pursued; and

(4) a detailed description of how the program will avoid problems enumerated in Government Accountability Office reports on the Clean Coal Technology Program, including problems that have resulted in unspent funds and projects that failed either financially or scientifically.

(Pub. L. 109–58, title IV, § 401, Aug. 8, 2005, 119 Stat. 749.)

Energy Policy Act of 2005 § 402

§ 15962. Project criteria

(a) In general

To be eligible to receive assistance under this part, a project shall advance efficiency, environmental performance, and cost competitiveness well beyond the level of technologies that are in commercial service or have been demonstrated on a scale that the Secretary determines is sufficient to demonstrate that commercial service is viable as of August 8, 2005.

(b) Technical criteria for clean coal power initiative

(1) Gasification projects

(A) In general

In allocating the funds made available under section 15961(a) of this title, the Secretary shall ensure that at least 70 percent of the funds are used only to fund projects on coal-based gasification technologies, including—

(i) gasification combined cycle;

(ii) gasification fuel cells and turbine combined cycle;

(iii) gasification coproduction;

(iv) hybrid gasification and combustion; and

(v) other advanced coal based technologies capable of producing a concentrated stream of carbon dioxide.

(B) Technical milestones

(i) Periodic determination

(I) In general

The Secretary shall periodically set technical milestones specifying the emission and thermal efficiency levels that coal gasification projects under this part shall be designed, and reasonably expected, to achieve.

(II) Prescriptive milestones

The technical milestones shall become more prescriptive during the period of the clean coal power initiative.

(ii) 2020 goals

The Secretary shall establish the periodic milestones so as to achieve by the year 2020 coal gasification projects able—

(I)(aa) to remove at least 99 percent of sulfur dioxide; or

(bb) to emit not more than 0.04 pound SO_2 per million Btu, based on a 30-day average;

(II) to emit not more than .05 lbs of NO_x per million Btu;

(III) to achieve at least 95 percent reductions in mercury emissions; and

(IV) to achieve a thermal efficiency of at least—

(aa) 50 percent for coal of more than 9,000 Btu;

(bb) 48 percent for coal of 7,000 to 9,000 Btu; and

(cc) 46 percent for coal of less than 7,000 Btu.

(2) Other projects

(A) Allocation of funds

The Secretary shall ensure that up to 30 percent of the funds made available under section 15961(a) of this title are used to fund projects other than those described in paragraph (1).

Energy Policy Act of 2005 § 402 (continued)

(B) Technical milestones

(i) Periodic determination

(I) In general

The Secretary shall periodically establish technical milestones specifying the emission and thermal efficiency levels that projects funded under this paragraph shall be designed, and reasonably expected, to achieve.

(II) Prescriptive milestones

The technical milestones shall become more prescriptive during the period of the clean coal power initiative.

(ii) 2020 goals

The Secretary shall set the periodic milestones so as to achieve by the year 2020 projects able—

(I) to remove at least 97 percent of sulfur dioxide;

(II) to emit no more than .08 lbs of NO_x per million Btu;

(III) to achieve at least 90 percent reductions in mercury emissions; and

(IV) to achieve a thermal efficiency of at least—

(aa) 43 percent for coal of more than 9,000 Btu;

(bb) 41 percent for coal of 7,000 to 9,000 Btu; and

(cc) 39 percent for coal of less than 7,000 Btu.

(3) Consultation

Before setting the technical milestones under paragraphs (1)(B) and (2)(B), the Secretary shall consult with—

(A) the Administrator of the Environmental Protection Agency; and

(B) interested entities, including—

(i) coal producers;

(ii) industries using coal;

(iii) organizations that promote coal or advanced coal technologies;

(iv) environmental organizations;

(v) organizations representing workers; and

(vi) organizations representing consumers.

(4) Existing units

In the case of projects at units in existence on August 8, 2005, in lieu of the thermal efficiency requirements described in paragraphs (1)(B)(ii)(IV) and (2)(B)(ii)(IV), the milestones shall be designed to achieve an overall thermal design efficiency improvement, compared to the efficiency of the unit as operated, of not less than—

(A) 7 percent for coal of more than 9,000 Btu;

(B) 6 percent for coal of 7,000 to 9,000 Btu; or

(C) 4 percent for coal of less than 7,000 Btu.

(5) Administration

(A) Elevation of site

In evaluating project proposals to achieve thermal efficiency levels established under paragraphs (1)(B)(i) and (2)(B)(i) and in determining progress towards thermal efficiency milestones under paragraphs (1)(B)(ii)(IV), (2)(B)(ii)(IV), and (4), the Secretary shall take into account and make adjustments for the elevation of the site at which a project is proposed to be constructed.

(B) Applicability of milestones

In applying the thermal efficiency milestones under paragraphs (1)(B)(ii)(IV), (2)(B)(ii)(IV), and (4) to projects that separate and capture at least 50 percent of the potential emissions of carbon dioxide by a facility, the energy used for separation and capture of carbon dioxide shall not be counted in calculating the thermal efficiency.

(C) Permitted uses

In carrying out this section, the Secretary may give priority to projects that include, as part of the project—

(i) the separation or capture of carbon dioxide; or

(ii) the reduction of the demand for natural gas if deployed.

(c) Financial criteria

The Secretary shall not provide financial assistance under this part for a project unless the recipient documents to the satisfaction of the Secretary that—

(1) the recipient is financially responsible;

(2) the recipient will provide sufficient information to the Secretary to enable the Secretary to ensure that the funds are spent efficiently and effectively; and

(3) a market exists for the technology being demonstrated or applied, as evidenced by statements of interest in writing from potential purchasers of the technology.

(d) Financial assistance

The Secretary shall provide financial assistance to projects that, as determined by the Secretary—

(1) meet the requirements of subsections (a), (b), and (c); and

(2) are likely—

(A) to achieve overall cost reductions in the use of coal to generate useful forms of energy or chemical feedstocks;

(B) to improve the competitiveness of coal among various forms of energy in order to maintain a diversity of fuel choices in the United States to meet electricity generation requirements; and

(C) to demonstrate methods and equipment that are applicable to 25 percent of the electricity generating facilities, using various types of coal, that use coal as the primary feedstock as of August 8, 2005.

(e) Cost-sharing

In carrying out this part, the Secretary shall require cost sharing in accordance with section 16352 of this title.

(f) Scheduled completion of selected projects

(1) In general

In selecting a project for financial assistance under this section, the Secretary shall establish a reasonable period of time during which

Energy Policy Act of 2005 § 402 (continued)

the owner or operator of the project shall complete the construction or demonstration phase of the project, as the Secretary determines to be appropriate.

(2) Condition of financial assistance

The Secretary shall require as a condition of receipt of any financial assistance under this part that the recipient of the assistance enter into an agreement with the Secretary not to request an extension of the time period established for the project by the Secretary under paragraph (1).

(3) Extension of time period

(A) In general

Subject to subparagraph (B), the Secretary may extend the time period established under paragraph (1) if the Secretary determines, in the sole discretion of the Secretary, that the owner or operator of the project cannot complete the construction or demonstration phase of the project within the time period due to circumstances beyond the control of the owner or operator.

(B) Limitation

The Secretary shall not extend a time period under subparagraph (A) by more than 4 years.

(g) Fee title

The Secretary may vest fee title or other property interests acquired under cost-share clean coal power initiative agreements under this part in any entity, including the United States.

(h) Data protection

For a period not exceeding 5 years after completion of the operations phase of a cooperative agreement, the Secretary may provide appropriate protections (including exemptions from subchapter II of chapter 5 of title 5) against the dissemination of information that—

(1) results from demonstration activities carried out under the clean coal power initiative program; and

(2) would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from and first produced by a non-Federal party participating in a clean coal power initiative project.

(i) Applicability

No technology, or level of emission reduction, solely by reason of the use of the technology, or the achievement of the emission reduction, by 1 or more facilities receiving assistance under this Act, shall be considered to be—

(1) adequately demonstrated for purposes of section 7411 of this title;

(2) achievable for purposes of section 7479 of this title; or

(3) achievable in practice for purposes of section 7501 of this title.

(Pub. L. 109–58, title IV, §402, Aug. 8, 2005, 119 Stat. 750; Pub. L. 110–140, title VI, §653, Dec. 19, 2007, 121 Stat. 1695.)

REFERENCES IN TEXT

This Act, referred to in subsec. (i), is Pub. L. 109–58, Aug. 8, 2005, 119 Stat. 594, as amended, known as the Energy Policy Act of 2005, which enacted this chapter and enacted, amended, and repealed numerous other sections and notes in the Code. For complete classification of this Act to the Code, see Short Title note set out under section 15801 of this title and Tables.

AMENDMENTS

2007—Subsec. (b)(1)(B)(ii)(I). Pub. L. 110–140 added subcl. (I) and struck out former subcl. (I) which read as follows: ''to remove at least 99 percent of sulfur dioxide;''.

EFFECTIVE DATE OF 2007 AMENDMENT

Amendment by Pub. L. 110–140 effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110–140, set out as an Effective Date note under section 1824 of Title 2, The Congress.

§ 15963. Report

Not later than 1 year after August 8, 2005, and once every 2 years thereafter through 2014, the Secretary, in consultation with other appropriate Federal agencies, shall submit to Congress a report describing—

(1) the technical milestones set forth in section 15962 of this title and how those milestones ensure progress toward meeting the requirements of subsections (b)(1)(B) and (b)(2) of section 15962 of this title; and

(2) the status of projects funded under this part.

(Pub. L. 109–58, title IV, §403, Aug. 8, 2005, 119 Stat. 753.)

§ 15964. Clean coal centers of excellence

(a) In general

As part of the clean coal power initiative, the Secretary shall award competitive, merit-based grants to institutions of higher education for the establishment of centers of excellence for energy systems of the future.

(b) Basis for grants

The Secretary shall award grants under this section to institutions of higher education that show the greatest potential for advancing new clean coal technologies.

(Pub. L. 109–58, title IV, §404, Aug. 8, 2005, 119 Stat. 753.)

§ 15965. Time limit for award; extension

If a Clean Coal Power Initiative project selected after March 11, 2009, for negotiation under this or any other Act in any fiscal year, is not awarded within 2 years from the date the application was selected, negotiations shall cease and the Federal funds committed to the application shall be retained by the Department for future coal-related research, development and demonstration projects, except that the time limit may be extended at the Secretary's discretion for matters outside the control of the applicant, or if the Secretary determines that extension of the time limit is in the public interest.

(Pub. L. 111–8, div. C, title III, Mar. 11, 2009, 123 Stat. 616.)

CODIFICATION

Section was enacted as part of the Energy and Water Development and Related Agencies Appropriations Act,

(3) colleges and universities having a student body in which more than 20 percent of the students are Hispanic Americans or Native Americans; or

(4) qualified HUBZone small business concerns.

(b) Definitions

For purposes of this section, the following definitions shall apply:

(1) The term ''small business concern'' has the meaning such term has under section 632 of title 15. However, for purposes of contracts and subcontracts requiring engineering services the applicable size standard shall be that established for military and aerospace equipment and military weapons.

(2) The term ''socially and economically disadvantaged individuals'' has the meaning such term has under section 637(d) of title 15 and relevant subcontracting regulations promulgated pursuant thereto.

(3) The term ''qualified HUBZone small business concern'' has the meaning given that term in section 632(p) of title 15.

(Pub. L. 102–486, title XXX, § 3021, Oct. 24, 1992, 106 Stat. 3133; Pub. L. 105–135, title VI, § 604(g), Dec. 2, 1997, 111 Stat. 2634.)

REFERENCES IN TEXT

This Act, referred to in subsec. (a), is Pub. L. 102–486, Oct. 24, 1992, 106 Stat. 2776, known as the Energy Policy Act of 1992. For complete classification of this Act to the Code, see Short Title note set out under section 13201 of this title and Tables.

CODIFICATION

In subsec. (a), ''division C (except sections 3302, 3307(e), 3501(b), 3509, 3906, 4710, and 4711) of subtitle I of title 41'' substituted for ''the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.)'' on authority of Pub. L. 111–350, § 6(c), Jan. 4, 2011, 124 Stat. 3854, which Act enacted Title 41, Public Contracts.

AMENDMENTS

1997—Subsec. (a)(4). Pub. L. 105–135, § 604(g)(1), added par. (4).

Subsec. (b)(3). Pub. L. 105–135, § 604(g)(2), added par. (3).

EFFECTIVE DATE OF 1997 AMENDMENT

Amendment by Pub. L. 105–135 effective Oct. 1, 1997, see section 3 of Pub. L. 105–135, set out as a note under section 631 of Title 15, Commerce and Trade.

§ 13557. Sense of Congress on risk assessments

It is the sense of Congress that Federal agencies conducting assessments of risks to human health and the environment from energy technology, production, transport, transmission, distribution, storage, use, or conservation activities shall use sound and objective scientific practices in assessing such risks, shall consider the best available science (including peer reviewed studies), and shall include a description of the weight of the scientific evidence concerning such risks.

(Pub. L. 102–486, title XXX, § 3022, as added Pub. L. 109–58, title XIV, § 1401, Aug. 8, 2005, 119 Stat. 1061.)

SUBCHAPTER XIII—CLEAN AIR COAL PROGRAM

Energy Policy Act of 2005 § 421(a)

§ 13571. Purposes

The purposes of this subchapter are to—

(1) promote national energy policy and energy security, diversity, and economic competitiveness benefits that result from the increased use of coal;

(2) mitigate financial risks, reduce the cost of clean coal generation, and increase the marketplace acceptance of clean coal generation and pollution control equipment and processes; and

(3) facilitate the environmental performance of clean coal generation.

(Pub. L. 102–486, title XXXI, § 3101, as added Pub. L. 109–58, title IV, § 421(a), Aug. 8, 2005, 119 Stat. 757.)

§ 13572. Authorization of program

(a) In general

The Secretary shall carry out a program of financial assistance to—

(1) facilitate the production and generation of coal-based power, through the deployment of clean coal electric generating equipment and processes that, compared to equipment or processes that are in operation on a full scale—

(A) improve—

(i) energy efficiency; or

(ii) environmental performance consistent with relevant Federal and State clean air requirements, including those promulgated under the Clean Air Act (42 U.S.C. 7401 et seq.); and

(B) are not yet cost competitive; and

(2) facilitate the utilization of existing coal-based electricity generation plants through projects that—

(A) deploy advanced air pollution control equipment and processes; and

(B) are designed to voluntarily enhance environmental performance above current applicable obligations under the Clean Air Act and State implementation efforts pursuant to such Act.

(b) Financial criteria

As determined by the Secretary for a particular project, financial assistance under this subchapter shall be in the form of—

(1) cost-sharing of an appropriate percentage of the total project cost, not to exceed 50 percent as calculated under section 16352 of this title; or

(2) financial assistance, including grants, cooperative agreements, or loans as authorized under this Act or other statutory authority of the Secretary.

(Pub. L. 102–486, title XXXI, § 3102, as added Pub. L. 109–58, title IV, § 421(a), Aug. 8, 2005, 119 Stat. 757.)

REFERENCES IN TEXT

The Clean Air Act, referred to in subsec. (a)(1)(A)(ii), (2)(B), is act July 14, 1955, ch. 360, 69 Stat. 322, as amended, which is classified generally to chapter 85

Energy Policy Act of 2005 § 421(a) (continued)

(§ 7401 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 7401 of this title and Tables.

This Act, referred to in subsec. (b)(2), is Pub. L. 102–486, Oct. 24, 1992, 106 Stat. 2776, known as the Energy Policy Act of 1992. For complete classification of this Act to the Code, see Short Title note set out under section 13201 of this title and Tables.

§ 13573. Generation projects

(a) Eligible projects

Projects supported under section 13572(a)(1) of this title may include—

(1) equipment or processes previously supported by a Department of Energy program;

(2) advanced combustion equipment and processes that the Secretary determines will be cost-effective and could substantially contribute to meeting environmental or energy needs, including gasification, gasification fuel cells, gasification coproduction, oxidation combustion techniques, ultra-supercritical boilers, and chemical looping; and

(3) hybrid gasification/combustion systems, including systems integrating fuel cells with gasification or combustion units.

(b) Criteria

The Secretary shall establish criteria for the selection of generation projects under section 13572(a)(1) of this title. The Secretary may modify the criteria as appropriate to reflect improvements in equipment, except that the criteria shall not be modified to be less stringent. The selection criteria shall include—

(1) prioritization of projects whose installation is likely to result in significant air quality improvements in nonattainment air quality areas;

(2) prioritization of projects whose installation is likely to result in lower emission rates of pollution;

(3) prioritization of projects that result in the repowering or replacement of older, less efficient units;

(4) documented broad interest in the procurement of the equipment and utilization of the processes used in the projects by owners or operators of facilities for electricity generation;

(5) equipment and processes beginning in 2006 through 2011 that are projected to achieve a thermal efficiency of—

(A) 40 percent for coal of more than 9,000 Btu per pound based on higher heating values;

(B) 38 percent for coal of 7,000 to 9,000 Btu per pound passed on higher heating values; and

(C) 36 percent for coal of less than 7,000 Btu per pound based on higher heating values;

except that energy used for coproduction or cogeneration shall not be counted in calculating the thermal efficiency under this paragraph; and

(6) equipment and processes beginning in 2012 and 2013 that are projected to achieve a thermal efficiency of—

(A) 45 percent for coal of more than 9,000 Btu per pound based on higher heating values;

(B) 44 percent for coal of 7,000 to 9,000 Btu per pound passed on higher heating values; and

(C) 40 percent for coal of less than 7,000 Btu per pound based on higher heating values;

except that energy used for coproduction or cogeneration shall not be counted in calculating the thermal efficiency under this paragraph.

(c) Program balance and priority

In carrying out the program under section 13572(a)(1) of this title, the Secretary shall ensure, to the extent practicable, that—

(1) between 25 percent and 75 percent of the projects supported are for the sole purpose of electrical generation; and

(2) priority is given to projects that use electrical generation equipment and processes that have been developed and demonstrated and applied in actual production of electricity, but are not yet cost-competitive, and that achieve greater efficiency and environmental performance.

(d) Authorization of appropriations

There are authorized to be appropriated to the Secretary to carry out section 13572(a)(1) of this title—

(1) $250,000,000 for fiscal year 2007;

(2) $350,000,000 for fiscal year 2008;

(3) $400,000,000 for each of fiscal years 2009 through 2012; and

(4) $300,000,000 for fiscal year 2013.

(e) Applicability

No technology, or level of emission reduction, shall be treated as adequately demonstrated for purpose[1] of section 7411 of this title, achievable for purposes of section 7479 of this title, or achievable in practice for purposes of section 7501 of this title solely by reason of the use of such technology, or the achievement of such emission reduction, by one or more facilities receiving assistance under section 13572(a)(1) of this title.

(Pub. L. 102–486, title XXXI, § 3103, as added Pub. L. 109–58, title IV, § 421(a), Aug. 8, 2005, 119 Stat. 758.)

§ 13574. Air quality enhancement program

(a) Eligible projects

Projects supported under section 13572(a)(2) of this title shall—

(1) utilize technologies that meet relevant Federal and State clean air requirements applicable to the unit or facility, including being adequately demonstrated for purposes of section 7411 of this title, achievable for purposes of section 7479 of this title, or achievable in practice for purposes of section 7501 of this title; or

(2) utilize equipment or processes that exceed relevant Federal or State clean air requirements applicable to the unit or facilities included in the projects by achieving greater efficiency or environmental performance.

[1] So in original. Probably should be "purposes".

Energy Policy Act of 2005 § 421(a) (continued)

(b) Priority in project selection

In making an award under section 13572(a)(2) of this title, the Secretary shall give priority to—

(1) projects whose installation is likely to result in significant air quality improvements in nonattainment air quality areas or substantially reduce the emission level of criteria pollutants and mercury air emissions;

(2) projects for pollution control that result in the mitigation or collection of more than 1 pollutant; and

(3) projects designed to allow the use of the waste byproducts or other byproducts of the equipment.

(c) Authorization of appropriations

There are authorized to be appropriated to the Secretary to carry out section 13572(a)(2) of this title—

(1) $300,000,000 for fiscal year 2007;
(2) $100,000,000 for fiscal year 2008;
(3) $40,000,000 for fiscal year 2009;
(4) $30,000,000 for fiscal year 2010; and
(5) $30,000,000 for fiscal year 2011.

(d) Applicability

No technology, or level of emission reduction under subsection (a)(2) of this section shall be treated as adequately demonstrated for purpose of Section[1] 7411 of this title, achievable for purposes of section 7479 of this title, or achievable in practice for purposes of section 7501 of this title solely by reason of the use of such technology, or the achievement of such emission reduction, by one or more facilities receiving assistance under section 13572(a)(2) of this title.

(Pub. L. 102–486, title XXXI, § 3104, as added Pub. L. 109–58, title IV, § 421(a), Aug. 8, 2005, 119 Stat. 759.)

CHAPTER 135—RESIDENCY AND SERVICE REQUIREMENTS IN FEDERALLY ASSISTED HOUSING

SUBCHAPTER I—STANDARDS AND OBLIGATIONS OF RESIDENCY IN FEDERALLY ASSISTED HOUSING

SUBCHAPTER I—STANDARDS AND OBLIGATIONS OF RESIDENCY IN FEDERALLY ASSISTED HOUSING

§ 13601. Compliance by owners as condition of Federal assistance

The Secretary of Housing and Urban Development shall require owners of federally assisted housing (as such term is defined in section 13641(2) of this title), as a condition of receiving housing assistance for such housing, to comply with the procedures and requirements established under this subchapter.

(Pub. L. 102–550, title VI, § 641, Oct. 28, 1992, 106 Stat. 3820.)

EFFECTIVE DATE

Chapter applicable upon expiration of 6-month period beginning Oct. 28, 1992, except as otherwise provided, see section 13642 of this title.

§ 13602. Compliance with criteria for occupancy as requirement for tenancy

In selecting tenants for occupancy of units in federally assisted housing, an owner of such housing shall utilize the criteria for occupancy in federally assisted housing established by the Secretary, by regulation, under section 13603 of this title. If an owner determines that an applicant for occupancy in the housing does not meet such criteria, the owner may deny such applicant occupancy.

(Pub. L. 102–550, title VI, § 642, Oct. 28, 1992, 106 Stat. 3821.)

§ 13603. Establishment of criteria for occupancy

(a) Task force

(1) Establishment

To assist the Secretary in establishing reasonable criteria for occupancy in federally assisted housing, the Secretary shall establish a task force to review all rules, policy statements, handbooks, technical assistance memoranda, and other relevant documents issued by the Department of Housing and Urban Development on the standards and obligations gov-

[1] So in original. Probably should be ''purposes of section''.

CANADA

CONSOLIDATION

CODIFICATION

Budget Implementation Act, 2008

Loi d'exécution du budget de 2008

S.C. 2008, c. 28

L.C. 2008, ch. 28

Current to September 18, 2016

Last amended on June 29, 2012

À jour au 18 septembre 2016

Dernière modification le 29 juin 2012

Published by the Minister of Justice at the following address:
http://laws-lois.justice.gc.ca

Publié par le ministre de la Justice à l'adresse suivante :
http://lois-laws.justice.gc.ca

OFFICIAL STATUS OF CONSOLIDATIONS

Subsections 31(1) and (2) of the *Legislation Revision and Consolidation Act*, in force on June 1, 2009, provide as follows:

Published consolidation is evidence

31 (1) Every copy of a consolidated statute or consolidated regulation published by the Minister under this Act in either print or electronic form is evidence of that statute or regulation and of its contents and every copy purporting to be published by the Minister is deemed to be so published, unless the contrary is shown.

Inconsistencies in Acts

(2) In the event of an inconsistency between a consolidated statute published by the Minister under this Act and the original statute or a subsequent amendment as certified by the Clerk of the Parliaments under the *Publication of Statutes Act*, the original statute or amendment prevails to the extent of the inconsistency.

NOTE

This consolidation is current to September 18, 2016. The last amendments came into force on June 29, 2012. Any amendments that were not in force as of September 18, 2016 are set out at the end of this document under the heading "Amendments Not in Force".

Shaded provisions in this document are not in force.

CARACTÈRE OFFICIEL DES CODIFICATIONS

Les paragraphes 31(1) et (2) de la *Loi sur la révision et la codification des textes législatifs*, en vigueur le 1er juin 2009, prévoient ce qui suit :

Codifications comme élément de preuve

31 (1) Tout exemplaire d'une loi codifiée ou d'un règlement codifié, publié par le ministre en vertu de la présente loi sur support papier ou sur support électronique, fait foi de cette loi ou de ce règlement et de son contenu. Tout exemplaire donné comme publié par le ministre est réputé avoir été ainsi publié, sauf preuve contraire.

Incompatibilité — lois

(2) Les dispositions de la loi d'origine avec ses modifications subséquentes par le greffier des Parlements en vertu de la *Loi sur la publication des lois* l'emportent sur les dispositions incompatibles de la loi codifiée publiée par le ministre en vertu de la présente loi.

NOTE

Cette codification est à jour au 18 septembre 2016. Les dernières modifications sont entrées en vigueur le 29 juin 2012. Toutes modifications qui n'étaient pas en vigueur au 18 septembre 2016 sont énoncées à la fin de ce document sous le titre « Modifications non en vigueur ».

Les dispositions ombrées dans ce document ne sont pas en vigueur.

S.C. 2008, c. 28

An Act to implement certain provisions of the budget tabled in Parliament on February 26, 2008 and to enact provisions to preserve the fiscal plan set out in that budget

[*Assented to 18th June 2008*]

Preamble

Whereas, when the Government of Canada tables a budget in Parliament, a fiscal plan is an integral part of that budget;

Whereas the Government of Canada is committed to meeting the challenge of global economic uncertainty with a responsible, prudent and effective fiscal plan as reflected in the Budget Plan tabled in Parliament on February 26, 2008;

Whereas it is imperative to preserve the fiscal integrity of that Budget Plan and the integrity of the budget process, and important not to risk the Government of Canada going into deficit;

And whereas it is expedient to implement certain provisions of that Budget Plan;

Now, therefore, Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

Short Title

Short title

1 This Act may be cited as the *Budget Implementation Act, 2008*.

L.C. 2008, ch. 28

Loi portant exécution de certaines dispositions du budget déposé au Parlement le 26 février 2008 et édictant des dispositions visant à maintenir le plan financier établi dans ce budget

[*Sanctionnée le 18 juin 2008*]

Préambule

Attendu :

que, lorsque le gouvernement du Canada dépose un budget au Parlement, le plan financier en fait partie intégrante;

que le gouvernement du Canada est résolu à faire face au défi que présente l’incertitude économique mondiale en se dotant d’un plan financier responsable, prudent et efficace, comme en témoigne le plan budgétaire déposé au Parlement le 26 février 2008;

qu’il est impératif de garantir l’intégrité fiscale de ce plan budgétaire et l’intégrité du processus budgétaire et important d’éviter d’exposer le gouvernement du Canada à un déficit;

qu’il y a lieu de mettre en œuvre certaines dispositions de ce plan budgétaire,

Sa Majesté, sur l’avis et avec le consentement du Sénat et de la Chambre des communes du Canada, édicte :

Titre abrégé

Titre abrégé

1 *Loi d’exécution du budget de 2008*.

on the requisition of the Minister of Finance, at the times and in the manner that the Minister of Finance considers appropriate.

prélevées sur le Trésor, selon les échéances et les modalités qu'il estime indiquées.

Payment to Saskatchewan for Carbon Capture and Storage

Paiement à la Saskatchewan — capture et stockage du dioxyde de carbone

Maximum payment of $240,000,000

138 (1) The Minister of Finance may make direct payments, in an aggregate amount not exceeding two hundred and forty million dollars, to a trust established to provide Saskatchewan with funding to support a full scale commercial demonstration of carbon capture and storage in the coal-fired electricity sector.

Paiement maximal de 240 000 000 $

138 (1) Le ministre des Finances peut faire des paiements directs, jusqu'à concurrence de deux cent quarante millions de dollars, à une fiducie établie en vue de fournir du financement à la Saskatchewan pour appuyer une démonstration commerciale pleine échelle de la capture et du stockage du dioxyde de carbone dans le secteur de la production d'électricité au moyen de charbon.

Determination of amount

(2) The amount that may be provided to Saskatchewan under this section is to be determined in accordance with the terms of the trust indenture establishing the trust.

Détermination de la somme

(2) La somme qui peut être versée à la Saskatchewan est déterminée en conformité avec les modalités énoncées dans l'acte établissant la fiducie.

Payments out of C.R.F.

(3) Any amount payable under this section may be paid out of the Consolidated Revenue Fund, on the requisition of the Minister of Finance, at the times and in the manner that the Minister of Finance considers appropriate.

Paiements sur le Trésor

(3) À la demande du ministre des Finances, toute somme à payer au titre du présent article est prélevée sur le Trésor, selon les échéances et les modalités qu'il estime indiquées.

Payment to Nova Scotia for Carbon Storage

Paiement à la Nouvelle-Écosse — stockage du dioxyde de carbone

Maximum payment of $5,000,000

139 There may be paid out of the Consolidated Revenue Fund, on the requisition of the Minister of Finance, a sum not exceeding five million dollars to Nova Scotia to support geological research examining the potential for carbon storage in the province.

Paiement maximal de 5 000 000 $

139 À la demande du ministre des Finances, peut être payée sur le Trésor à la Nouvelle-Écosse une somme n'excédant pas cinq millions de dollars en vue d'appuyer la recherche géologique portant sur le potentiel de stockage du dioxyde de carbone dans la province.

amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be achieved.

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j)(1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

[40 FR 58419, Dec. 16, 1975, as amended at 43 FR 34347, Aug. 3, 1978; 45 FR 5617, Jan. 23, 1980; 57 FR 32339, July 21, 1992; 65 FR 61750, Oct. 17, 2000]

§ 60.15 Reconstruction.

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

(b) ''Reconstruction'' means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

(c) ''Fixed capital cost'' means the capital needed to provide all the depreciable components.

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

(1) Name and address of the owner or operator.

(2) The location of the existing facility.

(3) A brief description of the existing facility and the components which are to be replaced.

(4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.

(5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.

(6) The estimated life of the existing facility after the replacements.

(7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

(e) The Administrator will determine, within 30 days of the receipt of the notice required by paragraph (d) of this section and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

(f) The Administrator's determination under paragraph (e) shall be based on:

(1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;

(2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;

(3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and

(4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[40 FR 58420, Dec. 16, 1975]

§ 60.16 Priority list.

PRIORITIZED MAJOR SOURCE CATEGORIES

Priority Number[1]	*Source Category*
1.	Synthetic Organic Chemical Manufacturing Industry (SOCMI) and Volatile Organic Liquid Storage Vessels and Handling Equipment
	(a) SOCMI unit processes
	(b) Volatile organic liquid (VOL) storage vessels and handling equipment
	(c) SOCMI fugitive sources
	(d) SOCMI secondary sources
2.	Industrial Surface Coating: Cans
3.	Petroleum Refineries: Fugitive Sources
4.	Industrial Surface Coating: Paper
5.	Dry Cleaning
	(a) Perchloroethylene
	(b) Petroleum solvent
6.	Graphic Arts
7.	Polymers and Resins: Acrylic Resins
8.	Mineral Wool (Deleted)
9.	Stationary Internal Combustion Engines
10.	Industrial Surface Coating: Fabric
11.	Industrial-Commercial-Institutional Steam Generating Units.
12.	Incineration: Non-Municipal (Deleted)
13.	Non-Metallic Mineral Processing
14.	Metallic Mineral Processing
15.	Secondary Copper (Deleted)
16.	Phosphate Rock Preparation
17.	Foundries: Steel and Gray Iron
18.	Polymers and Resins: Polyethylene
19.	Charcoal Production
20.	Synthetic Rubber
	(a) Tire manufacture
	(b) SBR production
21.	Vegetable Oil
22.	Industrial Surface Coating: Metal Coil
23.	Petroleum Transportation and Marketing
24.	By-Product Coke Ovens
25.	Synthetic Fibers
26.	Plywood Manufacture
27.	Industrial Surface Coating: Automobiles
28.	Industrial Surface Coating: Large Appliances
29.	Crude Oil and Natural Gas Production
30.	Secondary Aluminum
31.	Potash (Deleted)
32.	Lightweight Aggregate Industry: Clay, Shale, and Slate[2]
33.	Glass
34.	Gypsum
35.	Sodium Carbonate
36.	Secondary Zinc (Deleted)
37.	Polymers and Resins: Phenolic
38.	Polymers and Resins: Urea-Melamine
39.	Ammonia (Deleted)
40.	Polymers and Resins: Polystyrene
41.	Polymers and Resins: ABS-SAN Resins
42.	Fiberglass
43.	Polymers and Resins: Polypropylene
44.	Textile Processing
45.	Asphalt Processing and Asphalt Roofing Manufacture
46.	Brick and Related Clay Products

XVI. Statutory Authority

The statutory authority for this action is provided by sections 111, 301, 302, and 307(d)(1)(C) of the CAA as amended (42 U.S.C. 7411, 7601, 7602, 7607(d)(1)(C)). This action is also subject to section 307(d) of the CAA (42 U.S.C. 7607(d)).

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 70

Environmental protection, Administrative practice and procedure, Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 71

Environmental protection, Administrative practice and procedure, Air pollution control, Reporting and recordkeeping requirements.

40 CFR Part 98

Environmental protection, Greenhouse gases and monitoring, Reporting and recordkeeping requirements.

Dated: August 3, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, title 40, chapter I, parts 60, 70, 71, and 98 of the Code of the Federal Regulations are amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Section 60.17 is amended by:

■ a. Redesignating paragraphs (d) through (t) as paragraphs (e) through (u) and adding paragraph (d);

■ b. In newly redesignated paragraph (g), further redesignating paragraph (g)(15) as paragraph (g)(17) and adding paragraphs (g)(15) and (16);

■ c. In newly redesignated paragraph (h), revising paragraphs (h)(37), (42), (46), (138), (187), and (190); and

■ c. In newly redesignated paragraph (m), further redesignating paragraph (m)(1) as paragraph (m)(2) and adding paragraph (m)(1).

The revisions and additions read as follows:

§ 60.17 Incorporations by reference.

* * * * *

(d) The following material is available for purchase from the American National Standards Institute (ANSI), 25 W. 43rd Street, 4th Floor, New York, NY 10036, Telephone (212) 642–4980, and is also available at the following Web site: *http://www.ansi.org.*

(1) ANSI No. C12.20–2010 American National Standard for Electricity Meters—0.2 and 0.5 Accuracy Classes (Approved August 31, 2010), IBR approved for § 60.5535(d).

(2) [Reserved]

* * * * *

(g) * * *

(15) ASME PTC 22–2014, Gas Turbines: Performance Test Codes, (Issued December 31, 2014), IBR approved for § 60.5580.

(16) ASME PTC 46–1996, Performance Test Code on Overall Plant Performance, (Issued October 15, 1997), IBR approved for § 60.5580.

* * * * *

(h) * * *

(37) ASTM D388–99 (Reapproved 2004) $^{\varepsilon 1}$ Standard Classification of Coals by Rank, IBR approved for §§ 60.41, 60.45(f), 60.41Da, 60.41b, 60.41c, 60.251, and 60.5580.

* * * * *

(42) ASTM D396–98, Standard Specification for Fuel Oils, IBR approved for §§ 60.41b, 60.41c, 60.111(b), 60.111a(b), and 60.5580.

* * * * *

(46) ASTM D975–08a, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 60.41b 60.41c, and 60.5580.

* * * * *

(138) ASTM D3699–08, Standard Specification for Kerosine, including Appendix X1, (Approved September 1, 2008), IBR approved for §§ 60.41b, 60.41c, and 60.5580.

* * * * *

(187) ASTM D6751–11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, including Appendices X1 through X3, (Approved July 15, 2011), IBR approved for §§ 60.41b, 60.41c, and 60.5580.

* * * * *

(190) ASTM D7467–10, Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20), including Appendices X1 through X3, (Approved August 1, 2010), IBR approved for §§ 60.41b, 60.41c, and 60.5580.

* * * * *

(m) * * *

(1) ISO 2314:2009(E), Gas turbines–Acceptance tests, Third edition (December 15, 2009), IBR approved for § 60.5580.

* * * * *

■ 3. Part 60 is amended by adding subpart TTTT to read as follows:

Subpart TTTT—Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units

Applicability

§ 60.5508 What is the purpose of this subpart?

This subpart establishes emission standards and compliance schedules for the control of greenhouse gas (GHG) emissions from a steam generating unit, IGCC, or a stationary combustion turbine that commences construction after January 8, 2014 or commences modification or reconstruction after June 18, 2014. An affected steam generating unit, IGCC, or stationary combustion turbine shall, for the purposes of this subpart, be referred to as an affected EGU.

§ 60.5509 Am I subject to this subpart?

(a) Except as provided for in paragraph (b) of this section, the GHG standards included in this subpart apply to any steam generating unit, IGCC, or stationary combustion turbine that commenced construction after January 8, 2014 or commenced reconstruction after June 18, 2014 that meets the relevant applicability conditions in paragraphs (a)(1) and (2) of this section. The GHG standards included in this subpart also apply to any steam generating unit or IGCC that commenced modification after June 18, 2014 that meets the relevant applicability conditions in paragraphs (a)(1) and (2) of this section.

(1) Has a base load rating greater than 260 GJ/h (250 MMBtu/h) of fossil fuel (either alone or in combination with any other fuel); and

(2) Serves a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system.

(b) You are not subject to the requirements of this subpart if your affected EGU meets any of the conditions specified in paragraphs (b)(1) through (10) of this section.

(1) Your EGU is a steam generating unit or IGCC that is currently and always has been subject to a federally enforceable permit condition limiting annual net-electric sales to no more than one-third of its potential electric output or 219,000 MWh, whichever is greater.

(2) Your EGU is capable of combusting 50 percent or more non-fossil fuel and is also subject to a federally enforceable permit condition limiting the annual capacity factor for all fossil fuels combined of 10 percent (0.10) or less.

(3) Your EGU is a combined heat and power unit that is subject to a federally enforceable permit condition limiting annual net-electric sales to no more than either 219,000 MWh or the product of the design efficiency and the potential electric output, whichever is greater.

(4) Your EGU serves a generator along with other steam generating unit(s), IGCC, or stationary combustion turbine(s) where the effective generation capacity (determined based on a prorated output of the base load rating of each steam generating unit, IGCC, or stationary combustion turbine) is 25 MW or less.

(5) Your EGU is a municipal waste combustor that is subject to subpart Eb of this part.

(6) Your EGU is a commercial or industrial solid waste incineration unit that is subject to subpart CCCC of this part.

(7) Your EGU is a steam generating unit or IGCC that undergoes a modification resulting in an hourly increase in CO_2 emissions (mass per hour) of 10 percent or less (2 significant figures). Modified units that are not subject to the requirements of this subpart pursuant to this subsection continue to be existing units under section 111 with respect to CO_2 emissions standards.

(8) Your EGU is a stationary combustion turbine that is not capable of combusting natural gas (*e.g.,* not connected to a natural gas pipeline).

(9) The proposed Washington County EGU project described in Air Quality Permit No. 4911–303–0051–P–01–0 issued by the Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, effective April 8, 2010, provided that construction had not commenced for NSPS purposes as of January 8, 2014.

(10) The proposed Holcomb EGU project described in Air Emission Source Construction Permit 0550023 issued by the Kansas Department of Health and Environment, Division of Environment, effective December 16, 2010, provided that construction had not commenced for NSPS purposes as of January 8, 2014.

Emission Standards

§ 60.5515 Which pollutants are regulated by this subpart?

(a) The pollutants regulated by this subpart are greenhouse gases. The greenhouse gas standard in this subpart is in the form of a limitation on emission of carbon dioxide.

(b) *PSD and title V thresholds for greenhouse gases.* (1) For the purposes of 40 CFR 51.166(b)(49)(ii), with respect to GHG emissions from affected facilities, the ‘‘pollutant that is subject to the standard promulgated under section 111 of the Act’’ shall be considered to be the pollutant that otherwise is subject to regulation under the Act as defined in § 51.166(b)(48) of this chapter and in any SIP approved by the EPA that is interpreted to incorporate, or specifically incorporates, § 51.166(b)(48).

(2) For the purposes of 40 CFR 52.21(b)(50)(ii), with respect to GHG emissions from affected facilities, the ‘‘pollutant that is subject to the standard promulgated under section 111 of the Act’’ shall be considered to be the pollutant that otherwise is subject to regulation under the Act as defined in § 52.21(b)(49) of this chapter.

(3) For the purposes of 40 CFR 70.2, with respect to greenhouse gas emissions from affected facilities, the ‘‘pollutant that is subject to any standard promulgated under section 111 of the Act’’ shall be considered to be the pollutant that otherwise is ‘‘subject to regulation’’ as defined in 40 CFR 70.2.

(4) For the purposes of 40 CFR 71.2, with respect to greenhouse gas emissions from affected facilities, the ‘‘pollutant that is subject to any standard promulgated under section 111 of the Act’’ shall be considered to be the pollutant that otherwise is ‘‘subject to regulation’’ as defined in 40 CFR 71.2.

§ 60.5520 What CO_2 emission standard must I meet?

(a) For each affected EGU subject to this subpart, you must not discharge from the affected EGU any gases that contain CO_2 in excess of the applicable CO_2 emission standard specified in Table 1 or 2 of this subpart, consistent with paragraphs (b), (c), and (d) of this section, as applicable.

(b) Except as specified in paragraphs (c) and (d) of this section, you must comply with the applicable gross energy output standard, and your operating permit must include monitoring, recordkeeping, and reporting methodologies based on the applicable gross energy output standard. For the remainder of this subpart (for sources that do not qualify under paragraphs (c) and (d) of this section), where the term ‘‘gross or net energy output’’ is used, the term that applies to you is ‘‘gross energy output.’’

(c) As an alternate to meeting the requirements in paragraph (b) of this section, an owner or operator of a stationary combustion turbine may petition the Administrator in writing to comply with the alternate applicable net energy output standard. If the Administrator grants the petition, beginning on the date the Administrator grants the petition, the affected EGU must comply with the applicable net energy output-based standard included in this subpart. Your operating permit must include monitoring, recordkeeping, and reporting methodologies based on the applicable net energy output standard. For the remainder of this subpart, where the term ‘‘gross or net energy output’’ is used, the term that applies to you is ‘‘net energy output.’’ Owners or operators complying with the net output-based standard must petition the Administrator to switch back to complying with the gross energy output-based standard.

(d) Stationary combustion turbines subject to a heat input-based standard in Table 2 of this subpart that are only permitted to burn one or more uniform fuels, as described in paragraph (d)(1) of this section, are only subject to the monitoring requirements in paragraph (d)(1). All other stationary combustion turbines subject to a heat input based standard in Table 2 are subject to the requirements in paragraph (d)(2) of this section.

(1) Stationary combustion turbines that are only permitted to burn fuels with a consistent chemical composition (*i.e.,* uniform fuels) that result in a consistent emission rate of 160 lb CO_2/MMBtu or less are not subject to any monitoring or reporting requirements under this subpart. These fuels include, but are not limited to, natural gas, methane, butane, butylene, ethane, ethylene, propane, naphtha, propylene, jet fuel kerosene, No. 1 fuel oil, No. 2 fuel oil, and biodiesel. Stationary combustion turbines qualifying under this paragraph are only required to maintain purchase records for permitted fuels.

(2) Stationary combustion turbines permitted to burn fuels that do not have a consistent chemical composition or that do not have an emission rate of 160 lb CO_2/MMBtu or less (*e.g.,* non-uniform fuels such as residual oil and non-jet fuel kerosene) must follow the monitoring, recordkeeping, and reporting requirements necessary to complete the heat input-based calculations under this subpart.

General Compliance Requirements

§ 60.5525 What are my general requirements for complying with this subpart?

Combustion turbines qualifying under § 60.5520(d)(1) are not subject to any requirements in this section other than the requirement to maintain fuel purchase records for permitted fuel(s). For all other affected sources, compliance with the applicable CO_2 emission standard of this subpart shall be determined on a 12-operating-month rolling average basis. See Table 1 or 2 of this subpart for the applicable CO_2 emission standards.

(a) You must be in compliance with the emission standards in this subpart that apply to your affected EGU at all times. However, you must determine compliance with the emission standards only at the end of the applicable operating month, as provided in paragraph (a)(1) of this section.

(1) For each affected EGU subject to a CO_2 emissions standard based on a 12-operating-month rolling average, you must determine compliance monthly by calculating the average CO_2 emissions rate for the affected EGU at the end of the initial and each subsequent 12-operating-month period.

(2) Consistent with § 60.5520(d)(2), if your affected stationary combustion turbine is subject to an input-based CO_2 emissions standard, you must determine the total heat input in million Btus (MMBtu) from natural gas ($HTIP_{ng}$) and the total heat input from all other fuels combined ($HTIP_o$) using one of the methods under § 60.5535(d)(2). You must then use the following equation to determine the applicable emissions standard during the compliance period:

$$CO_2 \text{ emission standard} = \frac{(120 \text{ x } HTIP_{ng}) + (160 \text{ x } HTIP_o)}{HTIP_{ng} + HTIP_o} \quad \text{(Eq. 1)}$$

Where:

CO_2 emission standard = the emission standard during the compliance period in units of lb/MMBtu.

$HTIP_{ng}$ = the heat input in MMBtu from natural gas.

$HTIP_o$ = the heat input in MMBtu from all fuels other than natural gas.

120 = allowable emission rate in lb of CO_2/MMBtu for heat input derived from natural gas.

160 = allowable emission rate in lb of CO_2/MMBtu for heat input derived from all fuels other than natural gas.

(b) At all times you must operate and maintain each affected EGU, including associated equipment and monitors, in a manner consistent with safety and good air pollution control practice. The Administrator will determine if you are using consistent operation and maintenance procedures based on information available to the Administrator that may include, but is not limited to, fuel use records, monitoring results, review of operation and maintenance procedures and records, review of reports required by this subpart, and inspection of the EGU.

(c) Within 30 days after the end of the initial compliance period (*i.e.,* no more than 30 days after the first 12-operating-month compliance period), you must make an initial compliance determination for your affected EGU(s) with respect to the applicable emissions standard in Table 1 or 2 of this subpart, in accordance with the requirements in this subpart. The first operating month included in the initial 12-operating-month compliance period shall be determined as follows:

(1) For an affected EGU that commences commercial operation (as defined in § 72.2 of this chapter) on or after October 23, 2015, the first month of the initial compliance period shall be the first operating month (as defined in § 60.5580) after the calendar month in which emissions reporting is required to begin under:

(i) Section 63.5555(c)(3)(i), for units subject to the Acid Rain Program; or

(ii) Section 63.5555(c)(3)(ii)(A), for units that are not in the Acid Rain Program.

(2) For an affected EGU that has commenced COMMERCIAL operation (as defined in § 72.2 of this chapter) prior to October 23, 2015:

(i) If the date on which emissions reporting is required to begin under § 75.64(a) of this chapter has passed prior to October 23, 2015, emissions reporting shall begin according to § 63.5555(c)(3)(i) (for Acid Rain program units), or according to § 63.5555(c)(3)(ii)(B) (for units that are not subject to the Acid Rain Program). The first month of the initial compliance period shall be the first operating month (as defined in § 60.5580) after the calendar month in which the rule becomes effective; or

(ii) If the date on which emissions reporting is required to begin under § 75.64(a) of this chapter occurs on or after October 23, 2015, then the first month of the initial compliance period shall be the first operating month (as defined in § 60.5580) after the calendar month in which emissions reporting is required to begin under § 63.5555(c)(3)(ii)(A).

(3) For a modified or reconstructed EGU that becomes subject to this subpart, the first month of the initial compliance period shall be the first operating month (as defined in § 60.5580) after the calendar month in which emissions reporting is required to begin under § 63.5555(c)(3)(iii).

Monitoring and Compliance Determination Procedures

§ 60.5535 How do I monitor and collect data to demonstrate compliance?

(a) Combustion turbines qualifying under § 60.5520(d)(1) are not subject to any requirements in this section other than the requirement to maintain fuel purchase records for permitted fuel(s). If your combustion turbine uses non-uniform fuels as specified under § 60.5520(d)(2), you must monitor heat input in accordance with paragraph (c)(1) of this section, and you must monitor CO_2 emissions in accordance with either paragraph (b), (c)(2), or (c)(5) of this section. For all other affected sources, you must prepare a monitoring plan to quantify the hourly CO_2 mass emission rate (tons/h), in accordance with the applicable provisions in § 75.53(g) and (h) of this chapter. The electronic portion of the monitoring plan must be submitted using the ECMPS Client Tool and must be in place prior to reporting emissions data and/or the results of monitoring system certification tests under this subpart. The monitoring plan must be updated as necessary. Monitoring plan submittals must be made by the Designated Representative (DR), the Alternate DR, or a delegated agent of the DR (see § 60.5555(c)).

(b) You must determine the hourly CO_2 mass emissions in kilograms (kg) from your affected EGU(s) according to paragraphs (b)(1) through (5) of this section, or, if applicable, as provided in paragraph (c) of this section.

(1) For an affected coal-fired EGU or for an IGCC unit you must, and for all other affected EGUs you may, install, certify, operate, maintain, and calibrate a CO_2 continuous emission monitoring system (CEMS) to directly measure and record hourly average CO_2 concentrations in the affected EGU exhaust gases emitted to the atmosphere, and a flow monitoring system to measure hourly average stack gas flow rates, according to § 75.10(a)(3)(i) of this chapter. As an alternative to direct measurement of CO_2 concentration, provided that your EGU does not use carbon separation (*e.g.,* carbon capture and storage), you may use data from a certified oxygen (O_2) monitor to calculate hourly average CO_2 concentrations, in accordance with § 75.10(a)(3)(iii) of this chapter. If you measure CO_2 concentration on a dry basis, you must also install, certify, operate, maintain, and calibrate a continuous moisture monitoring system, according to § 75.11(b) of this chapter. Alternatively, you may either use an appropriate fuel-specific default moisture value from § 75.11(b) or submit a petition to the Administrator under § 75.66 of this chapter for a site-specific default moisture value.

(2) For each continuous monitoring system that you use to determine the CO_2 mass emissions, you must meet the applicable certification and quality assurance procedures in § 75.20 of this chapter and appendices A and B to part 75 of this chapter.

(3) You must use only unadjusted exhaust gas volumetric flow rates to determine the hourly CO_2 mass emissions rate from the affected EGU; you must not apply the bias adjustment factors described in Section 7.6.5 of appendix A to part 75 of this chapter to the exhaust gas flow rate data.

(4) You must select an appropriate reference method to setup (characterize) the flow monitor and to perform the on-going RATAs, in accordance with part 75 of this chapter. If you use a Type-S pitot tube or a pitot tube assembly for the flow RATAs, you must calibrate the pitot tube or pitot tube assembly; you may not use the 0.84 default Type-S pitot tube coefficient specified in Method 2.

(5) Calculate the hourly CO_2 mass emissions (kg) as described in paragraphs (b)(5)(i) through (iv) of this section. Perform this calculation only for ''valid operating hours'', as defined in § 60.5540(a)(1).

(i) Begin with the hourly CO_2 mass emission rate (tons/h), obtained either from Equation F–11 in Appendix F to part 75 of this chapter (if CO_2 concentration is measured on a wet basis), or by following the procedure in section 4.2 of appendix F to part 75 of this chapter (if CO_2 concentration is measured on a dry basis).

(ii) Next, multiply each hourly CO_2 mass emission rate by the EGU or stack operating time in hours (as defined in § 72.2 of this chapter), to convert it to tons of CO_2.

(iii) Finally, multiply the result from paragraph (b)(5)(ii) of this section by 909.1 to convert it from tons of CO_2 to kg. Round off to the nearest kg.

(iv) The hourly CO_2 tons/h values and EGU (or stack) operating times used to calculate CO_2 mass emissions are required to be recorded under § 75.57(e) of this chapter and must be reported electronically under § 75.64(a)(6) of this chapter. You must use these data to calculate the hourly CO_2 mass emissions.

(c) If your affected EGU exclusively combusts liquid fuel and/or gaseous fuel, as an alternative to complying with paragraph (b) of this section, you may determine the hourly CO_2 mass emissions according to paragraphs (c)(1) through (4) of this section. If you use non-uniform fuels as specified in § 60.5520(d)(2), you may determine CO_2 mass emissions during the compliance period according to paragraph (c)(5) of this section.

(1) If you are subject to an output-based standard and you do not install CEMS in accordance with paragraph (b) of this section, you must implement the applicable procedures in appendix D to part 75 of this chapter to determine hourly EGU heat input rates (MMBtu/h), based on hourly measurements of fuel flow rate and periodic determinations of the gross calorific value (GCV) of each fuel combusted.

(2) For each measured hourly heat input rate, use Equation G–4 in appendix G to part 75 of this chapter to calculate the hourly CO_2 mass emission rate (tons/h). You may determine site-specific carbon-based F-factors (F_c) using Equation F–7b in section 3.3.6 of appendix F to part 75 of this chapter, and you may use these F_c values in the emissions calculations instead of using the default F_c values in the Equation G–4 nomenclature.

(3) For each ''valid operating hour'' (as defined in § 60.5540(a)(1), multiply the hourly tons/h CO_2 mass emission rate from paragraph (c)(2) of this section by the EGU or stack operating time in hours (as defined in § 72.2 of this chapter), to convert it to tons of CO_2. Then, multiply the result by 909.1 to convert from tons of CO_2 to kg. Round off to the nearest two significant figures.

(4) The hourly CO_2 tons/h values and EGU (or stack) operating times used to calculate CO_2 mass emissions are required to be recorded under § 75.57(e) of this chapter and must be reported electronically under § 75.64(a)(6) of this chapter. You must use these data to calculate the hourly CO_2 mass emissions.

(5) If you operate a combustion turbine firing non-uniform fuels, as an alternative to following paragraphs (c)(1) through (4) of this section, you may determine CO_2 emissions during the compliance period using one of the following methods:

(i) Units firing fuel gas may determine the heat input during the compliance period following the procedure under § 60.107a(d) and convert this heat input to CO_2 emissions using Equation G–4 in appendix G to part 75 of this chapter.

(ii) You may use the procedure for determining CO_2 emissions during the compliance period based on the use of the Tier 3 methodology under § 98.33(a)(3) of this chapter.

(d) Consistent with § 60.5520, you must determine the basis of the emissions standard that applies to your affected source in accordance with either paragraph (d)(1) or (2) of this section, as applicable:

(1) If you operate a source subject to an emissions standard established on an output basis (*e.g.,* lb of CO_2 per gross or net MWh of energy output), you must install, calibrate, maintain, and operate a sufficient number of watt meters to continuously measure and record the hourly gross electric output or net electric output, as applicable, from the affected EGU(s). These measurements must be performed using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20 (incorporated by reference, see § 60.17). For a combined heat and power (CHP) EGU, as defined in § 60.5580, you must also install, calibrate, maintain, and operate meters to continuously (*i.e.,* hour-by-hour) determine and record the total useful thermal output. For process steam applications, you will need to install, calibrate, maintain, and operate meters to continuously determine and record the hourly steam flow rate, temperature, and pressure. Your plan shall ensure that you install, calibrate, maintain, and operate meters to record each component of the determination, hour-by-hour.

(2) If you operate a source subject to an emissions standard established on a heat-input basis (*e.g.,* lb CO_2/MMBtu) and your affected source uses non-uniform heating value fuels as delineated under § 60.5520(d), you must determine the total heat input for each fuel fired during the compliance period in accordance with one of the following procedures:

(i) Appendix D to part 75 of this chapter;

(ii) The procedures for monitoring heat input under § 60.107a(d);

(iii) If you monitor CO_2 emissions in accordance with the Tier 3 methodology under § 98.33(a)(3) of this chapter, you may convert your CO_2 emissions to heat input using the appropriate emission factor in Table C–1 of part 98 of this chapter. If your fuel is not listed in Table C–1, you must determine a fuel-specific carbon-based F-factor (F_c) in accordance with section 12.3.2 of EPA Method 19 of appendix A–7 to this part, and you must convert your CO_2 emissions to heat input using Equation G–4 in appendix G to part 75 of this chapter.

(e) Consistent with § 60.5520, if two or more affected EGUs serve a common electric generator, you must apportion the combined hourly gross or net energy output to the individual affected EGUs according to the fraction of the total steam load contributed by each EGU. Alternatively, if the EGUs are identical, you may apportion the combined hourly gross or net electrical load to the individual EGUs according to the fraction of the total heat input contributed by each EGU.

(f) In accordance with §§ 60.13(g) and 60.5520, if two or more affected EGUs that implement the continuous emission monitoring provisions in paragraph (b) of this section share a common exhaust gas stack and are subject to the same emissions standard in Table 1 or 2 of this subpart, you may monitor the hourly CO_2 mass emissions at the common stack in lieu of monitoring each EGU separately. If you choose this option, the hourly gross or net energy output (electric, thermal, and/or mechanical, as applicable) must be the sum of the hourly loads for the individual affected EGUs and you must express the operating time as ''stack operating hours'' (as defined in § 72.2 of this chapter). If you attain compliance with the applicable emissions standard in § 60.5520 at the common stack, each affected EGU sharing the stack is in compliance.

(g) In accordance with §§ 60.13(g) and 60.5520 if the exhaust gases from an affected EGU that implements the continuous emission monitoring provisions in paragraph (b) of this section are emitted to the atmosphere through multiple stacks (or if the exhaust gases are routed to a common stack through multiple ducts and you elect to monitor in the ducts), you must monitor the hourly CO_2 mass emissions and the ''stack operating time'' (as defined in § 72.2 of this chapter) at each stack or duct separately. In this case, you must determine compliance with the applicable emissions standard in Table 1 or 2 of this subpart by summing the CO_2 mass emissions measured at the individual stacks or ducts and dividing by the total gross or net energy output for the affected EGU.

§ 60.5540 How do I demonstrate compliance with my CO_2 emissions standard and determine excess emissions?

(a) In accordance with § 60.5520, if you are subject to an output-based emission standard or you burn non-uniform fuels as specified in § 60.5520(d)(2), you must demonstrate compliance with the applicable CO_2 emission standard in Table 1 or 2 of this subpart as required in this section. For the initial and each subsequent 12-operating-month rolling average compliance period, you must follow the procedures in paragraphs (a)(1) through (7) of this section to calculate the CO_2 mass emissions rate for your affected EGU(s) in units of the applicable emissions standard (*i.e.,* either kg/MWh or lb/MMBtu). You must use the hourly CO_2 mass emissions calculated under § 60.5535(b) or (c), as applicable, and either the generating load data from § 60.5535(d)(1) for output-based calculations or the heat input data from § 60.5535(d)(2) for heat-input-based calculations. Combustion turbines firing non-uniform fuels that contain CO_2 prior to combustion (*e.g.,* blast furnace gas or landfill gas) may sample the fuel stream to determine the quantity of CO_2 present in the fuel prior to combustion and exclude this portion of the CO_2 mass emissions from compliance determinations.

(1) Each compliance period shall include only ''valid operating hours'' in the compliance period, *i.e.,* operating hours for which:

(i) ''Valid data'' (as defined in § 60.5580) are obtained for all of the parameters used to determine the hourly CO_2 mass emissions (kg) and, if a heat input-based standard applies, all the parameters used to determine total heat input for the hour are also obtained; and

(ii) The corresponding hourly gross or net energy output value is also valid data (*Note:* For hours with no useful output, zero is considered to be a valid value).

(2) You must exclude operating hours in which:

(i) The substitute data provisions of part 75 of this chapter are applied for any of the parameters used to determine the hourly CO_2 mass emissions or, if a heat input-based standard applies, for any parameters used to determine the hourly heat input; or

(ii) An exceedance of the full-scale range of a continuous emission monitoring system occurs for any of the parameters used to determine the hourly CO_2 mass emissions or, if applicable, to determine the hourly heat input; or

(iii) The total gross or net energy output ($P_{gross/net}$) or, if applicable, the total heat input is unavailable.

(3) For each compliance period, at least 95 percent of the operating hours in the compliance period must be valid operating hours, as defined in paragraph (a)(1) of this section.

(4) You must calculate the total CO_2 mass emissions by summing the valid hourly CO_2 mass emissions values from § 60.5535 for all of the valid operating hours in the compliance period.

(5) *Sources subject to output based standards.* For each valid operating hour of the compliance period that was used in paragraph (a)(4) of this section to calculate the total CO_2 mass emissions, you must determine $P_{gross/net}$ (the corresponding hourly gross or net energy output in MWh) according to the

procedures in paragraphs (a)(3)(i) and (ii) of this section, as appropriate for the type of affected EGU(s). For an operating hour in which a valid CO_2 mass emissions value is determined according to paragraph (a)(1)(i) of this section, if there is no gross or net electrical output, but there is mechanical or useful thermal output, you must still determine the gross or net energy output for that hour. In addition, for an operating hour in which a valid CO_2 mass emissions value is determined according to paragraph (a)(1)(i) of this section, but there is no (*i.e.,* zero) gross electrical, mechanical, or useful thermal output, you must use that hour in the compliance determination. For hours or partial hours where the gross electric output is equal to or less than the auxiliary loads, net electric output shall be counted as zero for this calculation.

(i) Calculate $P_{gross/net}$ for your affected EGU using the following equation. All terms in the equation must be expressed in units of megawatt-hours (MWh). To convert each hourly gross or net energy output (consistent with § 60.5520) value reported under part 75 of this chapter to MWh, multiply by the corresponding EGU or stack operating time.

$$P_{gross/net} = \frac{(Pe)_{ST} + (Pe)_{CT} + (Pe)_{IE} - (Pe)_{FW} - (Pe)_A}{\mathrm{TDF}} + [(Pt)_{PS} + (Pt)_{HR} + (Pt)_{IE}] \quad \text{(Eq. 2)}$$

Where:

$P_{gross/net}$ = In accordance with § 60.5520, gross or net energy output of your affected EGU for each valid operating hour (as defined in § 60.5540(a)(1)) in MWh.

$(Pe)_{ST}$ = Electric energy output plus mechanical energy output (if any) of steam turbines in MWh.

$(Pe)_{CT}$ = Electric energy output plus mechanical energy output (if any) of stationary combustion turbine(s) in MWh.

$(Pe)_{IE}$ = Electric energy output plus mechanical energy output (if any) of your affected EGU's integrated equipment that provides electricity or mechanical energy to the affected EGU or auxiliary equipment in MWh.

$(Pe)_{FW}$ = Electric energy used to power boiler feedwater pumps at steam generating units in MWh. Not applicable to stationary combustion turbines, IGCC EGUs, or EGUs complying with a net energy output based standard.

$(Pe)_A$ = Electric energy used for any auxiliary loads in MWh. Not applicable for determining P_{gross}.

$(Pt)_{PS}$ = Useful thermal output of steam (measured relative to SATP conditions, as applicable) that is used for applications that do not generate additional electricity, produce mechanical energy output, or enhance the performance of the affected EGU. This is calculated using the equation specified in paragraph (a)(5)(ii) of this section in MWh.

$(Pt)_{HR}$ = Non steam useful thermal output (measured relative to SATP conditions, as applicable) from heat recovery that is used for applications other than steam generation or performance enhancement of the affected EGU in MWh.

$(Pt)_{IE}$ = Useful thermal output (relative to SATP conditions, as applicable) from any integrated equipment is used for applications that do not generate additional steam, electricity, produce mechanical energy output, or enhance the performance of the affected EGU in MWh.

TDF = Electric Transmission and Distribution Factor of 0.95 for a combined heat and power affected EGU where at least on an annual basis 20.0 percent of the total gross or net energy output consists of electric or direct mechanical output and 20.0 percent of the total gross or net energy output consists of useful thermal output on a 12-operating-month rolling average basis, or 1.0 for all other affected EGUs.

(ii) If applicable to your affected EGU (for example, for combined heat and power), you must calculate $(Pt)_{PS}$ using the following equation:

$$(Pt)_{PS} = \frac{Q_m \times H}{CF} \quad \text{(Eq. 3)}$$

Where:

Q_m = Measured steam flow in kilograms (kg) (or pounds (lb)) for the operating hour.

H = Enthalpy of the steam at measured temperature and pressure (relative to SATP conditions or the energy in the condensate return line, as applicable) in Joules per kilogram (J/kg) (or Btu/lb).

CF = Conversion factor of 3.6×10^9 J/MWh or 3.413×10^6 Btu/MWh.

(6) *Calculation of annual basis for standard.* Sources complying with energy output-based standards must calculate the basis (*i.e.,* denominator) of their actual annual emission rate in accordance with paragraph (a)(6)(i) of this section. Sources complying with heat input based standards must calculate the basis of their actual annual emission rate in accordance with paragraph (a)(6)(ii) of this section.

(i) In accordance with § 60.5520 if you are subject to an output-based standard, you must calculate the total gross or net energy output for the affected EGU's compliance period by summing the hourly gross or net energy output values for the affected EGU that you determined under paragraph (a)(5) of this section for all of the valid operating hours in the applicable compliance period.

(ii) If you are subject to a heat input-based standard, you must calculate the total heat input for each fuel fired during the compliance period. The calculation of total heat input for each individual fuel must include all valid operating hours and must also be consistent with any fuel-specific procedures specified within your selected monitoring option under § 60.5535(d)(2).

(7) If you are subject to an output-based standard, you must calculate the CO_2 mass emissions rate for the affected EGU(s) (kg/MWh) by dividing the total CO_2 mass emissions value calculated according to the procedures in paragraph (a)(4) of this section by the total gross or net energy output value calculated according to the procedures in paragraph (a)(6)(i) of this section. Round off the result to two significant figures if the calculated value is less than 1,000; round the result to three significant figures if the calculated value is greater than 1,000. If you are subject to a heat input-based standard, you must calculate the CO_2 mass emissions rate for the affected EGU(s) (lb/MMBtu) by dividing the total CO_2 mass emissions value calculated according to the procedures in paragraph (a)(4) of this section by the total heat input calculated according to the procedures in paragraph (a)(6)(ii) of this section. Round off the result to two significant figures.

(b) In accordance with § 60.5520, to demonstrate compliance with the applicable CO_2 emission standard, for the initial and each subsequent 12-operating-month compliance period, the CO_2 mass emissions rate for your affected EGU must be determined according to the procedures specified in paragraph (a)(1) through (7) of this section and must be less than or equal to the applicable CO_2 emissions standard in Table 1 or 2 of this part, or the emissions standard calculated in accordance with § 60.5525(a)(2).

Notification, Reports, and Records

§ 60.5550 What notifications must I submit and when?

(a) You must prepare and submit the notifications specified in §§ 60.7(a)(1) and (3) and 60.19, as applicable to your affected EGU(s) (see Table 3 of this subpart).

(b) You must prepare and submit notifications specified in § 75.61 of this chapter, as applicable, to your affected EGUs.

§ 60.5555 What reports must I submit and when?

(a) You must prepare and submit reports according to paragraphs (a) through (d) of this section, as applicable.

(1) For affected EGUs that are required by § 60.5525 to conduct initial and on-going compliance determinations on a 12-operating-month rolling average basis, you must submit electronic quarterly reports as follows. After you have accumulated the first 12-operating months for the affected EGU, you must submit a report for the calendar quarter that includes the twelfth operating month no later than 30 days after the end of that quarter. Thereafter, you must submit a report for each subsequent calendar quarter, no later than 30 days after the end of the quarter.

(2) In each quarterly report you must include the following information, as applicable:

(i) Each rolling average CO_2 mass emissions rate for which the last (twelfth) operating month in a 12-operating-month compliance period falls within the calendar quarter. You must calculate each average CO_2 mass emissions rate for the compliance period according to the procedures in § 60.5540. You must report the dates (month and year) of the first and twelfth operating months in each compliance period for which you performed a CO_2 mass emissions rate calculation. If there are no compliance periods that end in the quarter, you must include a statement to that effect;

(ii) If one or more compliance periods end in the quarter, you must identify each operating month in the calendar quarter where your EGU violated the applicable CO_2 emission standard;

(iii) If one or more compliance periods end in the quarter and there are no violations for the affected EGU, you must include a statement indicating this in the report;

(iv) The percentage of valid operating hours in each 12-operating-month compliance period described in paragraph (a)(1)(i) of this section (*i.e.,* the total number of valid operating hours (as defined in § 60.5540(a)(1)) in that period divided by the total number of operating hours in that period, multiplied by 100 percent);

(v) Consistent with § 60.5520, the CO_2 emissions standard (as identified in Table 1 or 2 of this part) with which your affected EGU must comply; and

(vi) Consistent with § 60.5520, an indication whether or not the hourly gross or net energy output ($P_{gross/net}$) values used in the compliance determinations are based solely upon gross electrical load.

(3) In the final quarterly report of each calendar year, you must include the following:

(i) Consistent with § 60.5520, gross energy output or net energy output sold to an electric grid, as applicable to the units of your emission standard, over the four quarters of the calendar year; and

(ii) The potential electric output of the EGU.

(b) You must submit all electronic reports required under paragraph (a) of this section using the Emissions Collection and Monitoring Plan System (ECMPS) Client Tool provided by the Clean Air Markets Division in the Office of Atmospheric Programs of EPA.

(c)(1) For affected EGUs under this subpart that are also subject to the Acid Rain Program, you must meet all applicable reporting requirements and submit reports as required under subpart G of part 75 of this chapter.

(2) For affected EGUs under this subpart that are not in the Acid Rain Program, you must also meet the reporting requirements and submit reports as required under subpart G of part 75 of this chapter, to the extent that those requirements and reports provide applicable data for the compliance demonstrations required under this subpart.

(3)(i) For all newly-constructed affected EGUs under this subpart that are also subject to the Acid Rain Program, you must begin submitting the quarterly electronic emissions reports described in paragraph (c)(1) of this section in accordance with § 75.64(a) of this chapter, *i.e.,* beginning with data recorded on and after the earlier of:

(A) The date of provisional certification, as defined in § 75.20(a)(3) of this chapter; or

(B) 180 days after the date on which the EGU commences commercial operation (as defined in § 72.2 of this chapter).

(ii) For newly-constructed affected EGUs under this subpart that are not subject to the Acid Rain Program, you must begin submitting the quarterly electronic reports described in paragraph (c)(2) of this section, beginning with data recorded on and after:

(A) The date on which reporting is required to begin under § 75.64(a) of this chapter, if that date occurs on or after October 23, 2015; or

(B) October 23, 2015, if the date on which reporting would ordinarily be required to begin under § 75.64(a) of this chapter has passed prior to October 23, 2015.

(iii) For reconstructed or modified units, reporting of emissions data shall begin at the date on which the EGU becomes an affected unit under this subpart, provided that the ECMPS Client Tool is able to receive and process net energy output data on that date. Otherwise, emissions data reporting shall be on a gross energy output basis until the date that the Client Tool is first able to receive and process net energy output data.

(4) If any required monitoring system has not been provisionally certified by the applicable date on which emissions data reporting is required to begin under paragraph (c)(3) of this section, the maximum (or in some cases, minimum) potential value for the parameter measured by the monitoring system shall be reported until the required certification testing is successfully completed, in accordance with § 75.4(j) of this chapter, § 75.37(b) of this chapter, or section 2.4 of appendix D to part 75 of this chapter (as applicable). Operating hours in which CO_2 mass emission rates are calculated using maximum potential values are not ''valid operating hours'' (as defined in § 60.5540(a)(1)), and shall not be used in the compliance determinations under § 60.5540.

(d) For affected EGUs subject to the Acid Rain Program, the reports required under paragraphs (a) and (c)(1) of this section shall be submitted by:

(1) The person appointed as the Designated Representative (DR) under § 72.20 of this chapter; or

(2) The person appointed as the Alternate Designated Representative (ADR) under § 72.22 of this chapter; or

(3) A person (or persons) authorized by the DR or ADR under § 72.26 of this chapter to make the required submissions.

(e) For affected EGUs that are not subject to the Acid Rain Program, the owner or operator shall appoint a DR and (optionally) an ADR to submit the reports required under paragraphs (a) and (c)(2) of this section. The DR and ADR must register with the Clean Air Markets Division (CAMD) Business System. The DR may delegate the authority to make the required submissions to one or more persons.

(f) If your affected EGU captures CO_2 to meet the applicable emission limit, you must report in accordance with the requirements of 40 CFR part 98, subpart PP and either:

(1) Report in accordance with the requirements of 40 CFR part 98, subpart RR, if injection occurs on-site, or

(2) Transfer the captured CO_2 to an EGU or facility that reports in accordance with the requirements of 40 CFR part 98, subpart RR, if injection occurs off-site.

(3) Transfer the captured CO_2 to a facility that has received an innovative technology waiver from EPA pursuant to paragraph (g) of this section.

(g) Any person may request the Administrator to issue a waiver of the requirement that captured CO_2 from an affected EGU be transferred to a facility reporting under 40 CFR part 98, subpart RR. To receive a waiver, the applicant must demonstrate to the Administrator that its technology will store captured CO_2 as effectively as geologic sequestration, and that the proposed technology will not cause or contribute to an unreasonable risk to public health, welfare, or safety. In making this determination, the Administrator shall consider (among other factors) operating history of the technology, whether the technology will increase emissions or other releases of any pollutant other than CO_2, and permanence of the CO_2 storage. The Administrator may test the system itself, or require the applicant to perform any tests considered by the Administrator to be necessary to show the technology's effectiveness, safety, and ability to store captured CO_2 without release. The Administrator may grant conditional approval of a technology, with the approval conditioned on monitoring and reporting of operations. The Administrator may also withdraw approval of the waiver on evidence of releases of CO_2 or other pollutants. The Administrator will provide notice to the public of any application under this provision and provide public notice of any proposed action on a petition before the Administrator takes final action.

§ 60.5560 What records must I maintain?

(a) You must maintain records of the information you used to demonstrate compliance with this subpart as specified in § 60.7(b) and (f).

(b)(1) For affected EGUs subject to the Acid Rain Program, you must follow the applicable recordkeeping requirements and maintain records as required under subpart F of part 75 of this chapter.

(2) For affected EGUs that are not subject to the Acid Rain Program, you must also follow the recordkeeping requirements and maintain records as required under subpart F of part 75 of this chapter, to the extent that those records provide applicable data for the compliance determinations required under this subpart. Regardless of the prior sentence, at a minimum, the following records must be kept, as applicable to the types of continuous monitoring systems used to demonstrate compliance under this subpart:

(i) Monitoring plan records under § 75.53(g) and (h) of this chapter;

(ii) Operating parameter records under § 75.57(b)(1) through (4) of this chapter;

(iii) The records under § 75.57(c)(2) of this chapter, for stack gas volumetric flow rate;

(iv) The records under § 75.57(c)(3) of this chapter for continuous moisture monitoring systems;

(v) The records under § 75.57(e)(1) of this chapter, except for paragraph (e)(1)(x), for CO_2 concentration monitoring systems or O_2 monitors used to calculate CO_2 concentration;

(vi) The records under § 75.58(c)(1) of this chapter, specifically paragraphs (c)(1)(i), (ii), and (viii) through (xiv), for oil flow meters;

(vii) The records under § 75.58(c)(4) of this chapter, specifically paragraphs (c)(4)(i), (ii), (iv), (v), and (vii) through (xi), for gas flow meters;

(viii) The quality-assurance records under § 75.59(a) of this chapter, specifically paragraphs (a)(1) through (12) and (15), for CEMS;

(ix) The quality-assurance records under § 75.59(a) of this chapter, specifically paragraphs (b)(1) through (4), for fuel flow meters; and

(x) Records of data acquisition and handling system (DAHS) verification under § 75.59(e) of this chapter.

(c) You must keep records of the calculations you performed to determine the hourly and total CO_2 mass emissions (tons) for:

(1) Each operating month (for all affected EGUs); and

(2) Each compliance period, including, each 12-operating-month compliance period.

(d) Consistent with § 60.5520, you must keep records of the applicable data recorded and calculations performed that you used to determine your affected EGU's gross or net energy output for each operating month.

(e) You must keep records of the calculations you performed to determine the percentage of valid CO_2 mass emission rates in each compliance period.

(f) You must keep records of the calculations you performed to assess compliance with each applicable CO_2 mass emissions standard in Table 1 or 2 of this subpart.

(g) You must keep records of the calculations you performed to determine any site-specific carbon-based F-factors you used in the emissions calculations (if applicable).

§ 60.5565 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review.

(b) You must maintain each record for 3 years after the date of conclusion of each compliance period.

(c) You must maintain each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 60.7. Records that are accessible from a central location by a computer or other means that instantly provide access at the site meet this requirement. You may maintain the records off site for the remaining year(s) as required by this subpart.

Other Requirements and Information

§ 60.5570 What parts of the general provisions apply to my affected EGU?

Notwithstanding any other provision of this chapter, certain parts of the general provisions in §§ 60.1 through 60.19, listed in Table 3 to this subpart, do not apply to your affected EGU.

§ 60.5575 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the EPA, or a delegated authority such as your state, local, or tribal agency. If the Administrator has delegated authority to your state, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency, the Administrator retains the authorities listed in paragraphs (b)(1) through (5) of this section and does not transfer them to the state, local, or tribal agency. In addition, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the emission standards.

(2) Approval of major alternatives to test methods.

(3) Approval of major alternatives to monitoring.

(4) Approval of major alternatives to recordkeeping and reporting.

(5) Performance test and data reduction waivers under § 60.8(b).

§ 60.5580 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein will have the meaning given them in the Clean Air Act and in subpart A (general provisions of this part).

Annual capacity factor means the ratio between the actual heat input to an EGU during a calendar year and the potential heat input to the EGU had it been operated for 8,760 hours during a calendar year at the base load rating.

Base load rating means the maximum amount of heat input (fuel) that an EGU can combust on a steady state basis, as determined by the physical design and characteristics of the EGU at ISO conditions. For a stationary combustion turbine, *base load rating* includes the heat input from duct burners.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM International in ASTM D388–99 (Reapproved 2004) ε^1 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat, including, but not limited to, solvent-refined coal, gasified coal (not meeting the definition of natural gas), coal-oil mixtures, and coal-water mixtures are included in this definition for the purposes of this subpart.

Combined cycle unit means an electric generating unit that uses a stationary combustion turbine from which the heat from the turbine exhaust gases is recovered by a heat recovery steam generating unit (HRSG) to generate additional electricity.

Combined heat and power unit or *CHP unit, (*also known as ‘‘cogeneration’’) means an electric generating unit that that use a steam generating unit or stationary combustion turbine to simultaneously produce both electric (or mechanical) and useful thermal output from the same primary energy source.

Design efficiency means the rated overall net efficiency (*e.g.,* electric plus useful thermal output) on a lower heating value basis at the base load rating, at ISO conditions, and at the maximum useful thermal output (*e.g.,* CHP unit with condensing steam turbines would determine the design efficiency at the maximum level of extraction and/or bypass). Design efficiency shall be determined using one of the following methods: ASME PTC 22 Gas Turbines (incorporated by reference, see § 60.17), ASME PTC 46 Overall Plant Performance (incorporated by reference, see § 60.17) or ISO 2314 Gas turbines—acceptance tests (incorporated by reference, see § 60.17).

Distillate oil means fuel oils that comply with the specifications for fuel oil numbers 1 and 2, as defined by ASTM International in ASTM D396–98 (incorporated by reference, see § 60.17); diesel fuel oil numbers 1 and 2, as defined by ASTM International in ASTM D975–08a (incorporated by reference, see § 60.17); kerosene, as defined by ASTM International in ASTM D3699 (incorporated by reference, see § 60.17); biodiesel as defined by ASTM International in ASTM D6751 (incorporated by reference, see § 60.17); or biodiesel blends as defined by ASTM International in ASTM D7467 (incorporated by reference, see § 60.17).

Electric Generating units or EGU means any steam generating unit, IGCC unit, or stationary combustion turbine that is subject to this rule (*i.e.,* meets the applicability criteria)

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Gaseous fuel means any fuel that is present as a gas at ISO conditions and includes, but is not limited to, natural gas, refinery fuel gas, process gas, coke-oven gas, synthetic gas, and gasified coal.

Gross energy output means:

(1) For stationary combustion turbines and IGCC, the gross electric or direct mechanical output from both the EGU (including, but not limited to, output from steam turbine(s), combustion turbine(s), and gas expander(s)) plus 100 percent of the useful thermal output.

(2) For steam generating units, the gross electric or mechanical output from the affected EGU(s) (including, but not limited to, output from steam turbine(s), combustion turbine(s), and gas expander(s)) minus any electricity used to power the feedwater pumps plus 100 percent of the useful thermal output;

(3) For combined heat and power facilities where at least 20.0 percent of the total gross energy output consists of electric or direct mechanical output and 20.0 percent of the total gross energy output consists of useful thermal output on a 12-operating-month rolling average basis, the gross electric or mechanical output from the affected EGU (including, but not limited to, output from steam turbine(s), combustion turbine(s), and gas expander(s)) minus any electricity used to power the feedwater pumps (the electric auxiliary load of boiler feedwater pumps is not applicable to IGCC facilities), that difference divided by 0.95, plus 100 percent of the useful thermal output.

Heat recovery steam generating unit (HRSG) means an EGU in which hot exhaust gases from the combustion turbine engine are routed in order to extract heat from the gases and generate useful output. Heat recovery steam generating units can be used with or without duct burners.

Integrated gasification combined cycle facility or *IGCC* means a combined cycle facility that is designed to burn fuels containing 50 percent (by heat input) or more solid-derived fuel not meeting the definition of natural gas, plus any integrated equipment that provides electricity or useful thermal output to the affected EGU or auxiliary equipment. The Administrator may waive the 50 percent solid-derived fuel requirement during periods of the gasification system construction, startup and commissioning, shutdown, or repair. No solid fuel is directly burned in the EGU during operation.

ISO conditions means 288 Kelvin (15°C), 60 percent relative humidity and 101.3 kilopascals pressure.

Liquid fuel means any fuel that is present as a liquid at ISO conditions and includes, but is not limited to, distillate oil and residual oil.

Mechanical output means the useful mechanical energy that is not used to operate the affected EGU(s), generate electricity and/or thermal energy, or to enhance the performance of the affected EGU. Mechanical energy measured in horsepower hour should be converted into MWh by multiplying it by 745.7 then dividing by 1,000,000.

Natural gas means a fluid mixture of hydrocarbons (*e.g.,* methane, ethane, or propane), composed of at least 70 percent methane by volume or that has a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot), that maintains a gaseous state under ISO conditions. Finally, natural gas does not include the following gaseous fuels: Landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable CO_2 content or heating value.

Net-electric sales means:

(1) The gross electric sales to the utility power distribution system minus purchased power; or

(2) For combined heat and power facilities where at least 20.0 percent of the total gross energy output consists of electric or direct mechanical output and at least 20.0 percent of the total gross energy output consists of useful thermal output on an annual basis, the gross electric sales to the utility power

distribution system minus purchased power of the thermal host facility or facilities.

(3) Electricity supplied to other facilities that produce electricity to offset auxiliary loads are included when calculating net-electric sales.

(4) Electric sales that that result from a system emergency are not included when calculating net-electric sales.

Net-electric output means the amount of gross generation the generator(s) produces (including, but not limited to, output from steam turbine(s), combustion turbine(s), and gas expander(s)), as measured at the generator terminals, less the electricity used to operate the plant (*i.e.,* auxiliary loads); such uses include fuel handling equipment, pumps, fans, pollution control equipment, other electricity needs, and transformer losses as measured at the transmission side of the step up transformer (*e.g.,* the point of sale).

Net energy output means:

(1) The net electric or mechanical output from the affected EGU plus 100 percent of the useful thermal output; or

(2) For combined heat and power facilities where at least 20.0 percent of the total gross or net energy output consists of electric or direct mechanical output and at least 20.0 percent of the total gross or net energy output consists of useful thermal output on a 12-operating-month rolling average basis, the net electric or mechanical output from the affected EGU divided by 0.95, plus 100 percent of the useful thermal output.

Operating month means a calendar month during which any fuel is combusted in the affected EGU at any time.

Petroleum means crude oil or a fuel derived from crude oil, including, but not limited to, distillate and residual oil.

Potential electric output means 33 percent or the base load rating design efficiency at the maximum electric production rate (*e.g.,* CHP units with condensing steam turbines will operate at maximum electric production), whichever is greater, multiplied by the base load rating (expressed in MMBtu/h) of the EGU, multiplied by 10^6 Btu/MMBtu, divided by 3,413 Btu/KWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 h/yr (*e.g.,* a 35 percent efficient affected EGU with a 100 MW (341 MMBtu/h) fossil fuel heat input capacity would have a 306,000 MWh 12-month potential electric output capacity).

Standard ambient temperature and pressure (SATP) conditions means 298.15 Kelvin (25 °C, 77 °F) and 100.0 kilopascals (14.504 psi, 0.987 atm) pressure. The enthalpy of water at SATP conditions is 50 Btu/lb.

Solid fuel means any fuel that has a definite shape and volume, has no tendency to flow or disperse under moderate stress, and is not liquid or gaseous at ISO conditions. This includes, but is not limited to, coal, biomass, and pulverized solid fuels.

Stationary combustion turbine means all equipment including, but not limited to, the turbine engine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, fuel compressor, heater, and/or pump, post-combustion emission control technology, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system plus any integrated equipment that provides electricity or useful thermal output to the combustion turbine engine, heat recovery system or auxiliary equipment. Stationary means that the combustion turbine is not self-propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability. A stationary combustion turbine that burns any solid fuel directly is considered a steam generating unit.

Steam generating unit means any furnace, boiler, or other device used for combusting fuel and producing steam (nuclear steam generators are not included) plus any integrated equipment that provides electricity or useful thermal output to the affected EGU(s) or auxiliary equipment.

System emergency means any abnormal system condition that the Regional Transmission Organizations (RTO), Independent System Operators (ISO) or control area Administrator determines requires immediate automatic or manual action to prevent or limit loss of transmission facilities or generators that could adversely affect the reliability of the power system and therefore call for maximum generation resources to operate in the affected area, or for the specific affected EGU to operate to avert loss of load.

Useful thermal output means the thermal energy made available for use in any heating application (*e.g.,* steam delivered to an industrial process for a heating application, including thermal cooling applications) that is not used for electric generation, mechanical output at the affected EGU, to directly enhance the performance of the affected EGU (*e.g.,* economizer output is not useful thermal output, but thermal energy used to reduce fuel moisture is considered useful thermal output), or to supply energy to a pollution control device at the affected EGU. Useful thermal output for affected EGU(s) with no condensate return (or other thermal energy input to the affected EGU(s)) or where measuring the energy in the condensate (or other thermal energy input to the affected EGU(s)) would not meaningfully impact the emission rate calculation is measured against the energy in the thermal output at SATP conditions. Affected EGU(s) with meaningful energy in the condensate return (or other thermal energy input to the affected EGU) must measure the energy in the condensate and subtract that energy relative to SATP conditions from the measured thermal output.

Valid data means quality-assured data generated by continuous monitoring systems that are installed, operated, and maintained according to part 75 of this chapter. For CEMS, the initial certification requirements in § 75.20 of this chapter and appendix A to part 75 of this chapter must be met before quality-assured data are reported under this subpart; for on-going quality assurance, the daily, quarterly, and semiannual/annual test requirements in sections 2.1, 2.2, and 2.3 of appendix B to part 75 of this chapter must be met and the data validation criteria in sections 2.1.5, 2.2.3, and 2.3.2 of appendix B to part 75 of this chapter apply. For fuel flow meters, the initial certification requirements in section 2.1.5 of appendix D to part 75 of this chapter must be met before quality-assured data are reported under this subpart (except for qualifying commercial billing meters under section 2.1.4.2 of appendix D to part 75), and for on-going quality assurance, the provisions in section 2.1.6 of appendix D to part 75 apply (except for qualifying commercial billing meters).

Violation means a specified averaging period over which the CO_2 emissions rate is higher than the applicable emissions standard located in Table 1 or 2 of this subpart.

TABLE 1 OF SUBPART TTTT OF PART 60—CO_2 EMISSION STANDARDS FOR AFFECTED STEAM GENERATING UNITS AND INTEGRATED GASIFICATION COMBINED CYCLE FACILITIES THAT COMMENCED CONSTRUCTION AFTER JANUARY 8, 2014 AND RECONSTRUCTION OR MODIFICATION AFTER JUNE 18, 2014

[Note: Numerical values of 1,000 or greater have a minimum of 3 significant figures and numerical values of less than 1,000 have a minimum of 2 significant figures]

Affected EGU	CO_2 Emission standard
Newly constructed steam generating unit or integrated gasification combined cycle (IGCC).	640 kg CO_2/MWh of gross energy output (1,400 lb CO_2/MWh).
Reconstructed steam generating unit or IGCC that has base load rating of 2,100 GJ/h (2,000 MMBtu/h) or less.	910 kg of CO_2 per MWh of gross energy output (2,000 lb CO_2/MWh).
Reconstructed steam generating unit or IGCC that has a base load rating greater than 2,100 GJ/h (2,000 MMBtu/h).	820 kg of CO_2 per MWh of gross energy output (1,800 lb CO_2/MWh).
Modified steam generating unit or IGCC	A unit-specific emission limit determined by the unit's best historical annual CO_2 emission rate (from 2002 to the date of the modification); the emission limit will be no lower than: 1. 1,800 lb CO_2/MWh-gross for units with a base load rating greater than 2,000 MMBtu/h; or 2. 2,000 lb CO_2/MWh-gross for units with a base load rating of 2,000 MMBtu/h or less.

TABLE 2 OF SUBPART TTTT OF PART 60—CO_2 EMISSION STANDARDS FOR AFFECTED STATIONARY COMBUSTION TURBINES THAT COMMENCED CONSTRUCTION AFTER JANUARY 8, 2014 AND RECONSTRUCTION AFTER JUNE 18, 2014 (NET ENERGY OUTPUT-BASED STANDARDS APPLICABLE AS APPROVED BY THE ADMINISTRATOR)

[Note: Numerical values of 1,000 or greater have a minimum of 3 significant figures and numerical values of less than 1,000 have a minimum of 2 significant figures]

Affected EGU	CO_2 Emission standard
Newly constructed or reconstructed stationary combustion turbine that supplies more than its design efficiency or 50 percent, whichever is less, times its potential electric output as net-electric sales on both a 12-operating month and a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis.	450 kg of CO_2 per MWh of gross energy output (1,000 lb CO_2/MWh); or 470 kilograms (kg) of CO_2 per megawatt-hour (MWh) of net energy output (1,030 lb/MWh).
Newly constructed or reconstructed stationary combustion turbine that supplies its design efficiency or 50 percent, whichever is less, times its potential electric output or less as net-electric sales on either a 12-operating month or a 3-year rolling average basis and combusts more than 90% natural gas on a heat input basis on a 12-operating-month rolling average basis.	50 kg CO_2 per gigajoule (GJ) of heat input (120 lb CO_2/MMBtu).
Newly constructed and reconstructed stationary combustion turbine that combusts 90% or less natural gas on a heat input basis on a 12-operating-month rolling average basis.	50 kg CO_2/GJ of heat input (120 lb/MMBtu) to 69 kg CO_2/GJ of heat input (160 lb/MMBtu) as determined by the procedures in § 60.5525.

TABLE 3 TO SUBPART TTTT OF PART 60—APPLICABILITY OF SUBPART A OF PART 60 (GENERAL PROVISIONS) TO SUBPART TTTT

General provisions citation	Subject of citation	Applies to subpart TTTT	Explanation
§ 60.1	Applicability	Yes.	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.5580.
§ 60.3	Units and Abbreviations	Yes.	
§ 60.4	Address	Yes	Does not apply to information reported electronically through ECMPS. Duplicate submittals are not required.
§ 60.5	Determination of construction or modification	Yes.	
§ 60.6	Review of plans	Yes.	
§ 60.7	Notification and Recordkeeping	Yes	Only the requirements to submit the notifications in § 60.7(a)(1) and (3) and to keep records of malfunctions in § 60.7(b), if applicable.
§ 60.8	Performance tests	No.	
§ 60.9	Availability of Information	Yes.	
§ 60.10	State authority	Yes.	
§ 60.11	Compliance with standards and maintenance requirements.	No.	
§ 60.12	Circumvention	Yes.	
§ 60.13	Monitoring requirements	No	All monitoring is done according to part 75.

TABLE 3 TO SUBPART TTTT OF PART 60—APPLICABILITY OF SUBPART A OF PART 60 (GENERAL PROVISIONS) TO SUBPART TTTT—Continued

General provisions citation	Subject of citation	Applies to subpart TTTT	Explanation
§ 60.14	Modification	Yes (steam generating units and IGCC facilities). No (stationary combustion turbines.	
§ 60.15	Reconstruction	Yes.	
§ 60.16	Priority list	No.	
§ 60.17	Incorporations by reference	Yes.	
§ 60.18	General control device requirements	No.	
§ 60.19	General notification and reporting requirements	Yes	Does not apply to notifications under § 75.61 or to information reported through ECMPS.

PART 70—STATE OPERATING PERMIT PROGRAMS

■ 4. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

■ 5. In § 70.2, the definition of ''Regulated pollutant (for presumptive fee calculation)'' is amended by:
■ a. Revising the introductory text;
■ b. Removing ''or'' from the end of paragraph (2);
■ c. Removing the period at the end of paragraph (3) and adding ''; or'' in its place; and
■ d. Adding paragraph (4).

The revision and additions read as follows:

§ 70.2 Definitions.

* * * * *

Regulated pollutant (for presumptive fee calculation), which is used only for purposes of § 70.9(b)(2), means any regulated air pollutant except the following:

* * * * *

(4) Greenhouse gases.

* * * * *

■ 6. Section 70.9 is amended by revising paragraph (b)(2)(i), and adding paragraph (b)(2)(v) to read as follows:

§ 70.9 Fee determination and certification.

* * * * *

(b) * * *

(2)(i) The Administrator will presume that the fee schedule meets the requirements of paragraph (b)(1) of this section if it would result in the collection and retention of an amount not less than $25 per year [as adjusted pursuant to the criteria set forth in paragraph (b)(2)(iv) of this section] times the total tons of the actual emissions of each regulated pollutant (for presumptive fee calculation) emitted from part 70 sources and any GHG cost adjustment required under paragraph (b)(2)(v) of this section.

* * * * *

(v) *GHG cost adjustment.* The amount calculated in paragraph (b)(2)(i) of this section shall be increased by the GHG cost adjustment determined as follows: For each activity identified in the following table, multiply the number of activities performed by the permitting authority by the burden hours per activity, and then calculate a total number of burden hours for all activities. Next, multiply the burden hours by the average cost of staff time, including wages, employee benefits and overhead.

Activity	Burden hours per activity
GHG completeness determination (for initial permit or updated application)	43
GHG evaluation for a permit modification or related permit action	7
GHG evaluation at permit renewal	10

* * * * *

PART 71—FEDERAL OPERATING PERMIT PROGRAMS

■ 7. The authority citation for part 71 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

■ 8. In § 71.2, the definition of ''Regulated pollutant (for fee calculation)'' is amended by:
■ a. Removing ''or'' from the end of paragraph (2);
■ b. Removing the period at the end of paragraph (3) and adding ''; or'' in its place; and
■ b. Adding paragraph (4).

The revisions and additions read as follows:

§ 71.2 Definitions.

* * * * *

Regulated pollutant (for fee calculation), which is used only for purposes of § 71.9(c), means any ''*regulated air pollutant''* except the following:

* * * * *

(4) Greenhouse gases.

* * * * *

■ 9. Section 71.9 is amended by:
■ a. Revising paragraphs (c)(1), (c)(2)(i), (c)(3), and (c)(4); and
■ b. Adding paragraph (c)(8).

The revisions and addition read as follows:

§ 71.9 Permit fees.

* * * * *

(c) * * *

(1) For part 71 programs that are administered by EPA, each part 71 source shall pay an annual fee which is the sum of:

(i) $32 per ton (as adjusted pursuant to the criteria set forth in paragraph (n)(1) of this section) times the total tons of the actual emissions of each regulated pollutant (for fee calculation) emitted from the source, including fugitive emissions; and

(ii) Any GHG fee adjustment required under paragraph (c)(8) of this section.

(2) * * *

(i) Where the EPA has not suspended its part 71 fee collection pursuant to paragraph (c)(2)(ii) of this section, the annual fee for each part 71 source shall be the sum of:

(A) $24 per ton (as adjusted pursuant to the criteria set forth in paragraph (n)(1) of this section) times the total tons of the actual emissions of each regulated pollutant (for fee calculation) emitted from the source, including fugitive emissions; and

(B) Any GHG fee adjustment required under paragraph (c)(8) of this section.

* * * * *

(3) For part 71 programs that are administered by EPA with contractor assistance, the per ton fee shall vary depending on the extent of contractor involvement and the cost to EPA of contractor assistance. The EPA shall establish a per ton fee that is based on the contractor costs for the specific part 71 program that is being administered, using the following formula:

Cost per ton = $(E \times 32) + [(1 - E) \times \$C]$

Where E represents EPA's proportion of total effort (expressed as a percentage of total effort) needed to administer the part 71 program, $1 - E$ represents the contractor's effort, and C represents the contractor assistance cost on a per ton basis. C shall be computed by using the following formula:

$C = [B + T + N]$ divided by 12,300,000

Where B represents the base cost (contractor costs), where T represents travel costs, and where N represents nonpersonnel data management and tracking costs. In addition, each part 71 source shall pay a GHG fee adjustment for each activity as required under paragraph (c)(8) of this section.

(4) For programs that are delegated in part, the fee shall be computed using the following formula:

Cost per ton = $(E \times 32) + (D \times 24) + [(1 - E - D) \times \$C]$

Where E and D represent, respectively, the EPA and delegate agency proportions of total effort (expressed as a percentage of total effort) needed to administer the part 71 program, $1 - E - D$ represents the contractor's effort, and C represents the contractor assistance cost on a per ton basis. C shall be computed using the formula for contractor assistance cost found in paragraph (c)(3) of this section and shall be zero if contractor assistance is not utilized. In addition, each part 71 source shall pay a GHG fee adjustment for each activity as required under paragraph (c)(8) of this section.

* * * * *

(8) *GHG fee adjustment.* The annual fee shall be increased by a GHG fee adjustment for any source that has initiated an activity listed in the following table since the fee was last paid. The GHG fee adjustment shall be equal to the set fee provided in the table for each activity that has been initiated since the fee was last paid:

Activity	Set fee
GHG completeness determination (for initial permit or updated application)	$2,236
GHG evaluation for a permit modification or related permit action	364
GHG evaluation at permit renewal	520

* * * * *

PART 98—MANDATORY GREENHOUSE GAS REPORTING

■ 10. The authority citation for part 98 is revised to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 11. Section 98.426 is amended by adding paragraph (h) to read as follows:

§ 98.426 Data reporting requirements.

* * * * *

(h) If you capture a CO_2 stream from an electricity generating unit that is subject to subpart D of this part and transfer CO_2 to any facilities that are subject to subpart RR of this part, you must:

(1) Report the facility identification number associated with the annual GHG report for the subpart D facility;

(2) Report each facility identification number associated with the annual GHG reports for each subpart RR facility to which CO_2 is transferred; and

(3) Report the annual quantity of CO_2 in metric tons that is transferred to each subpart RR facility.

■ 12. Section 98.427 is amended by adding paragraph (d) to read as follows:

§ 98.427 Records that must be retained.

* * * * *

(d) Facilities subject to § 98.426(h) must retain records of CO_2 in metric tons that is transferred to each subpart RR facility.

[FR Doc. 2015–22837 Filed 10–22–15; 8:45 am]

BILLING CODE 6560–50–P

CERTIFICATE OF SERVICE

I hereby certify that, on this 13th day of October 2016, a copy of the foregoing Addendum pursuant to Circuit Rule 28(a)(5) to the Opening Brief of Non-State Petitioners was served electronically through the Court's CM/ECF system on all ECF-registered counsel.

/s/ Allison D. Wood
Allison D. Wood