# APPENDIX A

# AGENCY CORRESPONDENCE AND CONSULTATION LETTERS

This page intentionally left blank.

NORTH AMERICAN COAL CORPORATION

# RED HILLS MINE

April 30, 2008

Stan Thieling
Director, Coal Mining Division
Office of Geology
Mississippi Department of Environmental Quality
P.O. Box 2279
Jackson, MS 39225

Subject: Summary of 4/29/08 State and Federal Fish and Wildlife Agency Consultation Meeting on §2713 Fish & Wildlife Plan for Kemper County Project.

Meeting Attendees
North American Coal Corporation: George Hawkey
Barry A Vittor & Associates: Barry Vittor, Terry Whitehurst
Mississippi Power Company: Rick Berry
Southern Company: Dan Warren
U.S. Fish & Wildlife Service: Ray Aycock, Kathy Lunceford, Paul Hartfield, Cary Norquist, Daniel Drennen, Daniel Gregg
Mississippi Department of Wildlife, Fisheries & Parks: Dennis Riecke
Mississippi Department of Environmental Quality: Mike Bograd, Stan Thieling, Charlotte Byrd, Jackie Key

Dear Mr.Thieling:

This letter summarizes and documents the 4/29/08 state and federal fish and wildlife agency and industry consultation meeting held to assist the Mississippi Department of Environmental Quality (MDEQ) in determining the scope and level of detail for collecting site specific fish and wildlife resource information as required by §2713(a)(1) and (2) of the Regulations Governing Surface Coal Mining in Mississippi. The consultation was also helpful in determining the resource information needed for future U.S. Army Corps of Engineers (USACOE) Section 404 permit actions and preparation of an Environmental Impact Statement (EIS) for the project.

Background
In general, North American Coal Corporation (NAC) proposes to conduct terrestrial and aquatic flora and fauna inventories and conduct wetland and stream delineations and characterizations within the proposed 31,000 acre Life of Mine (LOM) project area

located within Kemper and Lauderdale Counties, Mississippi. NAC has contracted with Barry A. Vittor & Associates, Inc. to conduct the aforementioned inventories and delineations and prepare associated reports for a Mississippi Surface Coal Mining Permit application, USACOE Section 404 Individual Permit or Nationwide Permit 21 Authorization applications and an EIS to be prepared for the project. The goal of the inventories is to provide a description and list of plant and animal species that occur or do not occur within the project area and a characterization of the vegetative communities or habitats that occur within the project area. Study emphasis will be on state and federally protected species and other important fish and wildlife habitat as determined by state and federal fish and wildlife agencies.

Meeting Summary

Following introduction of attendees, Mr. Rick Berry gave an overview of the power generation project and the "first of its kind IGCC clean coal technology" that would be employed. Mr. Berry explained the sources of federal funding, funding conditions and stringent time lines that must be met for the project to remain viable. Mr. Dan Warren next explained the role of the U.S. Department of Energy (USDOE) as the lead federal agency in the NEPA process and the time line in which an EIS will be prepared and the expected 11/09 date of the associated EIS Record of Decision.

I then gave an overview of the mining side of the project explaining the regulatory, permitting, operational and reclamation aspects of the large scale surface coal mining operation that would be installed to provide lignite to the power plant. A variety of slides of the existing Red Hills Mine were presented as examples of what the proposed mining operation would involve.

Kathy Lunceford and other USFWS staff members then provided perspectives on the following species:

Price's potato bean (*Apios priceana*) is the only federally protected species currently known to occur in Kemper County but its known location is not within the project area. The agency requested a very thorough search for this species be conducted during its flowering season within specific habitat types that could likely support this species.

Stream crayfish (*Procamarus lagniappe*) is currently considered a category 2 species associated with the upper and middle Sucarnoochee River system in Mississippi and Alabama which includes watershed within or near the project area. Upon review of the project area map, the Sucarnoochee watershed did not appear to be within the project area. However, crayfish sampled from streams in the project area will be identified following identification criteria for this specific crayfish provided by the agency. The agency will be informed if this species is observed.

A nesting pair of Bald Eagles (*Halieetus leucocephalus*) have been recorded nesting near Lake Okatibbee. The agency did not know if the pair nested in 2008 but requested that information on their use and occurrence (range) in the project area be determined if the pair is present.

While black bears are unlikely to occur, the agency requested sightings or other evidence of black bears (tracks and den trees) be reported.

The agency requested bat caves or structure supporting bat colonies be reported.

The agency indicated existing fisheries information suggests there are no fish species of particular concern to the agency.

Dr. Vittor indicated field crews would be watchful for other federal and state listed species even though these species are not expected to occur in the project area. Dr. Vittor also indicated stream evaluations and characterization would be conducted within the project area providing an inventory of fish and other aquatic species.

While project area wetland, stream and associated riparian habitat were generally discussed during the meeting, attendees agreed these features would be discussed and reviewed in more detail with representatives of the USACOE (Mobile District) at a later planned meeting. USACOE will be directly responsible for overview of wetland and stream delineations and associated review of 404 permit applications submitted in relation to the proposed project.

The meeting adjourned with attendees agreeing the scope and level of detail had been provided and that field inventories could proceed. Dr. Vittor indicated he had the agency information he needed to initiate the inventories and would keep in contact with agency personnel as the field work progressed.

Sincerely,
MISSISSIPPI LIGNITE MINING COMPANY

George Hawkey
Environmental Manager

cc: Barry Vittor (BAV & Associates)
Ray Aycock (USFWS)
Kathy Lunceford (USFWS)
Dennis Riecke (MSDWFP)
Rick Berry (MPC)
Dan Warren (SC)
Cindy House Pearson (USACOE)
Kemper Project (Wildlife/Agency File)

U.S. Department of Energy

National Energy Technology Laboratory

July 18, 2008

Mr. Joe Carbone
Forest Service
U.S. Department of Agriculture
Ecosystem Management Coordination
Mail Stop 1104
1400 Independence Avenue, SW
Washington, DC 20250

Dear Mr. Joe Carbone:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

July 18, 2008

Mr. Gregory L. Hogue
Regional Environmental Officer
U.S. Department of the Interior
75 Spring Street, SW, Suite 1144
Atlanta, GA 30303

Dear Mr. Gregory L. Hogue:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

July 18, 2008

Mr. Heinz Mueller
Chief of NEPA Program Office
U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303

Dear Mr. Heinz Mueller:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

NETL

July 18, 2008

Mr. Mark Robinson
Director, Office of Energy Projects
Federal Energy Regulatory Commission
888 First Street, NE, Room 6A-01, PJ-1
Washington, DC 20426

Dear Mr. Mark Robinson:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard A. Hargis, Jr.
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

NETL

July 18, 2008

Mr. Fred Skaer
Director, Office of Project Development and
Environmental Review
Headquarters, Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Mr. Fred Skaer:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507-0880 ; 626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236-0940
REPLY TO: Pittsburgh Office • hargis@netl.doe.gov@netl.doe.g • Voice (412) 386-6065 • Fax (412) 386-4775 • www.netl.doe.gov
ov

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

NETL

July 18, 2008

Mr. Ray Aycock
Field Supervisor
Ecological Services Field Office
U.S. Fish & Wildlife Service
6578 Dogwood View Parkway
Jackson, MS 39213

Dear Mr. Ray Aycock:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507-0880 ;; 626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236-0940
REPLY TO: Pittsburgh Office • hargis@netl.doe.gov@netl.doe.g • Voice (412) 386-6065 • Fax (412) 386-4775 • www.netl.doe.gov
ov

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map

U.S. Department of Energy

National Energy Technology Laboratory

NETL

July 18, 2008

Ms. Trudy Fisher
Executive Director, Mississippi Department of
Environmental Quality
P.O. Box 20305
Jackson, MS 39289-1305

Dear Ms. Trudy Fisher:

The U. S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. NETL intends to publish a Notice of Intent in August to prepare the EIS. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi (see enclosed map). This letter is intended to ascertain whether your agency would be interested in participating in the EIS as a cooperating agency under NEPA.

The proposed IGCC electrical generating facility would be constructed on an undeveloped site located in east-central Mississippi near the town of Liberty, approximately 20 miles north of the city of Meridian (see enclosed map). It is estimated the IGCC facilities would occupy approximately 150 acres of the site. The remainder would remain undeveloped, with the exception of two new transmission lines, a natural gas supply pipeline, a planned for CO2 pipeline and site access and fuel handling infrastructure.

The proposed facilities would demonstrate IGCC technology in a power plant consisting of two lignite coal gasifiers, two gas combustion turbines (CTs), two heat recovery steam generators (HRSG), a single steam turbine, and associated support facilities. Onsite wells would provide approximately 6 million gallons per day of groundwater required for cooling water makeup, steam cycle makeup, and other processes. The IGCC facility would produce synthesis gas from lignite coal and use this gas to drive the two CTs. Hot exhaust gas from the gas turbines generate steam from water in the HRSGs to drive the steam turbine; all three turbines would generate electricity. The gas turbines would be capable of operating on either natural gas or synthesis gas. At full capacity, the two new lignite coal gasifiers are expected to use about 12,000 tons of lignite coal per day to produce synthesis gas. Combined, the three turbines would generate approximately 550 MW of electricity. This combined-cycle approach of using gas turbines and a steam turbine in tandem increases the amount of electricity that can be generated from a given amount of lignite coal.

While the proposed project under the cooperative agreement would consist of the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions.

The mine would be operated by North American Coal Corporation and would provide the primary source of fuel for the project. Mining would result in two types of landscape disturbance within the life of mine area. Actual mining - the uncovering and removal of lignite - would disturb approximately 275 acres/year. The mine would use draglines and a truck and shovel operation to remove the overburden, mine the lignite coal, and reclaim the site in accordance with an approved mine plan. Actual mining would disturb uplands, wetlands and require stream diversions. The lignite coal would be transported by truck and /or overland conveyor. Following lignite removal, approximately 275 acres/year of mined land would be restored to approximate the pre-mine land contour and re-vegetated to a land use consistent with an approved mine reclamation plan.

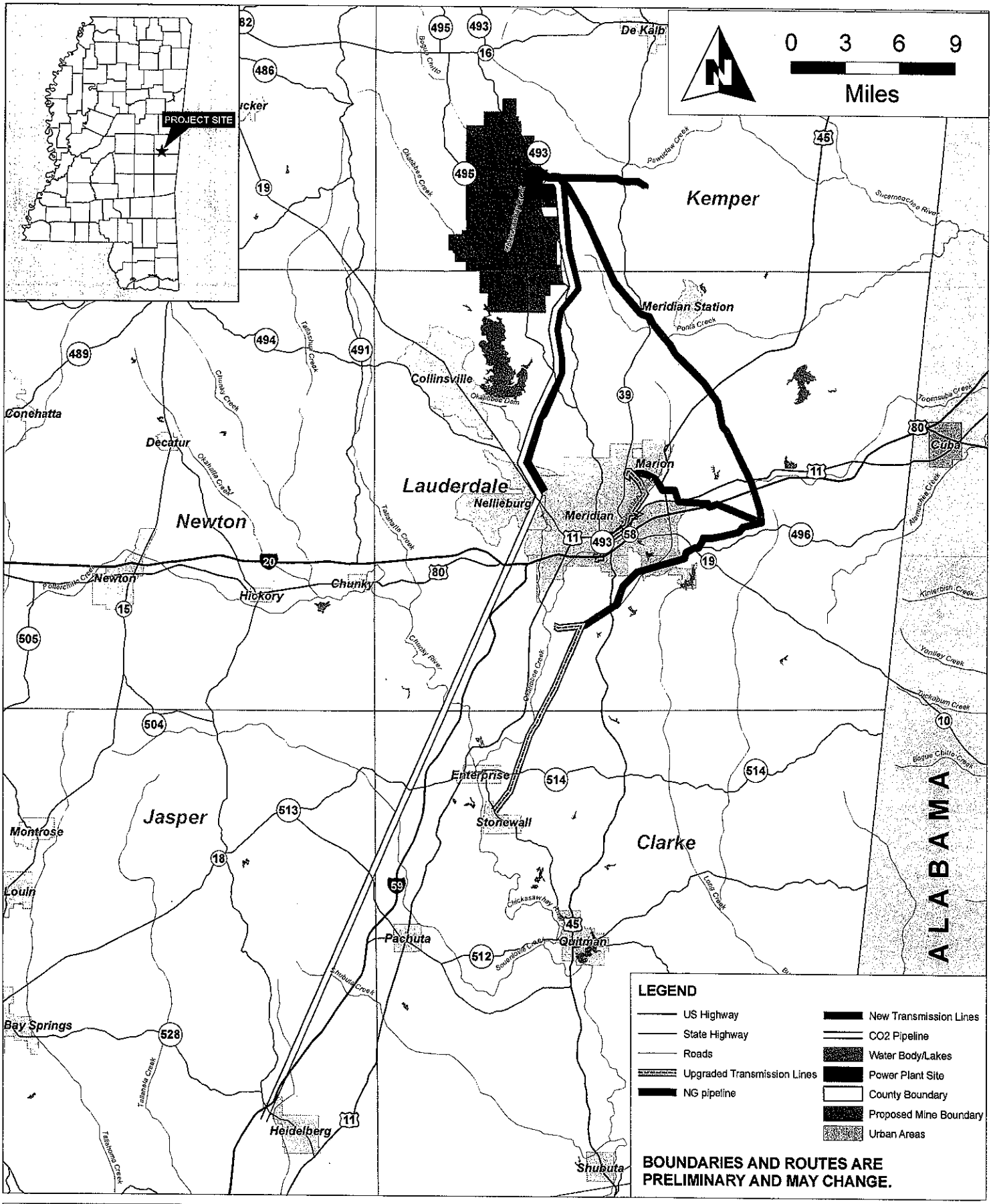
3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507-0880 | 626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236-0940
REPLY TO: Pittsburgh Office • hargis@netl.doe.gov@netl.doe.gov • Voice (412) 386-6065 • Fax (412) 386-4775 • www.netl.doe.gov

Please reply at your earliest convenience to indicate whether your agency, or any of its services, bureaus, or offices, has an interest in becoming a cooperating agency on the EIS. Should you wish to discuss the Project and EIS further, please call me at 412-386-6065 or email at richard.hargis@netl.doe.gov.

Sincerely,

Richard Hargis
NEPA Document Manager

Enclosure: Location and Site Map




PRELIMINARY LOCATION MAP FOR PROPOSED MINE AND PROPOSED KEMPER COUNTY IGCC PROJECT AND SUPPORTING FACILITIES

Sources: US CENSUS, 2000; MARIS, 2005; ECT, 2008.

ECT

Environmental Consulting & Technology, Inc.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213

August 4, 2008

Mr. Richard Hargis
U.S. Department of Energy
Post Office Box 880
Morgantown, West Virginia 26507-0880

Dear Mr. Hargis:

The U.S. Fish and Wildlife Service (Service) has received your letter dated July 18, 2008, included therein a notification of the preparation of an Environmental Impact Statement for the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative Program. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e).

Your agency has requested that the Service be a cooperating agency in the National Environmental Policy Act documentation of this project. The Service consents to that request. We also agree to provide fish and wildlife resources information, to review all environmental documents, and to participate in coordination meetings as they relate to the IGCC Project.

Thank you for the opportunity to participate in the planning and development of this project.

Sincerely,

Ray Aycock
Field Supervisor

cc: Fish and Wildlife Service, Atlanta, GA
Attn.: Sue Cielinski

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 14, 2008

Mr. Richard Hargis
NEPA Document Manager
Department of Energy
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940

SUBJECT: Participating Agency Request for the
Environmental Impact Statement
Kemper County IGCC Project

Dear Mr. Hargis:

The U.S. Environmental Protection Agency (EPA) received your letter dated July 18, 2008, inviting EPA to become a participating agency with the Department of Energy (DOE) in the development of the Environmental Impact Statement (EIS) for the proposed Kemper County IGCC project. We accept your invitation to become a participating agency for this project, and will participate in project meetings and activities, subject to our resource limitations.

EPA's participating agency status and level of involvement does not, however, preclude our independent review and comment responsibilities under Section 102(2)(C) of the National Environmental Policy Act and Section 309 of the Clean Air Act, or our authorities under the Clean Water Act. Similarly, our participating agency involvement does not imply that EPA will necessarily concur with all aspects of the EIS.

We appreciate the opportunity to work with the DOE as a participating agency on this important project. Please contact Ramona McConney or Paul Gagliano, our primary agency representatives for this project, at (404) 562-9615 or (404) 562- 9373 if you have additional questions.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

U.S. Department
of Transportation
**Federal Highway Administration**

# MISSISSIPPI DIVISION

**666 North Street, Suite 105**
**Jackson, Mississippi 39202-3199**

August 25, 2008

In Reply Refer To: HDA-MS

Mr. Richard Hargis
NEPA Document Manager
National Energy Technology Laboratory
U. S. Department of Energy
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940

Dear Mr. Hargis:

Subject: Request to be a Cooperating Agency in EIS Preparation

We are in receipt of your letter dated July 18, 2008 regarding the request for the Federal Highway Administration (FHWA) to be a cooperating agency on the Environmental Impact Statement for the Integrated Gasification Combined Cycle Project in Kemper County Mississippi.

The Mississippi Division FHWA appreciates the opportunity to participate in this effort. However, we want to respectfully decline the request since we have no jurisdiction, review authority or expertise for a project such as this.

Again, we appreciate the opportunity to comment and if you have any questions, please do not hesitate to contact Mr. Dickie Walters on my staff by telephone at (601) 965-4217 or e-mail at Dickie.walters@fhwa.dot.gov.

Sincerely yours,

Andrew H. Hughes
Division Administrator

MOVING THE
AMERICAN
ECONOMY

*U.S. Department of Energy*

*National Energy Technology Laboratory*

September 8, 2008

Mr. Ray Aycock
Ms. Kathy Lunceford
Field Supervisors
Ecological Services Field Office
U.S. Fish and Wildlife Service
6578 Dogwood View Parkway
Jackson, MS 39213

Dear Mr. Ray Aycock and Ms. Kathy Lunceford:

As we agreed in our conference call on September 3, 2008, the involvement of the U.S. Fish and Wildlife Service (Service) in the preparation of the Environmental Impact Statement (EIS) for the Kemper County Integrated Gasification Combined Cycle (IGCC) Project will be on an informal basis, rather than as a formal cooperating agency. This involvement would include providing biological resources information, reviewing draft environmental documents related to biological resource impacts as made available by the U.S. Department of Energy (DOE), and participation in project coordination meetings and conference calls. All of these activities would be dependent upon the staff and resources available to the Service during the course of the EIS preparation by DOE. The Service would not be obligated to assume responsibility for the preparation of environmental analyses or the resolution of significant issues.

In addition to the informal participation in the preparation of the EIS, the Service would provide assistance through informal consultation – and formal consultation, if necessary – under Section 7 of the Endangered Species Act. This assistance would include providing a list of study and survey information and proposed conservation measures to mitigate potential impacts.

I look forward to working with you on this important project and will keep you informed of any planned project coordination meetings and conference calls, as well as any public meetings related to the EIS process. Thank you.

Sincerely,

Richard Hargis
NEPA Document Manager

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236
hargis@netl.doe.gov@netl.doe.gov • Voice (412) 386-6065 • Fax (412) 386-4604 • www.netl.doe.gov

*U.S. Department of Energy*

*National Energy Technology Laboratory*

October 3, 2008

Mr. Heinz Mueller
Chief of NEPA Program Office
U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303

Dear Mr. Mueller:

In response to your letter of August 14, 2008, and as we agreed in our conference call on September 8, 2008, the involvement of the U.S. EPA Region 4 in the preparation of the Environmental Impact Statement (EIS) for the Kemper County Integrated Gasification Combined Cycle (IGCC) Project will be on an informal basis, rather than as a formal cooperating agency. This involvement would include reviewing preliminary draft sections of the EIS as made available by the U.S. Department of Energy (DOE) and participation in project coordination meetings, activities and conference calls. The extent of involvement would be dependent upon the staff and resources available to EPA Region 4 during the course of the EIS preparation by DOE. The EPA Region 4 would not be obligated to assume responsibility for the preparation of environmental analyses or the resolution of significant issues.

DOE understands that the involvement of EPA Region 4 does not preclude EPA's independent review and comment responsibilities under the National Environmental Policy Act and the Clean Air Act or EPA's authorities under the Clean Water Act.

I look forward to working with you on this important project and will keep you informed of any planned project coordination meetings and conference calls, as well as any public meetings related to the EIS process. Thank you.

Sincerely,

Richard A. Hargis, Jr.
NEPA Document Manager

cc:
Ramona McConney, EPA Region 4
Paul Gagliano, EPA Region 4

**Mississippi Wildlife Federation**
855 S. Pear Orchard Road
Suite 500
Ridgeland, MS 39157

October 22, 2008

Mr. Richard A. Hargis
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
Pittsburgh, PA 15236

Re: Kemper County Integrated Gasification Cycle plant

Dear Mr. Hargis:

On behalf of the Mississippi Wildlife Federation I would like to thank you for the opportunity to provide comments on this project. We request that the following questions and concerns be addressed in the EIS for the above mentioned project.

1. What is the total impact to the area in acres? We were given a figure for the footprint of the mine and plant, but this did not include roads, pipelines and rights-of-way or other impacted areas that can greatly expand the affected area.
2. How will rights-of-way be managed? Will they consider impacts to wildlife and how to mitigate those impacts? Will native plantings be used in these areas? What wildlife would benefit from these areas? What efforts will be taken to prevent the spread of exotic species in rights-of-way?
3. How will you maneuver around unwilling sellers, or is it required that all lands within the project area be acquired for the project to move forward? How will surrounding landowners be affected by habitat changes on the mine site?
4. How will ephemeral streams and associated flora and fauna be impacted by the mine? What restoration measures will be taken to restore these functions?
5. How will terrestrial and aquatic micro and macro invertebrates be impacted? What measures will be taken to mitigate these impacts?
6. How do you account for use of the area by migratory birds? What mitigation will be done addressing these species?
7. How much $CO_2$ will be released and what is the impact to the environment?
8. How efficient is sequestration of $CO_2$?
9. What is the impact of noise pollution on people and wildlife in the area?
10. What is the impact of light pollution on people and wildlife in the area?
11. What happens to the mercury that is not removed? What is the potential impact?
12. Is a total year comprehensive biological assessment being conducted? If not, why?
13. Will you survey for reptiles, amphibians, invertebrates and fish?

14. Will surveys for amphibians be conducted in winter? (Rare salamanders, state listed species – southern red salamanders and ambystomids are not active during summer, but are active during winter.)
15. Will you survey vernal and autumnal plant communities – i.e. many state listed orchids are vernal spring species and are not detectable during late summer and autumn.
16. Based on recent information, black bears may be using this area. It is known that they often use stream corridors for dispersal and these are otherwise excellent habitat for bears. How will impacts on stream corridors related to black bears be addressed?
17. What surveys will be conducted for bats? Will there be surveys for winter roosts for bats, as well as maternal colonies for rare bats requiring surveys in both winter and spring?
18. How do you plan to measure/monitor impacts to the existing biotic environment throughout the longevity of the mine?
19. Soil disturbance and bare soil are excellent places for the establishment of cogongrass. Due to the location of this project, how will you address this invasive grass? Do you have a budget to address monitoring and control of the economically damaging species?
20. Most species used in reclamation and erosion control are invasive and limiting to native plant diversity. For erosion control and reclamation areas, we would like to see native warm season grasses and other annual and perennial native plants used for these plantings, not Bermuda grass, bahiagrass, Johnson grass or Sericea lespedeza.
21. Lignite is generally associated with iron sulfide and other acidic overburden that when exposed to oxygen and water, become oxidized to form sulfuric acid. In addition, metal toxicities associated with lignite seams in the Wilcox formation will often be high due to the presence of aluminum, manganese, and iron. Liming amounts required to neutralize ph levels of less than 3.0 may often exceed 5 tons per acre and be as high as 20 tons per acre. Thus, soil chemical monitoring should include monitoring of active ph levels, electrical conductivity and extractable ph levels to ascertain the needs for topsoiling and liming over time. The state of Mississippi cannot afford to take on the economic burden of keeping acidic overburden areas treated to ameliorate low ph levels which continues to oxidize to form volatile acids and metal salts. What soil chemistry and physical factors are expected and, how will you monitor, and ameliorate over decades or a century? (It takes about 50 years for pedogenesis to begin forming soil horizons on drastically disturbed mine sites even when they have been reclaimed.)
22. How will ecological and economic evaluations be conducted based on faunal and floral communities and hydrological changes in surface and aquifer water availability?

23. There will be a loss of forested wetlands and bottomland hardwoods. How will you address and mitigate recreational value impacts related to angling, canoeing, hunting and general outdoor recreation?
24. How will you address and mitigate impacts to timber commodity values associated with hardwood forests?
25. How will you address landscape level impacts to rivers and associated riparian habitats in terms of within channel habitat degradation and water quality damage as well as sediment and phytotoxic chemical drainage (acidic chemical drainage associated with lignite seams) into streams, rivers (including the Pascagoula River) eventually marshes and the Gulf of Mexico? How will this affect the hypoxic zone in the Gulf of Mexico? This points to ecological damage as well as economic damage in terms of commercial, subsistence, and recreation fisheries and shellfisheries. How will these ecological and economic impacts be addressed?
26. What impacts will there be downstream from loss of upstream connectivity of tributaries?
27. Are there seasonal differences in stream flows that would direct the progress of work?
28. How many houses and cemeteries would be impacted?
29. Why have these plants been declined in other states?
30. What is the impact to roads by heavier traffic? Who pays the cost of increased maintenance?
31. What is the potential impact to groundwater?
32. What happens if an aquifer is breached?
33. Is there salt that must be disposed of? If so, how will this be accomplished?
34. What are potential markets for recyclables? What happens if those markets fail?
35. What is the predicted truck traffic associated with hauling recyclables?
36. What happens to plant after 30 years?
37. What are potential uses of the ash? Where are those markets?
38. The taxpayer will assume how much of the plant cost? Both federal and state funds?
37. How do you address loss of public lands acquired as mitigation for a previous loss of biological integrity?

Thank you for your consideration of these questions and concerns.

Sincerely,

Cathy Shropshire, PhD
MWF Executive Director

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213

October 23, 2008

Mr. Richard Hargis
National Energy Technology Laboratory
U.S. Department of Energy
Post Office Box 10940
Pittsburg, Pennsylvania 15236

Dear Mr. Hargis:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Intent (NOI) to prepare an Environmental Impact Statement and Notice of Proposed Floodplain and Wetlands Involvement for the Kemper County Integrated Gasification Combined Cycle (IGCC), Kemper County, Mississippi. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e) and the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Southern Company, an affiliate of Mississippi Power Company, proposes the construction of a demonstration coal-based power plant in the floodplain of Okatibbee Creek, a tributary of the Chickasawhay River. The facility would utilize Clean Coal Power technology designed to achieve high environmental standards as they relate to emissions. The project would include the construction of an electrical generating plant consisting of two lignite coal gasifiers, two gas combustion turbines, two heat recovery steam generators, and a steam turbine on 150 acres of the site. Support facilities would include non-potable water wells, natural gas and $CO_2$ pipelines, roads, wastewater treatment areas, coal and ash storage and handling areas, and operations structures. In addition, an 11,000-acre surface lignite coal mine would be developed adjacent to the power plant.

The 1,650-acre project site is located near the Town of Liberty, approximately 20 miles north of Meridian. The area is mostly comprised of clay hill uplands with mixed hardwood forests. The site is the headwaters of the Chickasawhay River watershed and contains numerous creeks and meandering drains. These water bodies have narrow floodplains and contain minimal wetlands that are generally undisturbed. Significant portions of the site have been cleared for agriculture or timber management.

In addition to anticipated impacts in Kemper County, corridors for $CO_2$ and natural gas pipelines and electrical transmission lines would be constructed in Lauderdale, Clarke, and Jasper Counties, Mississippi.

The following federally listed species or their habitats could be found on or near the project site:

Kemper County

The threatened plant **Price's potato bean** (*Apios priceana*) is an herbaceous, twining vine that belongs to the pea family. It is often found in wooded areas that grade into creek and river bottoms.

Surveys need to be conducted when species is in flower or fruit, typically mid-July into October. It is best to confirm flowering/fruiting of the species at a nearby known site prior to initiating surveys.

The **Lagniappe crayfish** (*Procambarus lagniappe)* is found in the Sucarnoochee River watershed. It is a little known species that prefers cool, swift flowing water over a sand substrate. Adults are associated with leaf packs and plant debris that can be found in emergent grasses. This species is designated a Species of Concern, however, its limited distribution and low population numbers make it vulnerable to habitat modification. Although its occurrence has been documented only in the Sucarnoochee watershed, there is potential for habitat within the Chickasawhay watershed. Reassessment of its status may become necessary.

Clarke and Lauderdale Counties

The threatened **yellow-blotched map turtle** (*Graptemys flavimaculata*) is found in the Chickasawhay, Leaf, and Pascagoula Rivers. The yellow-blotched map turtle prefers river stretches with moderate currents, abundant basking sites, and sand bars. Stream modification has significantly contributed to the decline of the species.

The threatened **Gulf sturgeon** (*Acipenser oxyrhynchus desotoi*) is found in the Pearl, Leaf, and Pascagoula Rivers. Gulf sturgeons are primitive, anadromous fish that annually migrate from the Gulf of Mexico into freshwater streams to spawn. Subadults and adults spend eight to nine months each year in rivers. Although Gulf sturgeon activity is not well documented, the species has been found in the upper reaches of the Pearl, Leaf, Strong, Bouie, and Chickasawhay Rivers as far north as the Jackson metropolitan area. Adult and subadult holding areas have been identified in the Pascagoula River. The decline of the Gulf sturgeon is primarily due to limited access to migration routes and historic spawning areas, habitat modification, and water quality degradation.

The **pearl darter** *(Percina aurora)*, a Candidate Species historically found in the Pearl and Pascagoula River systems, is currently found only in the Pascagoula River system. There is potential for re-discovery of the species in certain areas of the Pearl River system. The

darter prefers stable gravel riffles or sandstone exposures with large sized gravel or rock. Habitat loss or degradation has been a major contributor to the reduction in pearl darter numbers. Candidates are those species currently under review for possible addition to the federal listed of threatened or endangered species. All efforts should be made to avoid harm or harassment to this species.

Clarke and Jasper Counties

The threatened **gopher tortoise** (*Gopherus polyphemus*) occupies a wide range of upland habitat types. The general physical and biotic features thought to characterize suitable adult tortoise habitat are a presence of well-drained, sandy soils, which allow easy burrowing; an abundance of herbaceous ground cover; and generally open canopy and sparse shrub cover, which allows sunlight to reach the ground floor. The gopher tortoise digs a burrow used as a shelter and nesting area. Groups of these tortoises dig burrows in the same location forming a colony.

Clarke, Jasper, and Lauderdale Counties

The **black pine snake** (*Pituophis melanoleucus* ssp. *lodingi*), a Candidate Species, prefers uplands with well-drained sandy soils in areas of longleaf pine and hardwood tree species. Candidates are those species currently under review for possible addition to the federal listed of threatened or endangered species. All efforts should be made to avoid harm or harassment to this species.

Kemper, Lauderdale, Clarke, and Jasper Counties

Although the **bald eagle** (*Haliaeetus leucocephalus*) was officially removed from the List of Endangered and Threatened Species as of August 8, 2007, it continues to be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA).

Bald eagles nest in Mississippi from December through mid-May in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Bald eagles are vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding.

The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations regarding how to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. A copy of the NBEM Guidelines is
available at
http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.

Based on the information in the NOI, it is our opinion that the construction of the proposed IGCC project could have direct and indirect impacts on listed species. Loss of numerous miles of riparian habitat could directly affect Price's potato bean and the Lagniappe crayfish. Also, the construction of the coalmine could have impacts on fish and wildlife resources on and off site. Coal surface mining inherently creates concerns regarding air emissions and wastewater discharge. The proposed mine could adversely impact waters associated with the Chickasawhay River and all aquatics found in that watershed.

Further consultation under the ESA will be necessary for the construction of the IGCC project. Also, the Service will make additional comments regarding impacts to wetlands and waters of the United States during the National Environmental Policy Act scoping process.

Thank you for the opportunity to comment on this project. If you have any additional questions, please feel free to contact Kathy Lunceford in this office, telephone: (601) 321-1132.

Sincerely,

Ray Aycock
Field Supervisor

U.S. Department of Energy

National Energy Technology Laboratory

November 19, 2008

Damon M. Young, P.G.
Project Manager
US Army Corps of Engineers
Mobile District
USACE-CESAM-RD-I
PO Box 2288
Mobile, AL 36628-0001

Dear Mr. Young:

As we have discussed, the U. S. Department of Energy (DOE) is beginning the process of preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) for our participation in the Kemper County Integrated Gasification Combined Cycle (IGCC) Project under the Clean Coal Power Initiative (CCPI) Program. Southern Company, through its affiliate Mississippi Power Company, would build, own, and operate the IGCC electric generating facility located in Kemper County Mississippi. While the proposed DOE funding for the project would be limited to the gasifiers, synthesis gas cleanup systems, two CT/HRSGs, a steam turbine, and supporting facilities and infrastructure, the EIS will also address the construction and operation of the neighboring surface lignite coal mine, associated transmission lines (and substations), planned for CO2 capture systems and CO2 pipeline, and a natural gas pipeline, as related actions. Since the Army Corps of Engineers will have the responsibility for issuing permits under the Clean Water Act Section 404 (i.e. wetlands permits) for this project and since this project and the associated mine could have secondary and cumulative effects on Okatibbee Lake, this letter is to request that the Army Corps of Engineers, Mobile District, participate in the preparation of the EIS as a formal cooperating agency under NEPA.

If the Corps accepts this request to be a cooperating agency, DOE and the Corps will need to reach an agreement on the expectations, roles, and responsibilities for our respective agencies. Following Council on Environmental Quality guidance, such an agreement would establish the expected time limits, identify milestones, assign responsibilities for analysis and documentation, specify the scope and detail of the cooperating agency's contributions, and establish other appropriate ground-rules addressing issues such as availability of pre-decisional information.

Please let me know if you need any additional information. Thank you.

Sincerely,

Richard A. Hargis, Jr.
NEPA Document Manager

3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507-0880 □ 626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236-0940
REPLY TO: Pittsburgh Office • hargis@netl.doe.gov@netl.doe.g • Voice (412) 386-6065 • Fax (412) 386-4775 • www.netl.doe.gov
ov

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF:

November 24, 2008

Inland Branch
Regulatory Division

SUBJECT: Department of the Army Consultation; Notice of Intent to file an Environmental Impact Statement; SAM Number: SAM-2008-1759-DMY

United States Department of Energy
National Energy Technology Laboratory
Attention: Mr. Richard Hargis (922-1W13)
Post Office Box 10940
Pittsburgh, Pennsylvania 15236

Dear Mr. Hargis:

This response is in reference to a recent public scoping meeting we attended on Tuesday, October 14, 2008 regarding the proposed Integrated Gasification Combined Cycle Project (IGCC) that includes the proposed Kemper and Lauderdale County Mine Site located to the north of the U.S. Army Corps of Engineers (USACE), Lake Okatibee Project Site. In September 2008, your agency filed a Notice of Intent to file an Environmental Impact Statement (EIS). The project has been assigned USACE project number SAM-2008-1759-DMY or the proposed Kemper County IGCC Mine Site and Support Facilities which should be referred to in all future correspondence with our office. This office appreciates the opportunity to act as a formal cooperating agency for the EIS upon your written request dated November 19, 2008. This office will respond in writing outlining the recommended roles and responsibilities of the USACE. The project located in multiple Sections, Townships and Ranges of Kemper and Lauderdale Counties, Mississippi.

The USACE has identified several items we would like to see addressed as part of the EIS. First, the USACE has an interest in the secondary and cumulative effects to Lake Okatibee project which lies just to the south of the proposed project. Second, the proposed project may impact jurisdictional "waters of the U.S." as defined by our program. We have also identified several recommendations for the proposed project. The USACE has the following comments, concerns and recommendations partnering to this EIS process:

a. We would like to see the EIS address both direct and indirect effects on all "waters of the U.S." as outlined by the USACE. This includes but is not limited to wetlands and streams as defined by our process;

b. The EIS should address project design and location alternatives to include reasonable and the least environmentally damaging most practicable (LEDPA) alternative regarding effects on "waters of the U.S." in accordance with the enclosed CFR 40 Part 230 Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material;

c. A full wetland and stream functional assessment should be performed on all facilities associated with the project that would impact these resources, including but not limited to the mine site, utility corridors, power plant facility and etc. It is recommended that this be included in the EIS. The EIS should consider a pre and post project functional assessment;

d. It is requested that the EIS make an "analysis recommendation" on the 404(b) (1) Guidelines to include proposed mitigation for un-avoidable impacts to "waters of the U.S." for all portions of the proposed project. Recommendations should be assessed for any impacts associated with proposed impoundments and proposed stream relocations associated with the project;

e. The EIS should address any positive, negative, direct, indirect, secondary environmental, and cumulative impacts associated with the proposed project and all support facilities;

f. The EIS should consider the enclosed Memorandum from Mr. Howard Ladner, USACE Planning Division, dated October 22, 2008 on behalf of the USACE Operations Division.

g. The EIS should consider the comments prepared by Mr. Randall Harvey, USACE Engineering Division, on behalf of the USACE's Operations Division. Mr. Harvey states "the primary purpose of Okatibee Dam is to provide flood damage reduction benefits to downstream communities. As such, the Okatibee Dam and reservoir project was designed based on specific upstream hydrology. The proposed mine project immediately upstream of Okatibee may significantly alter the hydrology of the watershed. The EIS should provide an evaluation of impacts to quantity and timing of flows into Okatibee Lake. The analysis of cumulative effects should quantify the potential for increased flows to the Okatibee Dam and reservoir. Increased flows could be considered a significant adverse impact that would require mitigation. Another purpose of the reservoir is recreation. During periods of drought, the proposed detention facilities could alter flows and reduce the flows into the lake that are necessary to maintain operational pool elevations. The EIS should provide an evaluation of impacts to quantity and timing of flows into Okatibee Lake during drought conditions."

h. It is recommended that the EIS include a construction and operation schedule with the proposed project and support facilities for the IGCC.

We understand that there are multiple applicants for Section 404 permits associated with the proposed project being evaluated in the EIS. Each of these applicants will need to file a Department of the Army (DA) permit application for their individual projects associated with the EIS. As previously discussed, this District intends to utilize the EIS as an evaluation tool

for all DA permits for any applicants associated with the proposed project. It is highly recommended that these applicants file their application with this office as soon as possible. At a minimum, the application package shall include a signed joint application notification; a brief scope of work for their involvement in the project; information relating to either an approved or preliminary jurisdictional determination; drawings to include site plans and any typical sections; and any supplemental information that would assist in the determination for a DA permit.

It is also recommended that a Programmatic Agreement (PA) be prepared with all interested parties as it relates to potential cultural resource impacts. At a minimum the PA coordination process and potential signatories should include the DOE, applicant (s), the Mississippi Department of Archives and History (MDAH), and any interested Native American Tribes. This office will assist in the preparation of the programmatic agreement and the tribal consultation process as requested by DOE.

Copies of this letter have been provided to Jack R. Huntley Project Manager Okatibee Lake, Mr. Howard Ladner, Mr. Randall Harvey, the U.S. Environmental Protection Agency Region 4, the U.S. Fish and Wildlife Service, the Mississippi Department of Environmental Quality; and the Mississippi Department of Archives and History. We appreciate the opportunity to serve as a cooperating agency and comment on the proposed project. If you have any questions or comments, please do not hesitate to contact me at telephone number (251) 694-3781 or by email at damon.m.young@usace.army.mil.

Sincerely,

Damon M. Young, P.G.
Project Manager, Inland Branch
Regulatory Division

Enclosures

Copy Furnished

CESAM-OP-OL
Attention: Mr. Jack R. Huntley

CESAM-PD-EI
Attention: Mr. Howard Ladner

CESAM-EN-HW
Attention: Mr. Randall Harvey, Chief

11/24/08
D. YOUNG/3781/dwr
RD-I MDH 11/24/08 EHP 11/24
FILE

US Environmental Protection Agency
Region 4
Attention: Mr. Duncan Powell
Regulatory Program Region 4,
61 Forsyth Street, 15th Floor,
Atlanta, Georgia 30303

US Environmental Protection Agency
Region 4
Attention: Ms. Ramona McConney
Regulatory Program Region 4,
61 Forsyth Street, 15th Floor,
Atlanta, Georgia 30303

US Fish and Wildlife Service
Attention: Ms. Kathy Lunceford
6578 Dogwood View Parkway
Jackson, Mississippi 39213

Mississippi Department of Environmental Quality
Water Quality Certification Branch
Environmental Permits Division
Attention: Mrs. Florance Watson, P.E.
Post Office Box 10385
Jackson, Mississippi 39289-0385

Mississippi Department of
Archives and History
Attention: Mr. Jim Woodrick
Review and Compliance Officer
Post Office Box 571
Jackson, Mississippi 39205-0571

# CFR 40 Part 230 Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material

## Subpart B--Compliance With the Guidelines

### Sec. 230.10 Restrictions on discharge.

Note: Because other laws may apply to particular discharges and because the Corps of Engineers or State 404 agency may have additional procedural and substantive requirements, a discharge complying with the requirement of these Guidelines will not automatically receive a permit.

Although all requirements in Sec. 230.10 must be met, the compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by specific dredged or fill material discharge activities.

(a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant, which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in subpart E) does not require access or proximity to or sighting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge, which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

(4) For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these

NEPA documents may address a broader range of alternatives than required to be considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

(5) To the extent that practicable alternatives have been identified and evaluated under a Coastal Zone Management program, a section 208 program, or other planning process, such evaluation shall be considered by the permitting authority as part of the consideration of alternatives under the Guidelines. Where such evaluation is less complete than that contemplated under this subsection, it must be supplemented accordingly.

(b) No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;

(2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;

(3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply, in lieu of this subparagraph;

(4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

(c) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by subparts B and G, after consideration of subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

(d) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

**Sec. 230.11 Factual Determinations.**

The permitting authority shall determine in writing the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment in light of subparts C through F. Such factual determinations shall be used in Sec. 230.12 in making findings of compliance or non-compliance with the restrictions on discharge in Sec. 230.10. The evaluation and testing procedures described in Sec. 230.60 and Sec. 230.61 of subpart G shall be used as necessary to make, and shall be described in, such determination. The determinations of effects of each proposed discharge shall include the following:

(a) Physical substrate determinations. Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, on the characteristics of the substrate at the proposed disposal site. Consideration shall be given to the similarity in particle size, shape, and degree of compaction of the material proposed for discharge and the material constituting the substrate at the disposal site, and any potential changes in substrate elevation and bottom contours, including changes outside of the disposal site which may occur as a result of erosion, slumpage, or other movement of the discharged material. The duration and physical extent of substrate changes shall also be considered. The possible loss of environmental values (Sec. 230.20) and actions to minimize impact (subpart H) shall also be considered in making these determinations. Potential changes in substrate elevation and bottom contours shall be predicted on the basis of the proposed method, volume, location, and rate of discharge, as well as on the individual and combined effects of current patterns, water circulation, wind and wave action, and other physical factors that may affect the movement of the discharged material.

(b) Water circulation, fluctuation, and salinity determinations. Determine the nature and degree of effect that the proposed discharge will have individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation. Consideration shall be given to water chemistry, salinity, clarity, color, odor, taste, dissolved gas levels, temperature, nutrients, and eutrophication plus other appropriate characteristics. Consideration shall also be given to the potential diversion or obstruction of flow, alterations of bottom contours, or other significant changes in the hydrologic regime. Additional consideration of the possible loss of environmental values (Secs. 230.23 through 230.25) and actions to minimize impacts (subpart H), shall be used in making these determinations. Potential significant effects on the current patterns, water circulation, normal water fluctuation and salinity shall be evaluated on the basis of the proposed method, volume, location, and rate of discharge.

(c) Suspended particulate/turbidity determinations. Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, in terms of potential changes in the kinds and concentrations of suspended particulate/turbidity in the vicinity of the disposal site. Consideration shall be given to the grain size of the material proposed for discharge, the shape and size of the plume of suspended particulates, the duration of the discharge and resulting plume and whether or not the potential changes will cause violations of applicable water quality standards. Consideration should also be given to the possible loss of environmental values (Sec. 230.21) and to actions for minimizing impacts (subpart H). Consideration shall include the proposed method, volume, location, and rate of discharge, as well as the individual and combined effects of current patterns, water circulation and fluctuations, wind and wave action, and other physical factors on the movement of suspended particulates.

(d) Contaminant determinations. Determine the degree to which the material proposed for discharge will introduce, relocate, or increase contaminants. This determination shall consider the material to be discharged, the aquatic environment at the proposed disposal site, and the availability of contaminants.

(e) Aquatic ecosystem and organism determinations. Determine the nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms. Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities. Possible loss of environmental values (Sec. 230.31), and actions to minimize impacts (subpart H) shall be examined. Tests as described in Sec. 230.61 (Evaluation and Testing), may be required to provide information on the effect of the discharge material on communities, or populations of organisms expected to be exposed to it.

(f) Proposed disposal site determinations.

(1) Each disposal site shall be specified through the application of these Guidelines. The mixing zone shall be confined to the smallest practicable zone within each specified disposal site that is consistent with the type of dispersion determined to be appropriate by the application of these Guidelines. In a few special cases under unique environmental conditions, where there is adequate justification to show that widespread dispersion by natural means will result in no significantly adverse environmental effects, the discharged material may be intended to be spread naturally in a very thin layer over a large area of the substrate rather than be contained within the disposal site.

(2) The permitting authority and the Regional Administrator shall consider the following factors in determining the acceptability of a proposed mixing zone:

(i) Depth of water at the disposal site;

(ii) Current velocity, direction, and variability at the disposal site;

(iii) Degree of turbulence;

(iv) Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site;

(v) Discharge vessel speed and direction, if appropriate;
(vi) Rate of discharge;
(vii) Ambient concentration of constituents of interest;
(viii) Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities;
(ix) Number of discharge actions per unit of time;
(x) Other factors of the disposal site that affect the rates and patterns of mixing.

(g) Determination of cumulative effects on the aquatic ecosystem.
(1) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change, in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.
(2) Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical. The permitting authority shall collect information and solicit information from other sources about the cumulative impacts on the aquatic ecosystem. This information shall be documented and considered during the decision-making process concerning the evaluation of individual permit applications, the issuance of a General permit, and monitoring and enforcement of existing permits.

(h) Determination of secondary effects on the aquatic ecosystem.
(1) Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities.
(2) Some examples of secondary effects on an aquatic ecosystem are fluctuating water levels in an impoundment and downstream associated with the operation of a dam, septic tank leaching and surface runoff from residential or commercial developments on fill, and leachate and runoff from a sanitary landfill located in waters of the U.S. Activities to be conducted on fast land created by the discharge of dredged or fill material in waters of the United States may have secondary impacts within those waters which should be considered in evaluating the impact of creating those fast lands.

**Sec. 230.12 Findings of compliance or non-compliance with the restrictions on discharge.**

(a) On the basis of these Guidelines (subparts C through G) the proposed disposal sites for the discharge of dredged or fill material must be:
(1) Specified as complying with the requirements of these Guidelines; or
(2) Specified as complying with the requirements of these Guidelines with the inclusion of appropriate and practicable discharge conditions (see subpart H) to minimize pollution or adverse effects to the affected aquatic ecosystems; or
(3) Specified as failing to comply with the requirements of these Guidelines where:

(i) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or

(ii) The proposed discharge will result in significant degradation of the aquatic ecosystem under Sec. 230.10(b) or (c); or

(iii) The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or

(iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

(b) Findings under this section shall be set forth in writing by the permitting authority for each proposed discharge and made available to the permit applicant. These findings shall include the factual determinations required by Sec. 230.11, and a brief explanation of any adaptation of these Guidelines to the activity under consideration. In the case of a General permit, such findings shall be prepared at the time of issuance of that permit rather than for each subsequent discharge under the authority of that permit.

## Subpart C--Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem

**Note: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.**

### Sec. 230.20 Substrate.

(a) The substrate of the aquatic ecosystem underlies open waters of the United States and constitutes the surface of wetlands. It consists of organic and inorganic solid materials and includes water and other liquids or gases that fill the spaces between solid particles.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in varying degrees of change in the complex physical, chemical, and biological characteristics of the substrate. Discharges which alter substrate elevation or contours can result in changes in water circulation, depth, current pattern, water fluctuation and water temperature. Discharges may adversely affect bottom-dwelling organisms at the site by smothering immobile forms or forcing mobile forms to migrate. Benthic forms present prior to a discharge are unlikely to recolonize on the discharged material if it is very dissimilar from that of the discharge site. Erosion, slumping, or lateral displacement of surrounding bottom of such deposits can adversely affect areas of the substrate outside the perimeters of the disposal site by changing or destroying habitat. The bulk and composition of the discharged material and the location, method, and timing of discharges may all influence the degree of impact on the substrate.

### Sec. 230.21 Suspended particulates/turbidity.

(a) Suspended particulates in the aquatic ecosystem consist of fine-grained mineral particles, usually smaller than silt, and organic particles. Suspended particulates may enter water bodies as a result of land runoff, flooding, vegetative and planktonic breakdown, resuspension of bottom sediments, and man's activities including dredging and filling. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as agitation of the water mass, particulate specific gravity, particle shape, and physical and chemical properties of particle surfaces.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in greatly elevated levels of suspended particulates in the water column for varying lengths of time. These new levels may reduce light penetration and lower the rate of photosynthesis and the primary productivity of an aquatic area if they last long enough. Sight-dependent species may suffer reduced feeding ability leading to limited growth and lowered resistance to disease if high levels of suspended particulates persist. The biological and the chemical content of the suspended material may react with the dissolved oxygen in the water, which can result in oxygen depletion. Toxic metals and organics, pathogens, and viruses absorbed or adsorbed to fine-grained particulates in the material may become biologically available to organisms either in the water column or on the substrate. Significant increases in suspended particulate levels create turbid plumes which are highly visible and aesthetically displeasing. The extent and persistence of these adverse impacts caused by discharges depend upon the relative increase in suspended particulates above the amount occurring naturally, the duration of the higher levels, the current patterns, water level, and fluctuations present when such discharges occur, the volume, rate, and duration of the discharge, particulate deposition, and the seasonal timing of the discharge.

**Sec. 230.22 Water.**

(a) Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. It constitutes part of the liquid phase and is contained by the substrate. Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological content, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can change the chemistry and the physical characteristics of the receiving water at a disposal site through the introduction of chemical constituents in suspended or dissolved form. Changes in the clarity, color, odor, and taste of water and the addition of contaminants can reduce or eliminate the suitability of water bodies for populations of aquatic organisms, and for human consumption, recreation, and aesthetics. The introduction of nutrients or organic material to the water column as a result of the discharge can lead to a high biochemical oxygen demand (BOD), which in turn can lead to reduced dissolved oxygen, thereby potentially affecting the survival of many aquatic organisms. Increases in nutrients can favor one group of organisms such as algae to the detriment of other more desirable types such as submerged aquatic vegetation, potentially causing adverse health effects, objectionable tastes and odors, and other problems.

**Sec. 230.23 Current patterns and water circulation.**

(a) Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. Currents and circulation respond to natural forces as modified by basin shape and cover, physical and chemical characteristics of water strata and masses, and energy dissipating factors.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can modify current patterns and water circulation by obstructing flow, changing the direction or velocity of water flow, changing the direction or velocity of water flow and circulation, or otherwise changing the dimensions of a water body. As a result, adverse changes can occur in: Location, structure, and dynamics of aquatic communities; shoreline and substrate erosion and depositon rates; the deposition of suspended particulates; the rate and extent of mixing of dissolved and suspended components of the water body; and water stratification.

**Sec. 230.24 Normal water fluctuations.**

(a) Normal water fluctuations in a natural aquatic system consist of daily, seasonal, and annual tidal and flood fluctuations in water level. Biological and physical components of such a system are either attuned to or characterized by these periodic water fluctuations.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can alter the normal water-level fluctuation pattern of an area, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, non-fluctuating water level. Such water level modifications may change salinity patterns, alter erosion or sedimentation rates, aggravate water temperature extremes, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem. In addition, these modifications can alter or destroy communities and populations of aquatic animals and vegetation, induce populations of nuisance organisms, modify habitat, reduce food supplies, restrict movement of aquatic fauna, destroy spawning areas, and change adjacent, upstream, and downstream areas.

**Sec. 230.25 Salinity gradients.**

(a) Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land.

(b) Possible loss of environmental characteristics and values: Obstructions which divert or restrict flow of either fresh or salt water may change existing salinity gradients. For example, partial blocking of the entrance to an estuary or river mouth that significantly restricts the movement of the salt water into and out of that area can effectively lower the volume of salt water available for mixing within that estuary. The downstream migration of the salinity gradient can occur, displacing the maximum sedimentation zone and requiring salinity-dependent aquatic biota to adjust to the new conditions, move to new locations if possible, or perish. In the freshwater zone, discharge operations in the

upstream regions can have equally adverse impacts. A significant reduction in the volume of fresh water moving into an estuary below that which is considered normal can affect the location and type of mixing thereby changing the characteristic salinity patterns. The resulting changed circulation pattern can cause the upstream migration of the salinity gradient displacing the maximum sedimentation zone. This migration may affect those organisms that are adapted to freshwater environments. It may also affect municipal water supplies.

Note: Possible actions to minimize adverse impacts regarding site characteristics can be found in subpart H.

## Subpart D--Potential Impacts on Biological Characteristics of the Aquatic Ecosystem

**Note: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.**

### Sec. 230.30 Threatened and endangered species.

(a) An endangered species is a plant or animal in danger of extinction throughout all or a significant portion of its range. A threatened species is one in danger of becoming an endangered species in the foreseeable future throughout all or a significant portion of its range. Listings of threatened and endangered species as well as critical habitats are maintained by some individual States and by the U.S. Fish and Wildlife Service of the Department of the Interior (codified annually at 50 CFR 17.11). The Department of Commerce has authority over some threatened and endangered marine mammals, fish and reptiles.

(b) Possible loss of values: The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include:

(1) Covering or otherwise directly killing species;

(2) The impairment or destruction of habitat to which these species are limited. Elements of the aquatic habitat which are particularly crucial to the continued survival of some threatened or endangered species include adequate good quality water, spawning and maturation areas, nesting areas, protective cover, adequate and reliable food supply, and resting areas for migratory species. Each of these elements can be adversely affected by changes in either the normal water conditions for clarity, chemical content, nutrient balance, dissolved oxygen, pH, temperature, salinity, current patterns, circulation and fluctuation, or the physical removal of habitat; and

(3) Facilitating incompatible activities.

(c) Where consultation with the Secretary of the Interior occurs under section 7 of the Endangered Species Act, the conclusions of the Secretary concerning the impact(s) of the

discharge on threatened and endangered species and their habitat shall be considered final.

**Sec. 230.31 Fish, crustaceans, mollusks, and other aquatic organisms in the food web.**

(a) Aquatic organisms in the food web include, but are not limited to, finfish, crustaceans, mollusks, insects, annelids, planktonic organisms, and the plants and animals on which they feed and depend upon for their needs. All forms and life stages of an organism, throughout its geographic range, are included in this category.

(b) Possible loss of values: The discharge of dredged or fill material can variously affect populations of fish, crustaceans, mollusks and other food web organisms through the release of contaminants which adversely affect adults, juveniles, larvae, or eggs, or result in the establishment or proliferation of an undesirable competitive species of plant or animal at the expense of the desired resident species. Suspended particulates settling on attached or buried eggs can smother the eggs by limiting or sealing off their exposure to oxygenated water. Discharge of dredged and fill material may result in the debilitation or death of sedentary organisms by smothering, exposure to chemical contaminants in dissolved or suspended form, exposure to high levels of suspended particulates, reduction in food supply, or alteration of the substrate upon which they are dependent. Mollusks are particularly sensitive to the discharge of material during periods of reproduction and growth and development due primarily to their limited mobility. They can be rendered unfit for human consumption by tainting, by production and accumulation of toxins, or by ingestion and retention of pathogenic organisms, viruses, heavy metals or persistent synthetic organic chemicals. The discharge of dredged or fill material can redirect, delay, or stop the reproductive and feeding movements of some species of fish and crustacean, thus preventing their aggregation in accustomed places such as spawning or nursery grounds and potentially leading to reduced populations. Reduction of detrital feeding species or other representatives of lower trophic levels can impair the flow of energy from primary consumers to higher trophic levels. The reduction or potential elimination of food chain organism populations decreases the overall productivity and nutrient export capability of the ecosystem.

**Sec. 230.32 Other wildlife.**

(a) Wildlife associated with aquatic ecosystems are resident and transient mammals, birds, reptiles, and amphibians.

(b) Possible loss of values: The discharge of dredged or fill material can result in the loss or change of breeding and nesting areas, escape cover, travel corridors, and preferred food sources for resident and transient wildlife species associated with the aquatic ecosystem. These adverse impacts upon wildlife habitat may result from changes in water levels, water flow and circulation, salinity, chemical content, and substrate characteristics and elevation. Increased water turbidity can adversely affect wildlife species which rely upon sight to feed, and disrupt the respiration and feeding of certain aquatic wildlife and

food chain organisms. The availability of contaminants from the discharge of dredged or fill material may lead to the bioaccumulation of such contaminants in wildlife. Changes in such physical and chemical factors of the environment may favor the introduction of undesirable plant and animal species at the expense of resident species and communities. In some aquatic environments lowering plant and animal species diversity may disrupt the normal functions of the ecosystem and lead to reductions in overall biological productivity.

Note: Possible actions to minimize adverse impacts regarding characteristics of biological components of the aquatic ecosystem can be found in subpart H.

## Subpart E--Potential Impacts on Special Aquatic Sites

**Note: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B. The definition of special aquatic sites is found in Sec. 230.3(q-1).**

### Sec. 230.40 Sanctuaries and refuges.

(a) Sanctuaries and refuges consist of areas designated under State and Federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources.

(b) Possible loss of values: Sanctuaries and refuges may be affected by discharges of dredged or fill material which will:

(1) Disrupt the breeding, spawning, migratory movements or other critical life requirements of resident or transient fish and wildlife resources;

(2) Create unplanned, easy and incompatible human access to remote aquatic areas;

(3) Create the need for frequent maintenance activity;

(4) Result in the establishment of undesirable competitive species of plants and animals;

(5) Change the balance of water and land areas needed to provide cover, food, and other fish and wildlife habitat requirements in a way that modifies sanctuary or refuge management practices;

(6) Result in any of the other adverse impacts discussed in subparts C and D as they relate to a particular sanctuary or refuge.

### Sec. 230.41 Wetlands.

(a)(1) Wetlands consist of areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(2) Where wetlands are adjacent to open water, they generally constitute the transition to upland. The margin between wetland and open water can best be established by

specialists familiar with the local environment, particularly where emergent vegetation merges with submerged vegetation over a broad area in such places as the lateral margins of open water, headwaters, rainwater catch basins, and groundwater seeps. The landward margin of wetlands also can best be identified by specialists familiar with the local environment when vegetation from the two regions merges over a broad area.

(3) Wetland vegetation consists of plants that require saturated soils to survive (obligate wetland plants) as well as plants, including certain trees, that gain a competitive advantage over others because they can tolerate prolonged wet soil conditions and their competitors cannot. In addition to plant populations and communities, wetlands are delimited by hydrological and physical characteristics of the environment. These characteristics should be considered when information about them is needed to supplement information available about vegetation, or where wetland vegetation has been removed or is dormant.

(b) Possible loss of values: The discharge of dredged or fill material in wetlands is likely to damage or destroy habitat and adversely affect the biological productivity of wetlands ecosystems by smothering, by dewatering, by permanently flooding, or by altering substrate elevation or periodicity of water movement. The addition of dredged or fill material may destroy wetland vegetation or result in advancement of succession to dry land species. It may reduce or eliminate nutrient exchange by a reduction of the system's productivity, or by altering current patterns and velocities. Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland. Discharges can also change the wetland habitat value for fish and wildlife as discussed in subpart D. When disruptions in flow and circulation patterns occur, apparently minor loss of wetland acreage may result in major losses through secondary impacts. Discharging fill material in wetlands as part of municipal, industrial or recreational development may modify the capacity of wetlands to retain and store floodwaters and to serve as a buffer zone shielding upland areas from wave actions, storm damage and erosion.

**Sec. 230.42 Mud flats.**

(a) Mud flats are broad flat areas along the sea coast and in coastal rivers to the head of tidal influence and in inland lakes, ponds, and riverine systems. When mud flats are inundated, wind and wave action may re-suspend bottom sediments. Coastal mud flats are exposed at extremely low tides and inundated at high tides with the water table at or near the surface of the substrate. The substrate of mud flats contains organic material and particles smaller in size than sand. They are either un-vegetated or vegetated only by algal mats.

(b) Possible loss of values: The discharge of dredged or fill material can cause changes in water circulation patterns which may permanently flood or dewater the mud flat or disrupt periodic inundation, resulting in an increase in the rate of erosion or accretion. Such changes can deplete or eliminate mud flat biota, foraging areas, and nursery areas. Changes in inundation patterns can affect the chemical and biological exchange and

decomposition process occurring on the mud flat and change the deposition of suspended material affecting the productivity of the area. Changes may reduce the mud flat's capacity to dissipate storm surge runoff.

**Sec. 230.43 Vegetated shallows.**

(a) Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as turtle grass and eelgrass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes.

(b) Possible loss of values: The discharge of dredged or fill material can smother vegetation and benthic organisms. It may also create unsuitable conditions for their continued vigor by:

(1) Changing water circulation patterns;

(2) releasing nutrients that increase undesirable algal populations;

(3) releasing chemicals that adversely affect plants and animals;

(4) increasing turbidity levels, thereby reducing light penetration and hence photosynthesis; and

(5) changing the capacity of a vegetated shallow to stabilize bottom materials and decrease channel shoaling. The discharge of dredged or fill material may reduce the value of vegetated shallows as nesting, spawning, nursery, cover, and forage areas, as well as their value in protecting shorelines from erosion and wave actions. It may also encourage the growth of nuisance vegetation.

**Sec. 230.44 Coral reefs.**

(a) Coral reefs consist of the skeletal deposit, usually of calcareous or silicaceous materials, produced by the vital activities of anthozoan polyps or other invertebrate organisms present in growing portions of the reef.

(b) Possible loss of values: The discharge of dredged or fill material can adversely affect colonies of reef building organisms by burying them, by releasing contaminants such as hydrocarbons into the water column, by reducing light penetration through the water, and by increasing the level of suspended particulates. Coral organisms are extremely sensitive to even slight reductions in light penetration or increases in suspended particulates. These adverse effects will cause a loss of productive colonies which in turn provide habitat for many species of highly specialized aquatic organisms.

**Sec. 230.45 Riffle and pool complexes.**

(a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming

flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

(b) Possible loss of values: Discharge of dredged or fill material can eliminate riffle and pool areas by displacement, hydrologic modification, or sedimentation. Activities which affect riffle and pool areas and especially riffle/pool ratios, may reduce the aeration and filtration capabilities at the discharge site and downstream, may reduce stream habitat diversity, and may retard repopulation of the disposal site and downstream waters through sedimentation and the creation of unsuitable habitat. The discharge of dredged or fill material which alters stream hydrology may cause scouring or sedimentation of riffles and pools. Sedimentation induced through hydrological modification or as a direct result of the deposition of unconsolidated dredged or fill material may clog riffle and pool areas, destroy habitats, and create anaerobic conditions. Eliminating pools and meanders by the discharge of dredged or fill material can reduce water holding capacity of streams and cause rapid runoff from a watershed. Rapid runoff can deliver large quantities of flood water in a short time to downstream areas resulting in the destruction of natural habitat, high property loss, and the need for further hydraulic modification.

Note: Possible actions to minimize adverse impacts on site or material characteristics can be found in subpart H.

## Subpart F--Potential Effects on Human Use Characteristics

Note: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in subpart B.

**Sec. 230.50 Municipal and private water supplies.**

(a) Municipal and private water supplies consist of surface water or ground water which is directed to the intake of a municipal or private water supply system.

(b) Possible loss of values: Discharges can affect the quality of water supplies with respect to color, taste, odor, chemical content and suspended particulate concentration, in such a way as to reduce the fitness of the water for consumption. Water can be rendered unpalatable or unhealthy by the addition of suspended particulates, viruses and pathogenic organisms, and dissolved materials. The expense of removing such substances before the water is delivered for consumption can be high. Discharges may also affect the quantity of water available for municipal and private water supplies. In addition, certain commonly used water treatment chemicals have the potential for combining with some suspended or dissolved substances from dredged or fill material to form other products that can have a toxic effect on consumers.

**Sec. 230.51 Recreational and commercial fisheries.**

(a) Recreational and commercial fisheries consist of harvestable fish, crustaceans, shellfish, and other aquatic organisms used by man.

(b) Possible loss of values: The discharge of dredged or fill materials can affect the suitability of recreational and commercial fishing grounds as habitat for populations of consumable aquatic organisms. Discharges can result in the chemical contamination of recreational or commercial fisheries. They may also interfere with the reproductive success of recreational and commercially important aquatic species through disruption of migration and spawning areas. The introduction of pollutants at critical times in their life cycle may directly reduce populations of commercially important aquatic organisms or indirectly reduce them by reducing organisms upon which they depend for food. Any of these impacts can be of short duration or prolonged, depending upon the physical and chemical impacts of the discharge and the biological availability of contaminants to aquatic organisms.

**Sec. 230.52 Water-related recreation.**

(a) Water-related recreation encompasses activities undertaken for amusement and relaxation. Activities encompass two broad categories of use: consumptive, e.g., harvesting resources by hunting and fishing; and non-consumptive, e.g. canoeing and sight-seeing.

(b) Possible loss of values: One of the more important direct impacts of dredged or fill disposal is to impair or destroy the resources, which support recreation activities. The disposal of dredged or fill material may adversely modify or destroy water use for recreation by changing turbidity, suspended particulates, temperature, dissolved oxygen, dissolved materials, toxic materials, pathogenic organisms, quality of habitat, and the aesthetic qualities of sight, taste, odor, and color.

**Sec. 230.53 Aesthetics.**

(a) Aesthetics associated with the aquatic ecosystem consist of the perception of beauty by one or a combination of the senses of sight, hearing, touch, and smell. Aesthetics of aquatic ecosystems apply to the quality of life enjoyed by the general public and property owners.

(b) Possible loss of values: The discharge of dredged or fill material can mar the beauty of natural aquatic ecosystems by degrading water quality, creating distracting disposal sites, inducing inappropriate development, encouraging unplanned and incompatible human access, and by destroying vital elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of an area. The discharge of dredged or fill material can adversely affect the particular features, traits, or characteristics of an aquatic area which make it valuable to property owners. Activities which degrade water quality, disrupt natural substrate and vegetational characteristics, deny access to or visibility of the resource, or result in changes in odor, air quality, or noise levels may reduce the value of an aquatic area to private property owners.

**Sec. 230.54 Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.**

(a) These preserves consist of areas designated under Federal and State laws or local ordinances to be managed for their aesthetic, educational, historical, recreational, or scientific value.

(b) Possible loss of values: The discharge of dredged or fill material into such areas may modify the aesthetic, educational, historical, recreational and/or scientific qualities thereby reducing or eliminating the uses for which such sites are set aside and managed.

Note: Possible actions to minimize adverse impacts regarding site or material characteristics can be found in subpart H.

## Subpart G--Evaluation and Testing

**Sec. 230.60 General evaluation of dredged or fill material.**

The purpose of these evaluation procedures and the chemical and biological testing sequence outlined in Sec. 230.61 is to provide information to reach the determinations required by Sec. 230.11. Where the results of prior evaluations, chemical and biological tests, scientific research, and experience can provide information helpful in making a determination, these should be used. Such prior results may make new testing unnecessary. The information used shall be documented. Where the same information applies to more than one determination, it may be documented once and referenced in later determinations.

(a) If the evaluation under paragraph (b) indicates the dredged or fill material is not a carrier of contaminants, then the required determinations pertaining to the presence and effects of contaminants can be made without testing. Dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Dredged material so composed is generally found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels. However, when such material is discolored or contains other indications that contaminants may be present, further inquiry should be made.

(b) The extraction site shall be examined in order to assess whether it is sufficiently removed from sources of pollution to provide reasonable assurance that the proposed discharge material is not a carrier of contaminants. Factors to be considered include but are not limited to:

(1) Potential routes of contaminants or contaminated sediments to the extraction site, based on hydrographic or other maps, aerial photography, or other materials that show watercourses, surface relief, proximity to tidal movement, private and public roads, location of buildings, municipal and industrial areas, and agricultural or forest lands.

(2) Pertinent results from tests previously carried out on the material at the extraction

site, or carried out on similar material for other permitted projects in the vicinity. Materials shall be considered similar if the sources of contamination, the physical configuration of the sites and the sediment composition of the materials are comparable, in light of water circulation and stratification, sediment accumulation and general sediment characteristics. Tests from other sites may be relied on only if no changes have occurred at the extraction sites to render the results irrelevant. (3) Any potential for significant introduction of persistent pesticides from land runoff or percolation;

(4) Any records of spills or disposal of petroleum products or substances designated as hazardous under section 311 of the Clean Water Act (See 40 CFR part 116);

(5) Information in Federal, State and local records indicating significant introduction of pollutants from industries, municipalities, or other sources, including types and amounts of waste materials discharged along the potential routes of contaminants to the extraction site; and

(6) Any possibility of the presence of substantial natural deposits of minerals or other substances which could be released to the aquatic environment in harmful quantities by man-induced discharge activities.

(c) To reach the determinations in Sec. 230.11 involving potential effects of the discharge on the characteristics of the disposal site, the narrative guidance in subparts C through F shall be used along with the general evaluation procedure in Sec. 230.60 and, if necessary, the chemical and biological testing sequence in Sec. 230.61. Where the discharge site is adjacent to the extraction site and subject to the same sources of contaminants, and materials at the two sites are substantially similar, the fact that the material to be discharged may be a carrier of contaminants is not likely to result in degradation of the disposal site. In such circumstances, when dissolved material and suspended particulates can be controlled to prevent carrying pollutants to less contaminated areas, testing will not be required.

(d) Even if the Sec. 230.60(b) evaluation (previous tests, the presence of polluting industries and information about their discharge or runoff into waters of the U.S., bio-inventories, etc.) leads to the conclusion that there is a high probability that the material proposed for discharge is a carrier of contaminants, testing may not be necessary if constraints are available to reduce contamination to acceptable levels within the disposal site and to prevent contaminants from being transported beyond the boundaries of the disposal site, if such constraints are acceptable to the permitting authority and the Regional Administrator, and if the potential discharger is willing and able to implement such constraints. However, even if tests are not performed, the permitting authority must still determine the probable impact of the operation on the receiving aquatic ecosystem. Any decision not to test must be explained in the determinations made under Sec. 230.11.

Sec. 230.61 Chemical, biological, and physical evaluation and testing.

Note: The Agency is today proposing revised testing guidelines. The evaluation and testing procedures in this section are based on the 1975 section 404(b)(1) interim final Guidelines and shall remain in effect until the revised testing guidelines are published as final regulations.

(a) No single test or approach can be applied in all cases to evaluate the effects of proposed discharges of dredged or fill materials. This section provides some guidance in determining which test and/or evaluation procedures are appropriate in a given case. Interim guidance to applicants concerning the applicability of specific approaches or procedures will be furnished by the permitting authority.

(b) Chemical-biological interactive effects. The principal concerns of discharge of dredged or fill material that contain contaminants are the potential effects on the water column and on communities of aquatic organisms.

(1) Evaluation of chemical-biological interactive effects. Dredged or fill material may be excluded from the evaluation procedures specified in paragraphs (b) (2) and (3) of this section if it is determined, on the basis of the evaluation in Sec. 230.60, that the likelihood of contamination by contaminants is acceptably low, unless the permitting authority, after evaluating and considering any comments received from the Regional Administrator, determines that these procedures are necessary. The Regional Administrator may require, on a case-by-case basis, testing approaches and procedures by stating what additional information is needed through further analyses and how the results of the analyses will be of value in evaluating potential environmental effects. If the General Evaluation indicates the presence of a sufficiently large number of chemicals to render impractical the identification of all contaminants by chemical testing, information may be obtained from bioassays in lieu of chemical tests.

(2) Water column effects.

(i) Sediments normally contain constituents that exist in various chemical forms and in various concentrations in several locations within the sediment. An elutriate test may be used to predict the effect on water quality due to release of contaminants from the sediment to the water column. However, in the case of fill material originating on land which may be a carrier of contaminants, a water leachate test is appropriate.

(ii) Major constituents to be analyzed in the elutriate are those deemed critical by the permitting authority, after evaluating and considering any comments received from the Regional Administrator, and considering results of the evaluation in Sec. 230.60. Elutriate concentrations should be compared to concentrations of the same constituents in water from the disposal site. Results should be evaluated in light of the volume and rate of the intended discharge, the type of discharge, the hydrodynamic regime at the disposal site, and other information relevant to the impact on water quality. The permitting authority should consider the mixing zone in evaluating water column effects. The permitting authority may specify bioassays when such procedures will be of value.

(3) Effects on benthos. The permitting authority may use an appropriate benthic bioassay (including bioaccumulation tests) when such procedures will be of value in assessing ecological effects and in establishing discharge conditions.

(c) Procedure for comparison of sites.

(1) When an inventory of the total concentration of contaminants would be of value in comparing sediment at the dredging site with sediment at the disposal site, the permitting authority may require a sediment chemical analysis. Markedly different concentrations of contaminants between the excavation and disposal sites may aid in making an environmental assessment of the proposed disposal operation. Such differences should be

interpreted in terms of the potential for harm as supported by any pertinent scientific literature.

(2) When an analysis of biological community structure will be of value to assess the potential for adverse environmental impact at the proposed disposal site, a comparison of the biological characteristics between the excavation and disposal sites may be required by the permitting authority. Biological indicator species may be useful in evaluating the existing degree of stress at both sites. Sensitive species representing community components colonizing various substrate types within the sites should be identified as possible bioassay organisms if tests for toxicity are required. Community structure studies should be performed only when they will be of value in determining discharge conditions. This is particularly applicable to large quantities of dredged material known to contain adverse quantities of toxic materials. Community studies should include benthic organisms such as microbiota and harvestable shellfish and finfish. Abundance, diversity, and distribution should be documented and correlated with substrate type and other appropriate physical and chemical environmental characteristics.

(d) Physical tests and evaluation. The effect of a discharge of dredged or fill material on physical substrate characteristics at the disposal site, as well as on the water circulation, fluctuation, salinity, and suspended particulates content there, is important in making factual determinations in Sec. 230.11. Where information on such effects is not otherwise available to make these factual determinations, the permitting authority shall require appropriate physical tests and evaluations as are justified and deemed necessary. Such tests may include sieve tests, settleability tests, compaction tests, mixing zone and suspended particulate plume determinations, and site assessments of water flow, circulation, and salinity characteristics.

## Subpart H--Actions To Minimize Adverse Effects

Note: There are many actions which can be undertaken in response to Sec. 203.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity, are listed in this subpart.

**Sec. 230.70 Actions concerning the location of the discharge.**

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by:

(a) Locating and confining the discharge to minimize smothering of organisms;

(b) Designing the discharge to avoid a disruption of periodic water inundation patterns;

(c) Selecting a disposal site that has been used previously for dredged material discharge;

(d) Selecting a disposal site at which the substrate is composed of material similar to that being discharged, such as discharging sand on sand or mud on mud;

(e) Selecting the disposal site, the discharge point, and the method of discharge to minimize the extent of any plume;

(f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations.

**Sec. 230.71 Actions concerning the material to be discharged.**

The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such as:

(a) Disposal of dredged material in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced.

(b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular site;

(c) Adding treatment substances to the discharge material;

(d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked disposal areas.

**Sec. 230.72 Actions controlling the material after discharge.**

The effects of the dredged or fill material after discharge may be controlled by:

(a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or methods include, but are not limited to:
(1) Using containment levees, sediment basins, and cover crops to reduce erosion;
(2) Using lined containment areas to reduce leaching where leaching of chemical constituents from the discharged material is expected to be a problem;

(b) Capping in-place contaminated material with clean material or selectively discharging the most contaminated material first to be capped with the remaining material;

(c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution;

(d) Timing the discharge to minimize impact, for instance during periods of unusual high water flows, wind, wave, and tidal actions.

**Sec. 230.73 Actions affecting the method of dispersion.**

The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

(a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the disposal site to maintain natural substrate contours and elevation;

(b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water current or circulation pattern, and utilizing natural bottom contours to minimize the size of the mound;

(c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a small area where settling or removal can occur;

(d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;

(e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;

(f) Selecting sites or managing discharges to confine and minimize the release of suspended particulates to give decreased turbidity levels and to maintain light penetration for organisms;

(g) Setting limitations on the amount of material to be discharged per unit of time or volume of receiving water.

**Sec. 230.74 Actions related to technology.**

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

(a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;

(b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;

(c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;

(d) Designing access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;

(e) Employing appropriate machinery and methods of transport of the material for discharge.

**Sec. 230.75 Actions affecting plant and animal populations.**

Minimization of adverse effects on populations of plants and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur;

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

**Sec. 230.76 Actions affecting human use.**

Minimization of adverse effects on human use potential may be achieved by:

(a) Selecting discharge sites and following discharge procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewscapes), particularly with respect to water quality;

(b) Selecting disposal sites which are not valuable as natural aquatic areas;

(c) Timing the discharge to avoid the seasons or periods when human recreational activity associated with the aquatic site is most important;

(d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features of an aquatic site or ecosystem;

(e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;

(f) Locating the disposal site outside of the vicinity of a public water supply intake.

**Sec. 230.77 Other actions.**

(a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the fill;

(b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife;

(c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain desired water quality of the return discharge through agreement with the Federal funding authority on scientifically defensible pollutant concentration levels in addition to any applicable water quality standards;

(d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.

## Subpart I--Planning To Shorten Permit Processing Time

**Sec. 230.80 Advanced identification of disposal areas.**

(a) Consistent with these Guidelines, EPA and the permitting authority, on their own initiative or at the request of any other party and after consultation with any affected State that is not the permitting authority, may identify sites which will be considered as:
(1) Possible future disposal sites, including existing disposal sites and non-sensitive areas; or
(2) Areas generally unsuitable for disposal site specification;

(b) The identification of any area as a possible future disposal site should not be deemed to constitute a permit for the discharge of dredged or fill material within such area or a specification of a disposal site. The identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill material in such areas. Either type of

identification constitutes information to facilitate individual or General permit application and processing.

(c) An appropriate public notice of the proposed identification of such areas shall be issued;

(d) To provide the basis for advanced identification of disposal areas, and areas unsuitable for disposal, EPA and the permitting authority shall consider the likelihood that use of the area in question for dredged or fill material disposal will comply with these Guidelines. To facilitate this analysis, EPA and the permitting authority should review available water resources management data including data available from the public, other Federal and State agencies, and information from approved Coastal Zone Management programs and River Basin Plans;

(e) The permitting authority should maintain a public record of the identified areas and a written statement of the basis for identification.

# MEMORANDUM

Date: October 22, 2008

To: CESAM-RD

From: CESAM-PD-EI, Howard Ladner, Biologist

Subject: OP/PD Concerns for Proposed Kemper County Mine Site North of Lake Okatibbee

PD-EI has been requested by OP to review the above proposal. Our review is limited to potential for the proposed action to impact the federal project. Our preliminary review finds that there appears to be no "direct" impact to the federal project. However, there is a potential for significant impacts from secondary and cumulative effects. Specifically, we are concerned with the items listed below. The DOE EIS must address these concerns. All issues found to be significant must be mitigated.

Our issues are as follows:

1. The proposal has the potential to impact area hydrology. EN-HW provided comments on this concern. Further concern exists relative to the potential to lower the groundwater table in the area. This could impact water supply to adjacent federally owned wetlands and the lake itself.
2. Water quality entering and subsequently within the lake could be impacted. The EIS should address potential changes in dissolved oxygen, suspended solids, temperature, pH, contaminates (heavy metals, hydrocarbons, etc.) in the water entering the lake and the lake itself. The EIS should address Lake Okatibbee as a recreational use, flood control and drinking water supply lake. In review of potential effects from contaminates, potential of bioaccumulation of contaminates (especially mercury) in food fishes found within the lake should be considered. The review should also address airborne emissions from the power plant that have the potential to "settle" into the lake and wash in after settling in the surrounding watershed.
3. Typically, you hear nutrification used in a negative context, but a certain nutrient level can be beneficial to a lake's productivity. The EIS should address how land use conversion (from farm land to mine or other use) will affect the quantity and composition of nutrients entering the lake. A reduction of nutrients could have significant effects to the lake's ecosystem and subsequent recreational use.
4. The EIS should address mine reclamation and restoration, specifically related to replacement of lost functions and values of streams and wetlands within this specific watershed.
5. Further, we encourage RD explore all potential options for Sec. 404 mitigation within this specific watershed. The benefits derived from the mitigation should result in benefits to the federal project, and
6. Long term management of sedimentation ponds should be addressed.

Please forward our concerns to the DOE for inclusion into the NEPA process.

Thank You

# JOINT APPLICATION AND NOTIFICATION

## U.S. DEPARTMENT OF ARMY CORPS OF ENGINEERS
## MISSISSIPPI DEPARTMENT OF MARINE RESOURCES
## MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY/OFFICE OF POLLUTION CONTROL

This form is to be used for porposed activities in waters of the United States of Mississippi and for the erection of structures on suitable sites for water dependent industry. Note that some items, as indicated, apply only to projects located in the coastal area of Hancock, Harrison, and Jackson Counties.

**1. Date**

month day year

**2. Applicant (mailing address and telephone)**

**Agent name, address and telephone**

**3. Official use only**

COE _____

DMR _____

DEQ _____

A95 _____

DATE RECEIVED _____

**4. Project location**

Street Address_____ City/Community _____

Name of Waterway _____ Latitude _____ Longitude (if known) _____

Geographic location: Section _____Township _____ Range _____ County _____

**5. Project description** New work_____ Maintenance work_____

**Dredging**

_____ Channel length _____ width _____ existing depth _____ proposed depth_____

_____ Canal length _____ width _____ existing depth _____ proposed depth_____

_____ Boat Slip length _____ width _____ existing depth _____ proposed depth_____

_____ Other (explain) length _____ width _____ existing depth _____ proposed depth_____

Cubic yards of material to be removed _____ Type of material _____

Location of spoil disposal area _____

Dimensions of spoil area _____ Method of excavation _____

How will excavated material be contained? _____

**Construction of structures**

_____ Bulkhead Total Length _____ Height above water _____

_____ Pier length _____ width _____ height _____

_____ Boat Ramp length _____ width _____ height _____

_____ Boat House length _____ width _____ height _____

_____ Structures on designed sites for water dependent industry (Coastal area only). Explain in Item 11 or include as an attachment.

_____ Other (explain) _____

**Filling**

Dimensions of fill area _____

Cubic yards to fill _____ Type to fill _____

**Other regulated activities (i.e. Seismic exploration, burning or clearing of marsh) Explain.**

_____

_____

_____

_____

**6. Additional information relating to the proposed activity**

Does project area contain any marsh vegetation? Yes _____ No _____ (If yes, explain) _____

_____

Is any portion of the activity for which authorization is sought now complete? Yes _____ No _____
(If yes, explain) _____
Mouth and year activity took place _____
If project is for maintenance work on existing structures or existing channels, describe legal authorization for the existing work. Provide permit number, dates or other form(s) of authorization. _____

_____

Has any agency denied approval for the activity described herein or for any activity that is directly related to the activity described herein? Yes _____ No _____ (If yes, explain) _____

_____

**7. Project schedule**

Proposed start date _____ Proposed completion date _____
Expected completion date (or development timetable) for any projects dependent on the activity described herein.

_____

**8. Estimated cost of the project _____**

**9. Describe the purpose of this project. Describe the relationship between this project and any secondary or future development the project is designed to support. _____**

_____

_____

_____

**10. Describe the public benefits of the proposed activity and of the projects dependent on the proposed activity. Also describe the extent of public use of the proposed project. _____**

_____

_____

**11. Remarks**

**12. Provide the names and addresses of the adjacent property owners. Also identify the property owners on the plan view of the drawing described in Attachment "A".** (Attach additional sheets if necessary.)

1) 2)

**13. List all approvals or certifications received or applied for from Federal, State and Local agencies for any structures, construction, discharges, deposits or other activities described in this application. Note that the signature in item 14 certifies that application has been made to or that permits are not required, place N/A in the space for Type Approval.**

| Agency | Type Approval | Application Date | Approval Date |
|---|---|---|---|
| Dept. of Environmental Quality | | | |
| Department of Marine Resources | | | |
| U.S. Army Corps of Engineers | | | |
| City/County _____ | | | |
| Other _____ | | | |

**14. Certification and signatures**

Application is hereby made for authorization to conduct the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable state water quality standards or other environmental protection standards both during construction and after the project is completed. I also agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making preliminary analyses of the site and monitoring permitted works. I certify that I am familiar with and responsible for the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I am the owner of the property where the proposed project is located or that I have a legal interest in the property and that I have full legal authority to seek this permit.

Signature of Applicant or Agent Date

I8 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willingly falsifies, conceals, or covers up by any trick, scheme or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

**15. Mississippi Coastal Program (Coastal area only)**

I certify that the proposed project for which authorization is sought complies with the approved Mississippi Coastal Program and will be conducted in a manner consistent with the program.

Signature of Applicant or Agent Date

**16. Fees**

Payable to State of Mississippi
$50.00 Residential
$500.00 Commercial
$50.00 Cost of public notice fee

Please include appropriate fees for all projects proposed in coastal areas of Hancock, Harrison and Jackson counties.

**17. If project is in Hancock, Harrison or Jackson counties, send one completed copy of this application form and appropriate fees listed in Item 16 to:**

MS Department of Marine Resources
1141 Bayview Avenue, Suite 101
Biloxi, MS 39530

**If project <u>IS NOT</u> in Hancock, Harrison or Jackson Counties, send one completed copy of this application form to each agency listed below:**

District Engineer
U.S. Army Engineer
District Mobile
Attn: SAMOP-S
P.O. Box 2288
Mobile, AL 36628

District Engineer
U.S. Army Engineer
District Vicksburg
Attn: LMKOD-FE
P.O. Box 60
Vicksburg, MS 39180

Director
MS Dept. of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289

**18. In addition to the completed application form, the following attachments are required:**

***Attachment "A" Drawings***

Provide a vicinity map showing the location of the proposed site along with a written description of how to reach the site from major highways or landmarks. Provide accurate drawings of the project site with proposed activities shown in detail. All drawings must be to scale or with dimensions noted on drawings and must show a plan view and cross section or elevation. Use 8 1/2 x 11" white paper or drawing sheet attached.

***Attachment "B" Authorized Agent***

If applicant desires to have an agent or consultant act in his behalf for permit coordination, a signed authorization designating said agent must be provided with the application forms. The authorized agent named may sign the application forms and the consistency statement.

***Attachment "C" Environmental Assessment***

Provide an appropriate report or statement assessing environmental impacts of the proposed activity and the final project dependent on it. The project's effects on the wetlands and the effects on the list dependent on them should be addressed. Also provide a complete description of any measures to be taken to reduce detrimental offsite effects to the coastal wetlands during and after the proposed activity. Alternative analysis, minimization and mitigation information may be required to complete project evaluation.

***Attachment "D" Variance or Revisions to Mississippi Coastal Program*** *(Coastal area only)*

If the applicant is requesting a variance to the guidelines in Section 2, Part III, or a revision to the Coastal Wetlands Use Plan in Section 2, Part IV of the Rules and Regulations, Guidelines and Procedures of the Mississippi Coastal Program, a request and justification must be provided.

**Attachment "A" Drawings**

Application by:

Sheet _____ of _____

Date _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

December 11, 2008

Mr. Richard A. Hargis
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236

RE: **EPA Scoping Comments Regarding**
**Early Coordination for the**
**Kemper County IGCC and Lignite Mine**
**Notice of Intent**
**Florence County, SC**

Dear Mr. Hargis:

The U.S. Environmental Protection Agency (EPA), pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, reviewed the subject Notice of Intent (NOI) for the proposed lignite mine and power plant rated for 550 MW. We appreciate your early coordination with us. The purpose of this letter is to convey our comments regarding topics to be addressed in the Draft Environmental Impact Statement (DEIS).

The proposed action for Department of Energy (DOE) is to provide cost-shared funding under CCPI for the proposed project. Project development will include the lignite mine and electrical generating station structure and facilities that include an intake and discharge structures, cooling towers, and roads. The emissions reduction advantages of an Integrated Gasification and Combined Cycle (IGCC) system include less $SO_2$, $NO_x$, Hg and particulate emissions than produced by conventional coal-fired power plants.

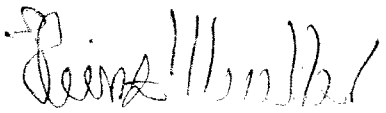
Evaluation of the impacts during preparation of the DEIS may require various forms of modeling and risk assessment. The Notice of Intent (NOI) identifies the following environmental areas of concern: air quality, water resources, land use, waste, aesthetic impacts, floodplain impacts, wetlands, ecological, safety and health, construction and community impacts, cultural and archaeological resources and cumulative effects.

In addition, alternatives are a particular area of concern in the NEPA process. Technology alternatives, site location alternatives, and their influence on potential impacts should be fully considered and evaluated in the upcoming DEIS.

Our detailed scoping comments are enclosed, and we appreciate the opportunity to provide these comments. Our NEPA review will be coordinated by Ramona McConney (404/562-9615), with

technical assistance from representatives in other EPA programs. If you have questions, please coordinate with us at your convenience.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosure

Cc: Skip Young, P.G., USACOE Mobile District

**EPA Scoping Comments for**
**Kemper County IGCC and Lignite Mine**
**Notice of Intent**
**Florence County, SC**

## NEPA Process

In addition to the lignite mine and power plant, we consider the interconnection of a transmission line, natural gas supply pipeline, carbon dioxide pipeline, site access and fuel handling infrastructure also parts of the project. The Environmental Impact Statement (EIS) should evaluate the impacts of these actions as direct project impacts, and not as indirect (induced) or cumulative impacts, or as a connected action.

## Purpose and Need

The DOE, the Corps of Engineers (COE) and the applicant have distinct perspectives on the purpose and need for the project. The purpose and need for this project should be fully disclosed in the Draft EIS (DEIS), with respect to demonstrating the feasibility of the IGCC technology, projected power generation needs, and determining the least damaging practicable alternative which would minimize environmental impacts.

In addition to the DOE and COE purpose and need statements, we also suggest that the applicant's purpose and need for the proposed project be included in the EIS. This should include the proposed size of the plant (nominally 550 MW) be translated to the number of average homes in the Mississippi area that would be served by the facility. We assume this might be 300-400 homes per MW. In this way, the need for the proposed plant could be evaluated further.

The EPA recommends that all growth rate projection data presented in the DEIS be substantiated in the document, since many interpretations may exist. This data should take industrial, commercial, and institutional users into consideration, as well as residential growth.

## Alternatives

We request that a broad range of alternatives be provided, consistent with NEPA. The EIS should evaluate alternative technologies for generating power. Potential rejection of alternative technologies should be documented, with environmental reasons included in the rationale. The No Action Alternative should also be considered.

***Alternative sites:*** While the Kemper County site is the applicant's preferred site for the proposed project, a minimum of three alternative sites should be considered in the EIS, consistent with NEPA. Potential rejection of alternative sites should be documented, with environmental reasons included in the rationale. The EIS should also provide a discussion on the option of expanding an existing generating station site versus construction of a new "greenfield" site. The No Action Alternative should also be considered.

The EIS should identify the potential site locations in MS, and outline the considerations that led to Kemper County being selected. Considerations should include fuel (coal) location, fuel transportation costs, existing fuel transportation corridors, existing land uses, age and integrity of existing power generation plants, and potential increase in power uses, and other environmental and siting factors.

If the Kemper County site goes forward as the preferred alternative in the EIS, the environmental consequences of the proposed project may be buffered (given the size of the overall complex and depending on the configuration of the plant within the complex), but would have cumulative impacts. If an alternative site is selected, the environmental consequences and analyses would change accordingly, depending on the site selected.

***Alternative technologies:*** In addition to the IGCC technology, other power plant designs should be considered and analyzed in the EIS. Various alternative technologies for coal and coal types, as well as conservation measures, should be considered. Rejection of alternatives should be substantiated, including supporting environmental data.

We recommend that the DEIS include a summary section on the conservation methods (or incentives) that the applicant is proposing for use in the service area. Please clarify to what degree conservation would satisfy the need for additional power.

## Air Quality

***Project Impact Analyses:*** The DEIS should include the protocol of the assumptions and procedures that were used to address project air quality impacts. The air quality impact assessment should address all applicable project related emissions (*e.g.*, toxics, criteria pollutants, fugitive, etc.). The evaluation criteria should also be provided including but not limited to, the National Ambient Air Quality Standards (NAAQS), Prevention of Significant Deterioration (PSD) increments and other air quality related targets of concern.

Although not developed for the more inclusive NEPA analyses, it is suggested that the modeling methodology and procedures provided as guidance for PSD and SIP modeling be considered for use in developing the modeling protocol for the NEPA impact analyses. The following are some of the references that contain modeling guidance.

- 40 CFR 51, Appendix W; Guideline on Air Quality Models
- New Source Review Workshop Manual, U.S. Environmental Protection Agency, Draft October 1990
- South Carolina DHEC. Air Quality Modeling Guidelines (July 2001)
- Federal Land Managers' Air Quality Related Values Workgroup (FLAG), Phase I Report, December 2000

These documents address regulatory accepted air quality models, assumptions, and procedures that may be appropriate for the NEPA impact modeling assessment. They include, but are not limited to, guidance in the following areas: identifying nearby sources for inclusion in the cumulative modeling inventory, determining controlling operating loads, determining good engineering practice

stack height, using representative meteorological data, selecting model input options, and determining appropriate receptor grids.

The NEPA document should contain a discussion of the power plant emission sources, the basis for the project emission estimates (both air toxics and regulated new source review pollutants), and anticipated release information and operating parameters. Mercury is a pollutant of particular concern from coal-based power plants. Information on speciated emissions of mercury (elemental, divalent and particulate forms) from the emissions source should be developed and used in the assessment of mercury deposition impacts.

A discussion of the existing air quality conditions, and the attainment designation status of the area in which the plant will be built, should be included in the document.

A conformity review should be included in the document. Also, all other emissions from the power plant which are not addressed above should be disclosed in the EIS.

***PSD Permitting:*** The proposed project requires a Prevention of Significant Deterioration (PSD) permit from MDEQ, which was issued on October 14, 2008. This PSD permit addresses the types of control methods to be included for each PSD pollutant and estimates pollutant impacts on PSD Class I and II areas. Although the NEPA air quality impact analyses are more inclusive of project related emissions than that required for PSD permitting, it is important that the modeling protocols used for these analyses are consistent and compatible. It is suggested that the PSD air quality impact assessment be either included as an appendix or provided as a reference in the NEPA document.

***Ancillary Impacts:*** Impacts from emissions due to coal transport should be discussed and evaluated in the EIS.

## Air Toxics

The requirements of section 112(g) need to be addressed. Section 112(g) requires a case-by-case MACT determination as described in 63.40 – 44. We note that ongoing litigation of the CAMR vacatur could have an impact on the applicability of section 112(g), depending on the outcome of the litigation. Case-by-case MACT determination should address all HAP emissions.

Since Mississippi has responsibility for submitting the State Plan encompassing all subject coal-fired facilities in the State, allocating emissions, and overseeing the monitoring program, the responsible parties will need to coordinate with MDEQ on these issues.

***Emissions Inventory:*** The EIS should include an emissions inventory of air toxics releases associated with the proposed plant. For information on the types of pollutants commonly associated with coal-fired power plants, refer to the primary emissions inventory for Hazardous Air Pollutants (HAPs) regulated under the Clean Air Act, (EPA's National Emissions Inventory or NEI), and EPA's Toxics Release Inventory (TRI).

Since the emissions inventory will provide the basis for the ensuing air quality modeling and risk analyses, analysts should be careful to develop a "modeling inventory" that includes the key information needed to meet air emission fate and transport modeling data quality objectives.

Information on accessing available emissions inventories and developing an emissions inventory suitable for modeling for risk assessment purposes is provided in EPA's Air Toxics Risk Assessment (ATRA) reference library; links are listed at the end of this air toxics section.

***Risk Analysis:*** Once the air toxics emissions inventory has been developed, an air toxics risk analysis should be performed and the results included in the EIS. This analysis of air toxics risk will enhance the EIS by clarifying which pollutants may pose exposures of potential concern to both human health and ecological receptors near the proposed facility.

For example, the analysis should evaluate the potential for mercury emissions to deposit onto the local landscape, accumulate in biota, and move up the food chain. In particular, inclusion of mercury fate and transport modeling, (for elemental, divalent and particulate forms), will enhance the EIS by accounting for potential impacts to watersheds, people who fish those watersheds, and enhance any associated total maximum daily load (TMDL) assessments for impaired waterbodies.

The ATRA Reference Library provides an overview of air toxics risk assessment for human and ecological receptors, including an overview (and references for) the various parts of the process, including development of an emissions inventory, fate and transport modeling, toxicity assessment, and risk characterization. The reference library also provides a basic overview of risk management and communication. The documents can be found at:
http://www.epa.gov/ttn/fera/risk_atra_main.html.

ATRA Volume 1 provides a general overview of the various topics; Volume 2 provides a suggested approach to performing risk assessment at the facility-specific level. In addition, the EPA Office of Air and Radiation recommended toxicity values for screening level human health risk assessments can be found at: http//:www.epa.gov/ttn/atw/toxicsource/summary.html

General information on air toxics fate, exposure, and risk analysis can be found at:
www.epa.gov/ttn/fera.

## Climate Change

In response to the April 2007 Supreme Court decision, EPA is preparing national and regional guidance for reviewing climate change issues in documents subject to EPA review.

Depending on the power plant design and fuel source selected, climate change could be a significant issue for the proposed power plant. As part of documenting (qualifying and quantifying) all air emissions of the proposed power plant, we recommend that greenhouse gas (GHG) contributions be included, especially carbon dioxide ($CO_2$). At this time, we also recommend that climate change be generally addressed in the EIS.

Once EPA's guidance is finalized, we may wish to further discuss EIS documentation of the impacts of climate change and possible offsets for those impacts, as well as other aspects that may be associated with the guidance.

**Noise**

EPA recommends that the noise levels from three project sources be documented in the EIS: noise from the plant, coal delivery trucks, and construction.

Regarding coal delivery noise, we understand that truck delivery is planned. For such an incoming linear source, the project area will need to be defined. We suggest some reasonable radius from the plant might be appropriate to limit the noise study. Noise modeling or monitoring of noise at the nearest residences should be provided. The number of affected residences (and their estimated residents) should also be enumerated. If more than one route is available, delivery could be varied in order to distribute the noise impacts if both routes are populated.

The appropriate noise metric would likely be the equivalent level (Leq) metric to obtain a peak 1-hr average level ($Leq_{(1)}$). The day-night level (DNL) metric would be required if trucks run day and night and are frequent (a useful reference on metrics is the 1974 EPA "levels" document available online at: www.nonoise.org/library/levels/levels.htm).

FHWA noise abatement criteria for highway noise might be useful thresholds to determine if noise impacts are significant at inhabited buildings (67 Leq for residences and 72 Leq for businesses). Single-event noise levels at roadway intersections should also be documented (including their frequency) as well as basic truck noise levels within 50 ft (these may be available from existing literature). It should be noted that project noise could be avoided without mitigation if an alternate technology is used that does not require coal delivery (or could be reduced if less frequent delivery is required).

Documentation of plant noise should include modeling for noise levels at the site boundary or fence line, and at the nearest residences. The number of nearby residences (and their estimated residents) should be enumerated. Disclosure of the distances to these sites should be included as well as a discussion of the topography of the buffer area on plant property (landscape, trees, swales, etc.) between the plant and the fence line and nearest residences. The appropriate noise metric should be the DNL metric since the plant would operate day and night.

We also recommend that follow-up noise monitoring be provided after prospective plant operation to verify the modeling and provide the baseline for any noise abatement action. Such noise attenuation could be achieved at the source (plant shielding or use of alternate technology) or by providing additional buffer interference (vegetation, berms, etc.).

Finally, construction noise should be documented. We suggest the EIS evaluate noise from basic construction equipment (bulldozers, graders, trucks, pile drivers, etc.) at a distance of 50 ft (available data from existing literature). Mitigation of stationary sources such as pumps includes "hush houses" to shield noise.

All construction equipment should also be equipped with factory mufflers and engine housings to minimize construction noise. To help assess the magnitude of construction noise, the timeframe for plant construction should be estimated (years/months). For worker safety, all OSHA regulations relating to noise should be followed.

**Waters of the United States (Waters)**

Project impacts to wetlands, streams and other Waters should be avoided and minimized during project site selection and operation, consistent with the 404(b)(1) Guidelines of the Clean Water Act. Any wetlands proposed for filling should be quantified and qualified in terms of acreages and the type/quality of the Waters affected. Permanent (direct, indirect, and cumulative) and temporary (construction) impacts should be discussed.

Unavoidable impacts to Waters should be appropriately compensated through coordination with the U.S. Army Corps of Engineers (COE), U.S. Fish and Wildlife Service (FWS) and EPA. A draft wetland mitigation plan with applicant commitments should be discussed in the EIS, and finalized during the 404 permitting process.

A table showing the linear feet of ephemeral, intermittent, and perennial streams, acres of lakes and wetlands for existing and final site conditions for each evaluated configuration should be provided in the EIS, to demonstrate the mitigation steps of avoidance and minimization required by NEPA and CWA Part 404(b)(1) regulations.

The final component of the NEPA and CWA required mitigation is the compensatory mitigation that should comply with the new Mitigation Rule, 33 CFR Parts 325 and 332, and 40 CFR Part 230.

**Groundwater Quality**

The EIS should discuss drinking water sources in the area, the presence or absence of sole source aquifers, water quantity issues, and any other potential impacts to groundwater which might occur as the result of this project.

**Surface Water Quality**

Impingement (juvenile and adult fishes) and entrainment (fish eggs and larvae) studies are required for surface water intakes for cooling water. The initial and make-up volumes of such water intake should be disclosed (and compared to the mean annual average flow of the receiving stream) and acknowledged as consumptive use. As consumptive use, the EIS should also verify that there will be no thermal discharge. Any thermal impacts to existing onsite waterbodies should be discussed in the DEIS.

The EIS should address whether the receiving waterbody is on the state's most recent 303(d) list and identify the pollutant of concern. Also, the EIS should address the extent to which the proposed new point source discharges will not cause or contribute to further impairment. See 40 Code of Federal Regulation Section 122.4(i).

Surface water quality data in the EIS should show the State's existing designated uses, the narrative and numeric criteria to support those uses, and the existing use requirements in the antidegradation policy, and project impacts on these parameters. Change is in quantity, whether velocity, volume, or timing that may change the balance of flora and fauna in the waters of the United States would be changing the water quality of the nation's waters. The EIS should demonstrate how these will be affected by the various alternative site selections and configurations for the preferred alternative site.

**Floodplains**

Erosion and accretion is one of the subject areas of concern. Mitigation and avoidance of impacts should be detailed in the DEIS.

**Wetlands**

The DEIS should clarify plans for addressing impacts to wetlands, as well as the planned schedule for the 401/404 permitting process. Wetlands are a subset of waters of the United States, and are included with the water quality standards.

**NPDES Permitting**

Modeling information regarding the proposed thermal discharge should be included in the EIS along with any potential impacts on the receiving waterbody from other process wastewater streams (i.e., ash pond, metal cleaning wastes, cooling tower blowdown, coal pile runoff, etc). Also, a discussion of stormwater during construction and during operation should be included.

The EIS should describe potential impacts on the receiving waterbody(ies) from coal mining, infrastructure, construction, and maintenance of the power plant being affected from stormwater.

**Hazardous Waste**

Details regarding onsite generation, storage, transport and disposition of hazardous waste should be disclosed in the EIS. Coordination with the MDEQ or EPA is advised regarding hazardous waste issues. If any hazardous waste is discovered on the selected construction site, this issue should be reported to appropriate agencies and appropriately addressed prior to site clearing and plant construction.

**Environmental Justice (EJ)**

Impacts to area residents including EJ populations should be considered during the site selection process and during project operation, in order to avoid/minimize disproportionate environmental, social, and economic impacts. Census data from the year 2000 should be used to conduct the EJ analysis that compares the block groups within the project area to neighboring block groups, counties, and the state. Analyses should be mindful of possible EJ concentrations (pockets) within block groups that may be affected by power plant emissions and other impacts. Given the large proposed site, potential cumulative effects should be evaluated in terms of impacts to the residents.

**Bioaccumulation**

The EIS should clarify whether mercury contamination from plant effluent may contribute to bioaccumulation of mercury in fish tissue, and whether water bodies in the project area are included on the impaired waters list. The DEIS should explain how mitigation will be addressed, and how mercury deposition issues would impact the permitting process for the facility. Local air deposition of mercury should be discussed, along with plans for mitigation.

**Endangered Species**

EPA will defer to the U.S. Fish and Wildlife Service (FWS) regarding potential project impacts to federally-protected species. The EIS should clarify whether there any threatened or endangered species is nesting on the proposed site. In addition, impacts and mitigation for conservation areas or environmentally sensitive areas within the project area should be addressed in the EIS.

**Construction Impacts**

In addition to operational impacts, construction impacts should also be disclosed and minimized. These include air emissions, noise, soil erosion and other impacts during construction. The expected construction time should also be disclosed in the EIS to help assess the magnitude of construction impacts. Efforts should be made to minimize construction impacts in terms of fuel choice and engine tuning of equipment, site selection for staging areas, working hours during the day, limiting open burning, use of shielding (hush-houses) for stationary equipment, fugitive dust control, and other areas.

**Indirect (Induced) Impacts**

Indirect impacts are those impacts that would not occur but for the proposed project. These impacts should be listed and discussed, including those facilities that would be induced to locate in the project area due the availability of additional power from the proposed power plant (e.g., new commercial, industrial and residential development using generated power, as well as coal-related facilities that support and supply the plant). Indirect impacts would also be associated with any infrastructure improvements, such as highways and utilities needed for new development induced by the power plant.

**Cumulative Impacts**

Cumulative impacts should be disclosed in the EIS. The basis for defining the project area should be included (for example: a project area based on a physical feature (e.g., watershed), or reasonable radial distance from the plant.

The cumulative impacts analysis should document those ongoing and proposed projects in foreseeable future within the project area that would impact the same resources as the plant. Past projects and their impacts are also important but these would likely already be incorporated in the EIS baseline or "Affected Environment."

Emphasis should be placed on projects with impacts similar to those predicted for the proposed power plant that would cumulatively affect the same resources in the project area. Mercury deposition is a particular concern.

Common resources affected by the proposal together with other projects might be surface water bodies, groundwater aquifers, air sheds, noise receptors, land use, etc. Project documentation might be a listing of projects with their main associated impacts. This can be a qualitative listing but preferably also somewhat quantitative to extent data available and accessible (*i.e.,* if not proprietary mercury deposition and bioaccumlation as a specific topic under cumulative impacts).

A project area should be defined with a rationale provided (*e.g.,* based on a physical feature (*e.g.,* watershed) or a reasonable radius from the plant). The size and configuration of the project area will likely differ for each area of concern. Guidance on defining a project area and other aspects of the cumulative impacts analysis is provided by the Council on Environmental Quality (CEQ) at: http://www.nepa.gov/nepa/nepanet.htm

**Historic Preservation**

The NEPA document should reflect the coordination with the State Historic Preservation Officers (SHPO) on a cultural resources survey. The NEPA document should discuss procedures for events such as unearthing archaeological sites during prospective construction. Typical procedures include work cessation in the area until SHPO approval of continued construction.

NATIONAL ENERGY TECHNOLOGY LABORATORY
A U.S. Department of Energy National Laboratory
Albany, OR • Morgantown, WV • Pittsburgh, PA

JUL 3 0 2009

United States Department of the Army
U.S. Army Engineer District, Mobile
Attention: COL Byron G. Jorns, District Commander
P. O. Box 2288
Mobile, Alabama 36628-0001

Re: Letter of Understanding (LOU): Inter-Agency Cooperation on the Kemper County IGCC Project Environmental Impact Statement (EIS); SAM Number: SAM-2008-1759-DMY

Dear Sir:

This LOU is a follow-up to a letter dated November 19, 2008, inviting the U.S. Army Corps of Engineers (Corps) to participate as a formally cooperating agency in the NEPA compliance process for the proposed Kemper County Integrated Gasification Combined Cycle (IGCC) Power Plant Project. The proposed action for DOE with respect to the project is to provide a total of $294 million in cost-shared funding under the Clean Coal Power Initiative (CCPI) Program. In addition, DOE may also provide a loan guarantee pursuant to the Energy Policy Act of 2005. DOE considers the associated linear facilities and a proposed, lignite mine near the plan to be connected actions. The proposed mine would be at a site to the north of, and up-stream of, the Corps' Lake Okatibbee. This project is located in multiple sections, townships and ranges of Kemper and Lauderdale Counties, in Mississippi. In September 2008, DOE published a Notice of Intent to prepare an EIS to satisfy its responsibilities under NEPA with respect to the proposed action.

The Corps' proposed action with respect to the project is to decide whether to issue Clean Water Act permits for the IGCC plant, associated linear facilities and mine. The mine site and power plant project have already been assigned Corps' project number SAM-2008-1759-DMY, which will be referred to in all future correspondence between DOE and the Corps. Future permit applications will be assigned project numbers accordingly.

DOE is the lead Federal agency for preparation of the EIS. The Corps is a formal cooperating agency in the preparation of the EIS and will work to adopt the EIS to support its decision on the permitting process. It is understood that as a cooperating agency, the Corps will assist in the proceedings of the EIS in accordance with the Council of Environmental Quality regulations and guidance. Furthermore, it is understood that as a cooperating agency the Corps will be treated in some respects as though it were DOE staff, including having conversations and exchanging information that may not be put into the record, just as the DOE staff shares pre-decisional analysis and information internally. To allow a cooperating agency to intervene in a proceeding or task would make it a party that would be privy to decisional

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236
carl.bauer@netl.doe.gov • Voice (412) 386-6122 • Fax (412) 386-6127 • www.netl.doe.gov

information not available to other parties. Therefore, DOE and the Corps have agreed to the following:

**Responsibilities:**

a. It is understood by the Corps that the current state of the environment is the baseline condition against which all alternatives in the environmental documents will be compared. This includes but is not limited to all "waters of the U.S." and Okatibbee Lake;

b. DOE, as a lead agency, will prepare a preliminary draft of each environmental document ( i.e., Draft EIS, Final EIS);

c. DOE will provide the Corps with a preliminary draft of each environmental document so that the Corps may participate in document development at the drafting stage;

d. DOE will expedite transmittal of documents through the use of ftp sites, email, express mail, or fax, to the greatest extent possible;

e. The Corps will return review comments on drafts of all documents prepared by the DOE within three weeks or within another time frame agreed upon;

f. The Corps will provide a review of the analysis provided on impacts to "waters of the U.S." including Lake Okatibbee, and text that addresses these impacts for use in each environmental document;

g. The Corps will assist DOE in reviewing the responses to comments received on each environmental document, specifically with respect to comments on impacts to wetlands and Lake Okatibbee;

h. Excluding DOE's Record of Decision, for each environmental document published by the DOE, the Corps will provide a letter stating either its concurrence approving publication or its reason for declining to concur in the publication. The Corps will utilize information contained within the Final EIS to formulate a Record of Decision for the Corps' actions relating to "waters of the U.S.", including Lake Okatibbee;

i. DOE will take responsibility to schedule the key steps in the EIS process; this schedule may be revised from time to time to meet various project and administrative needs;

j. The Corps may attend public hearings held by DOE to obtain public comments on the Draft EIS; DOE will control and moderate the hearings;

k. DOE will be responsible for satisfying Section 106 of the Historic Preservation Act. The Corps will support DOE on any cultural resource issues including preparation of a programmatic agreement if necessary to satisfy Section 106 of the National Historic Preservation Act and will be a signatory on any documentation for which the Corps may at some future date assume either a regulatory role or the lead federal agency role;

l. DOE will be responsible for satisfying Section 7 of the Endangered Species Act (ESA). The Corps will rely upon DOE's analysis for satisfying its ESA responsibility in the permitting process; and

m. The Corps will provide technical assistance to support DOE in consulting with Native American Tribes regarding their concerns with potential environmental impacts of the project. DOE will maintain the sole responsibility under the NEPA for all consultation with regard to Native American Tribes.

**Communication:**

n. DOE and the Corps staff are free to communicate with each other on any issue related to the EIS process and overall project;

o. All predecisional communications between DOE and the Corps, written and verbal, will be kept confidential, to the extent permitted by law. Since EPA Region 4 and the U.S. Fish and Wildlife Service have agreed to participate as informal cooperating agencies, DOE intends to coordinate preparation of certain sections of the environmental documents with these two agencies. Except for communications with these two agencies and with project proponents and others for the purpose of assuring the accuracy of documents, DOE staff and Corps staff will refrain from communicating with persons, groups, or other agencies who are interested in the project, regarding the content of preliminary documents. Any official communication either through official correspondence, email, memos, etc. between the Corps staff and the DOE staff concerning "waters of the U.S.", including Okatibbee Lake, must be included in the record, either: 1) in writing and filed in the record; or 2) at a publicly-noticed meeting where other parties may attend and participate;

p. DOE will provide the Corps with any formal letters sent by DOE to the applicants related to the environmental processes, agency and public comments received during the comment periods for the environmental documents, and any other formal correspondence by DOE that is relevant to the Corps. Likewise, the Corps will do the same for the DOE.

**Staff Coordination:**

q. Mr. Richard A. Hargis Jr. will be the lead contact for the DOE and can be reached by telephone at (412) 386-6065 or email at Richard.Hargis@netl.doe.gov.

r. Mr. Damon M. Young will be the lead project contact for the Corps and can be reached by telephone at (251) 694-3781 or email at Damon.M.Young@usace.army.mil.

s. Mrs. Cindy J. House-Pearson will be the co-lead / alternate contact for the Corp and can be reached by telephone at (205) 290-9096 or email at Cindy.J.House-Pearson@usace.army.mil.

**Termination:**

t. This agreement takes effect upon the signature of agency officials for the Corps and DOE and shall remain in effect until the final DOE Record of Decision is issued. This LOU may be extended or amended upon written request of either party to the LOU and the subsequent written concurrence of the other. Either party to the LOU may terminate it with written notice to the other;

u. If DOE or the Corps cannot participate in this process for any reason, the agreement shall be terminated following the above guidelines.

**Participation in Similar Activities**

v. This instrument in no way restricts the Corps as the cooperating agency from participating in similar activities with other public or private agencies, organizations and individuals as they relate to either the EIS process or a Department of the Army (DA) permit process.

**Non-fund Obligating Document**

w. Nothing in this agreement shall require the Corps or DOE to obligate or transfer any funds as a result of this process.

x. Copies of this letter have been provided to the U.S. Environmental Protection Agency Region 4 and the U.S. Fish and Wildlife Service.

DOE looks forward to the Corps' involvement as a cooperating agency. If you have any questions or comments, please do not hesitate to contact me at telephone number (412) 386-6122 or Mr. Richard Hargis at (412) 386-6065.

Sincerely,

Carl O. Bauer

Carl O. Bauer, Director
National Energy Technology Laboratory

**Concurrence:**

Upon signature by an authorized official of each agency, this document will establish the agreement between the DOE and the Corps on the terms and conditions of the cooperating agency relationship for the Kemper County IGCC Project Environmental Impact Statement.

Byron G. Jorns
District Commander
US Army Engineer District, Mobile
Corps of Engineers

Date: AUG 7 2009

Carl O. Bauer
Director
National Energy Technology Laboratory
US Department of Energy

Date: JUL 3 0 2009

cc:

US Department of the Army
Corps of Engineers – Mobile
Attention: Damon M. "Skip" Young
Project Manager, Inland Branch
Regulatory Division
109 St. Joseph Street
Mobile, Al 36608

US Department of Energy
Attention: Ms. Diane R. Madden
Project Manager
Major Projects Division
626 Cochrans Mill Road
Pittsburgh, PA 15236

US Department of Energy
Attention: Mr. Richard A. Hargis
NEPA Document Manager
626 Cochrans Mill Road
Pittsburgh, PA 15236

US Environmental Protection Agency
Region 4
Attention: Mr. Duncan Powell
Regulatory Program Region 4
61 Forsyth Street, 15th Floor
Atlanta, GA 30303

US Environmental Protection Agency
Region 4
Attention: Ms. Ramona McConney
Regulatory Program Region 4
61 Forsyth Street, 15th Floor
Atlanta, GA 30303

US Fish and Wildlife Service
Attention: Ms. Kathy Lunceford
6578 Dogwood View Parkway
Jackson, MS 39213

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

September 22, 2009

Ms. Kathy Lunceford, Field Supervisor
Ecological Services Field Office
U.S. Fish and Wildlife Service
6578 Dogwood View Parkway
Jackson, MS 39213

Dear Ms. Kathy Lunceford:

As we discussed in our conference call on September 14, 2009, the U.S. Department of Energy (DOE) anticipates that the Draft Environmental Impact Statement (EIS) for the Kemper County Integrated Gasification Combined Cycle (IGCC) Project will be distributed by the end of October of this year. This Draft EIS will address the scoping comments received from your office regarding potential impacts to biological resources in a letter dated October 23, 2008. As you requested in our conference call, the information contained in the EIS will address the methodology used in the surveys for threatened and endangered species.

Informal consultation under Section 7 of the Endangered Species Act was initiated in September of 2008 with conference calls and correspondence. This informal consultation included a tour of the project site and agency meeting that you attended on October 14, 2008. In addition, prior to the initiation of DOE's informal consultation, I understand that you participated in a state and Federal fish and wildlife agency and industry consultation meeting held on April 29, 2008, to assist the Mississippi Department of Environmental Quality in determining the scope and level of detail for collecting biological resource information as required by state regulations.

Based on the information available to date which will be presented in the Draft EIS, DOE has made a preliminary determination that the proposed project may affect, but would not adversely affect, threatened or endangered species or critical habitat. I understand that the U.S. Fish and Wildlife Service may request additional information and/or surveys after reviewing the information in the Draft EIS. After your office provides comments on the Draft EIS, DOE will continue with informal consultation until either DOE determines that formal consultation is required or DOE makes a final determination, with USFWS concurrence, of "may affect but not likely to adversely affect" threatened or endangered species or critical habitat.

We appreciate the assistance provided by USFWS in the preparation of the Draft EIS and look forward to working with you on this important project. Thank you.

Sincerely,

Richard Hargis
NEPA Document Manager

Copy to:
Mr. Ray Aycock, USFWS
Mr. Damon M. Young, Army Corps of Engineers

626 Cochrans Mill Road, P.O. Box 10940, Pittsburgh, PA 15236
Richard.Hargis@netl.doe.gov • Voice (412) 386-6065 • Fax (412) 386-6127 • www.netl.doe.gov

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF:

October 13, 2009

Inland Branch
Regulatory Division

SUBJECT: Department of the Army Consultation; Draft Environmental Impact Statement Release for Availability; SAM Number: SAM-2008-1759-DMY and SAM-2009-1149-DMY.

United States Department of Energy
National Energy Technology Laboratory
Attention: Mr. Richard A. Hargis Jr. (922-1W13)
Post Office Box 10940
Pittsburgh, Pennsylvania 15236

Dear Mr. Hargis:

This response is in reference to the Draft Environmental Impact Statement (DEIS) in which the U.S. Army Corps of Engineers (Corps) is a cooperating agency regarding the proposed Integrated Gasification Combined Cycle Project (IGCC) that includes the proposed Kemper and Lauderdale County Mine Site located to the north of the U.S. Army Corps of Engineers (Corps), Lake Okatibbee Project Site. In September 2008, your agency filed a Notice of Intent to file an EIS. The project has been assigned USACE project number SAM-2008-1759-DMY for North American Coal and SAM-2009-1149-DMY for Mississippi Power Company which should be referred to in all future correspondence with our office. This project is located in multiple Sections, Townships and Ranges of Kemper and Lauderdale Counties, Mississippi.

The Corps has conducted an initial review of the supplemental documentation including the preliminary wetland assessment, stream assessment and proposed mitigation plan dated October 2009 in accordance with Section 404 of the Clean Water Act and information relating to the DEIS. The Corps has agreed for the release of the DEIS for availability and public comment. The Corps has not finalized its review of the supplemental documentation and will continue to evaluate comments provided by the public and any federal, state, and local agencies. A final decision on behalf of the Corps will be provided upon completion of our regulatory review process in accordance with 33 CFR 325.

Copies of this letter have been provided to the U.S. Environmental Protection Agency Region 4, the U.S. Fish and Wildlife Service, the Mississippi Department of Environmental Quality; and the Mississippi Department of Archives and History. If you have any questions

or comments, please do not hesitate to contact me at telephone number (251) 694-3781 or by email at damon.m.young@usace.army.mil.

Sincerely,

Damon M. Young, P.G.
Project Manager, Coastal Branch
Regulatory Division

Copy Furnished:

US Environmental Protection Agency
Region 4
Attention: Mr. Duncan Powell
Regulatory Program Region 4,
61 Forsyth Street, 15th Floor,
Atlanta, Georgia 30303

US Environmental Protection Agency
Region 4
Attention: Ms. Ramona McConney
Regulatory Program Region 4,
61 Forsyth Street, 15th Floor,
Atlanta, Georgia 30303

US Fish and Wildlife Service
Attention: Ms. Kathy Lunceford
6578 Dogwood View Parkway
Jackson, Mississippi 39213

Mississippi Department of Environmental Quality
Water Quality Certification Branch
Environmental Permits Division
Attention: Mr. Harry Wilson, P.E.
Post Office Box 10385
Jackson, Mississippi 39289-0385

Mississippi Department of
Archives and History
Attention: Mr. Jim Woodrick
Review and Compliance Officer
Post Office Box 571
Jackson, Mississippi 39205-0571