ENVIRONMENTAL ASSESSMENT
Tarpon Whitetail Gas Storage, LLC (Whitetail)
Docket No. CP08-46-000
Issued 4/4/08

1.0 PROPOSED ACTION

1.1 Purpose and Need and Proposed Facilities

Whitetail proposes to construct, own, operate, and maintain a currently depleted reservoir natural gas production facility, known as the Aberdeen Gas Field, in Monroe County, Mississippi. The Whitetail Natural Gas Storage Project would accommodate the injection, storage, and subsequent withdrawal of natural gas for redelivery in interstate commerce. Upon completion of the project, the reservoir would have a total working natural gas storage capacity of 8.6 billion standard cubic feet.

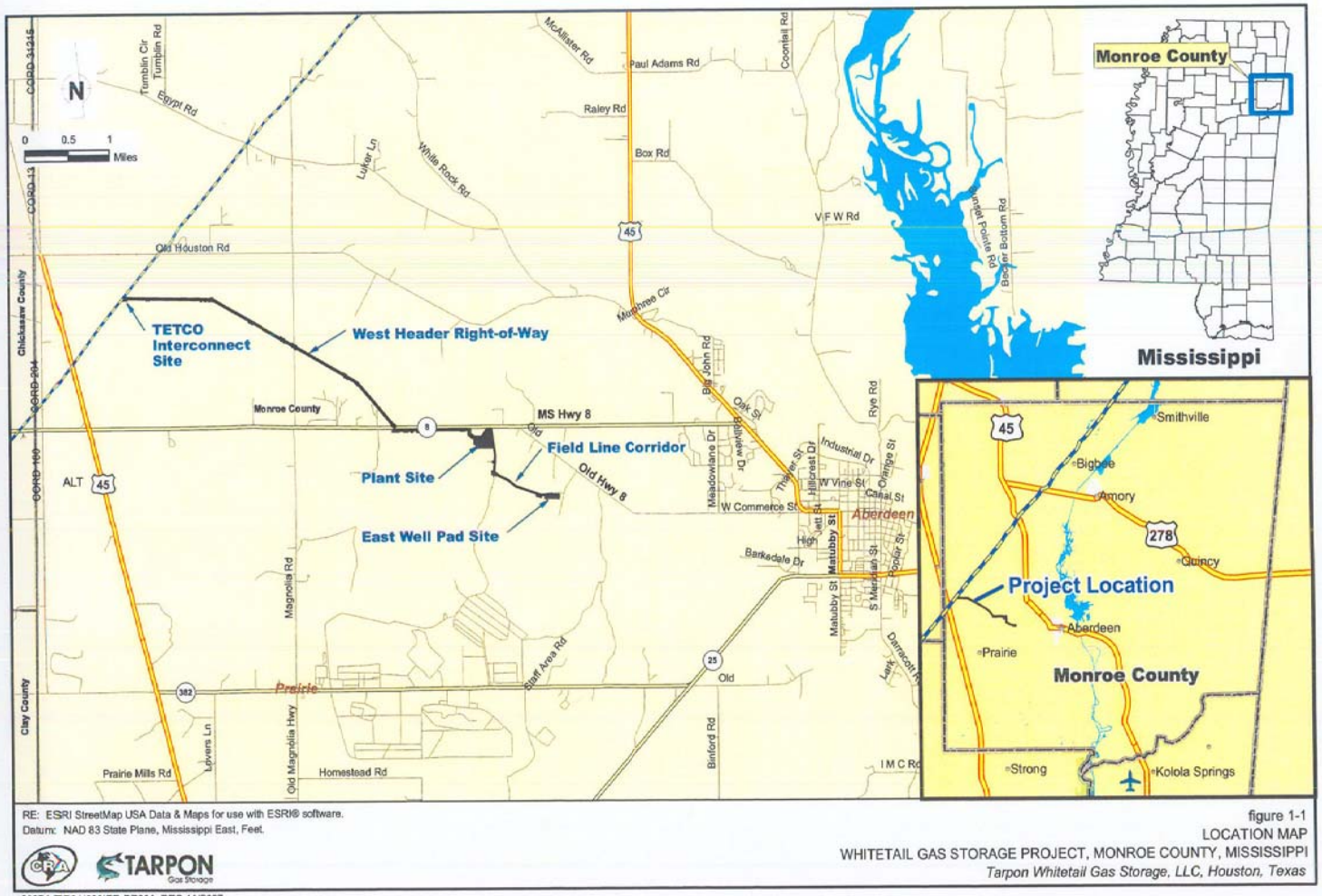
The primary facilities associated with the proposed project are as follows:

- up to 20 injection/withdrawal (I/W) wells and 2 saltwater disposal (S/D) wells in two general locations: the "West Well Pad Area" (9 to 11 I/W wells and 1 S/D well) and the "East Well Pad Site" (5 to 9 I/W wells and 1 S/D well);
- an interconnection (the "TETCO Interconnect") with Texas Eastern's existing interstate natural gas pipeline that includes a meter station, pig launcher/receiver, interconnect piping, and associated facilities;
- about 4.9 miles of 24-inch-diameter pipeline (the "West Header Right-of-way") and 1.0 mile of 16-inch-diameter pipeline (the "Field Line Corridor");
- 14,200 horsepower (hp) of compression (four 3,550 hp natural gas-driven compressors and ancillary facilities) at a new compressor station (the "Whitetail Compressor Station"); and
- two new access roads: one that would connect the "Plant Site"[1] from State Highway 8, and one that would run within the permanent right-of-way of the east-west portion of the Field Line Corridor, connecting an existing gravel road to the East Well Pad Site. (Whitetail would also use existing roads and newly constructed pipeline right-of-way for project access).

The general project location is shown on figure 1.

Figure 1

[1] The Plant Site would contain the Whitetail Compressor Station, the West Well Pad Area, a temporary storage and workspace area, and an "existing facilities" area. These are further described in section 1.4, below.



RE: ESRI StreetMap USA Data & Maps for use with ESRI® software.
Datum: NAD 83 State Plane, Mississippi East, Feet.

figure 1-1
LOCATION MAP
WHITETAIL GAS STORAGE PROJECT, MONROE COUNTY, MISSISSIPPI
Tarpon Whitetail Gas Storage, LLC, Houston, Texas

28971-FR01(009)PR-BR001 DEC 11/2007

We[2] prepared this environmental assessment (EA) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations for implementing NEPA (Title 40 of the Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]), and the Federal Energy Regulatory Commission's (FERC or Commission) implementing regulations under 18 CFR 380.

1.2 Nonjurisdictional Facilities

Whitetail states it is working with Okolona City Electric (OCE) to provide electric service to the Plant Site, the East Well Pad Site, and the TETCO Interconnect, as follows:

- Plant Site: OCE would install a pole-mounted meter and service drop line adjacent to the north boundary of the site, providing power from an existing electric distribution line that runs between the site boundary and State Highway 8.
- East Well Pad Site: OCE would construct a service drop line from an existing electric distribution line. The drop line route begins at Old State Highway 8, parallels a gravel farm road for about 1,200 feet and then turns west for about 300 feet to the site.
- TETCO Interconnect: OCE would install a pole-mounted meter and service drop line adjacent to the southwest boundary of the site, providing power from an existing electric distribution line.

No federal permits are required for these nonjurisdictional electric distribution lines to Whitetail's proposed facilities. State and local permits for the installation of the power lines would be obtained by OCE at the time of construction. We have determined that the FERC's control and responsibility is not sufficient to extend our environmental review to include these minor nonjursidictional electric distribution lines.

1.3 Public Review and Comment

Whitetail contacted all landowners and public officials that may be affected by the proposed project, in accordance with the Commission's regulations. On January 8, 2008, the Commission issued its *Notice of Application for the Whitetail Natural Gas Storage Project*. This notice solicited comments on environmental and non-environmental matters pertaining to Whitetail's proposal. Two motions of intervention were received. One, by Monroe Gas Storage Company, LLC, did not raise any environmental concerns.

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[2] "We," "us," and "our" refer to the environmental staff of the Office of Energy Projects.

The other intervention was by landowner Richard Evans, who also submitted comments during the scoping period. Many of the issues Mr. Evans raised were non-environmental in nature and outside the scope of this EA (e.g., how Whitetail conducts its business ventures; mineral rights law; the actions of other natural gas, storage, and well disposal industries in the project area; and the progress and terms of easement negotiations, including issues related to eminent domain[3]). The comments related to potential environmental impacts are addressed in the applicable sections of this EA.

On January 23, 2008, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Whitetail Natural Gas Storage Project and Request For Comments on Environmental Issues* (NOI). The NOI was sent to about 250 individuals, organizations, federal and state agency representatives, county and local government agencies, elected officials, the local newspaper and library, property owners in the proposed project area, and other interested individuals. The NOI was published in the Federal Register on January 30, 2008. The NOI requested written comments from the public on the scope of analysis for the EA and outlined how to become an intervenor in the proceeding. The comment period closed February 25, 2008. We received comments from the U.S. Fish and Wildlife Service (FWS), the Mississippi Natural Heritage Program (MNHP), and those mentioned above from Mr. Evans.

On January 30, 2008, the Commission issued a *Notice of Public Scoping Meeting and Site Visit for the Proposed Whitetail Natural Gas Storage Project* (Meeting Notice). The Meeting Notice was mailed out as above and published in the Federal Register on February 6, 2008. The site visit was conducted during the day of February 14 and the public scoping meeting was held that evening. About five people not associated with Whitetail attended the site visit, including Mr. Evans. FERC staff was able to visit and take photos of the proposed Plant Site and East Well Pad Site, and portions of the proposed Field Line Corridor and West Header Right-of-way pipeline routes. About 20 people attended the scoping meeting. While several questions about the project and the proposed storage field boundary were asked, no environmental issues were raised.

1.4 Land Requirements

The construction and development of the storage field itself would encompass about 2,850 acres. An additional buffer zone, defined by the Mississippi Oil and Gas Board (MOGB) as necessary to ensure reservoir integrity, would bring the total project area to 4,840 acres. Surface disturbance of the proposed project would be limited to a

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3 Whitetail's negotiations with Mr. Evans for monetary compensation relate to the underground storage. The project would not require a surface easement on Mr. Evans' property.

total of 106.4 acres associated with construction of the pipelines, TETCO Interconnect, Plant Site, and the East Well Pad Site.

The West Header Right-of-way would be constructed using a 100-foot-wide right-of-way, of which 50 feet would be maintained for pipeline operation. The Field Line Corridor would also use a 100-foot-wide construction right-of-way. However, about 0.3 mile would have a 50-foot-wide permanent easement and the other 0.7 mile would have a 60-foot-wide permanent easement. These pipelines would together require about 79 acres of temporary disturbance for the construction rights-of-way, including extra work spaces. Of this total, about 36 acres would be retained for Whitetail's permanent rights-of-way.

The proposed TETCO Interconnect site is a 1-acre tract at the northwest terminus of the proposed route for the West Header Right-of-way. This site would be fenced once construction is complete. About 0.8 acre would be permanently converted to natural gas operation; the remaining 0.2 acre would be used only temporarily and allowed to revert to preconstruction condition.

Most of the remaining facilities associated with the proposed project would be constructed within the Plant Site, which is a 24.3-acre tract owned by Whitetail. Within this site, the Whitetail Compressor Station would encompass about 11.1 acres, and the West Well Pad Area (for construction of I/W and S/D wells and ancillary facilities) would encompass about 6.1 acres. About 16.9 of the 17.2 acres for these two locations would be permanently converted to natural gas operation; the remaining 0.3 acre would be used only temporarily and allowed to revert to preconstruction condition. An additional 4.3 acres of the Plant Site would be used as temporary work space, pipe storage, construction offices, and similar use and would be allowed to revert to preconstruction condition. The remaining 2.8 acres of the Plant Site consists of an existing facilities area[4] which would not be disturbed by Whitetail's proposed construction, though it could be used for operational purposes. Once the project is completed, Whitetail would construct a permanent security fence around the Plant Site. Whitetail's new permanent access road to the Plant Site would be about 50 feet long and 30 feet wide.

The proposed East Well Pad Site is about 1 mile southeast of the Plant Site and at the eastern terminus of the proposed Field Line Corridor pipeline. This site would

[4] The existing facilities area consists of inactive gathering and metering facilities installed by a previous operator of the former production field.

encompass about 5 acres for construction of I/W and S/D wells, a pig launcher/receiver, and ancillary facilities related to the wells and pipeline. About 4.7 acres at this site would be permanently converted to natural gas operation; the remaining 0.3 acre would be used only temporarily and allowed to revert to preconstruction condition. Whitetail's new permanent access road to the East Well Pad Site would be within the 60-foot-wide permanent right-of-way of the east-west portion of the Field Line Corridor (about 3,520 feet long).

1.5 Construction Methods

The design, construction, and operation of the facilities would be in accordance with U.S. Department of Transpiration (DOT) requirements in 49 CFR Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*, as well as other required federal, state, and local permits and regulations. In general, Whitetail would use standard construction techniques (i.e., clearing, grading, excavation, stringing, bending, welding, coating, lowering in, backfilling, testing, cleanup, and restoration) to install the pipelines and aboveground facilities. Drilling procedures for the I/W and S/D wells would be in accordance with MOGB requirements and guidelines. No mud pits would be installed for well drilling; instead, portable steel mud tanks would be utilized to capture drilling fluids.

Specialized construction methods would be used to cross waterbodies and wetlands (see sections 2.3 and 2.4, below), as well as roads and foreign utility lines. Public road crossings would be horizontally bored. Private and/or unpaved roads would be open cut as quickly as possible, leaving a traffic travel lane in place if necessary. No residences are located within 50 feet of any proposed construction area; therefore, no specialized residential construction methods would be necessary. No areas of rugged topography would be crossed, and no blasting is anticipated. Special construction techniques proposed for agricultural land are discussed in section 2.7, Land Use.

After construction and prior to placing the pipeline in service, Whitetail would hydrostatically test the pipe in accordance with DOT regulations, Whitetail's specifications, and typical hydrostatic testing procedures to ensure the pipeline system is capable of operating at the design pressure. Water used for hydrostatic testing would be acquired from local sources and/or trucked to the site. Whitetail estimates that the volume of water that would be needed is 575,000 gallons. Should a leak or break occur during testing, the line would be repaired and retested until the specifications are met.

Whitetail would minimize potential impacts of pipeline construction by implementing the measures contained in its Erosion and Sedimentation Control Plan (ESCP). We have reviewed the ESCP and find that it is generally consistent with the FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC Plan) and

Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures). The ESCP also addresses stormwater requirements and U.S. Army Corps of Engineers (COE) Nationwide 12 permit conditions. In accordance with the FERC Procedures and prior to construction, Whitetail would also developed a Spill Prevention, Control, and Countermeasure Plan (SPCC Plan), which would minimize the potential for, and impacts of, any inadvertent releases of petroleum products or other hazardous materials into the environment during project construction.

Prior to construction, Whitetail would conduct environmental training for company and contractor personnel to familiarize them with the environmental requirements pertaining to the project, including the ESCP; FERC Plan and Procedures; SPCC Plan; conditions of the FERC Certificate; conditions of other applicable federal, state, and local permits, approvals, and clearances; any applicable project-specific mitigation plans; and any site-specific construction plans. Whitetail would have at least one environmental inspector (EI) per construction spread in addition to the chief inspector, specific construction discipline inspectors, and safety inspectors. The EI would have the authority to enforce FERC Certificate and other permit conditions as described in the ESCP. The EI would have "stop-task" authority if sensitive environmental resources are threatened by a particular activity.

Whitetail anticipates beginning construction of the Whitetail Natural Gas Storage Project in July 2008 and anticipates that the project would be completed by May 2009. Whitetail estimates that construction would require a temporary workforce of 75 to 120 workers.

1.6 Permits, Approvals, and Regulatory Requirements

Construction and operation of the Whitetail Natural Gas Storage Project would occur in accordance with various federal, state, and local permits in addition to the FERC Certificate (see table 1).

TABLE 1

Permits, Approvals, and Consultations for the Whitetail Natural Gas Storage Project

PERMIT/CERTIFICATE/ APPROVAL AGREEMENT	AGENCY	SUBMITTAL DATE	RECEIPT DATE
FEDERAL			
Certificate of Public Convenience and Necessity (Natural Gas Act)	Federal Energy Regulatory Commission	December 2007	Anticipated June 2008
Nationwide Permit 12 (Clean Water Act Section 404)	U.S. Army Corps of Engineers	December 2007	Anticipated April 2008
Section 7 threatened and endangered species consultation (Endangered Species Act)	U.S. Fish and Wildlife Service	August 2007	September 2007 and February 2008
STATE OF MISSISSIPPI			
Permits to discharge hydrostatic test wastewater; stormwater permits	Mississippi Department of Environmental Quality (MSDEQ)	Prior to construction	Prior to construction
Section 401 Water Quality Certification	MSDEQ	April 2008, if required	Anticipated April 2008
Road crossing permits	Mississippi Department of Transportation	Prior to construction	Prior to construction
Air permit (construction)	MSDEQ	February 2008	Prior to construction
Air permit (operation)		Within 1 year of commencing operations	Within 6 months of permit submittal
Approval of gas storage unit	Mississippi Oil and Gas Board	September 2007	December 2007
Section 106 cultural resources consultation and review (National Historic Preservation Act)	State Historic Preservation Officer	January 2008	January and February 2008
State endangered species consultation	Mississippi Natural Heritage Program	July and August 2007	July and September 2007; February 2008

2.0 ENVIRONMENTAL ANALYSIS

2.1 Geology

The Whitetail Natural Gas Storage Project area is located in the Black Warrior Basin. Monroe County and the surrounding area are geologically comprised of recent alluvium overlying bedrock in the valley bottoms with surface exposures of weathered Cretaceous bedrock in the uplands. Regional bedrock consists of marl and chalk, with shale, sandstone, and gravel lenses present in the deeper formations. Surface topography is characterized by low, rolling hills dissected by the gently sloping alluvial valleys of James and Cedar Creeks. Elevation in the project vicinity ranges from about 200 to 300 feet above mean sea level.

The proposed project would convert the depleted Aberdeen Gas Field into a natural gas storage reservoir. The Aberdeen Gas Field is geologically situated within a layer of porous sandstones known as the Lower Carter Sands and the Sanders Sands, which are completely separated from other porous zones by an impervious layer of shale. The storage depth of these sandstone units is about 3,430 to 3,620 feet below ground surface.

Geologic Hazards

The proposed project does not cross any known faults or significant seismically active areas. The project area is at low risk for the occurrence of earthquakes. Landslides are not expected due to the relatively low relief of the area. No areas of subsidence, karst, or sinkholes have been identified in the project area, and we do not believe that the project would be significantly affected by geologic hazards.

Mineral Resources

The predominant mineral resources in the project vicinity are oil and natural gas. However, no areas of active production would be affected by the project. Natural gas production of the Aberdeen Gas Field ceased in 1984. No other mineral resources or surface mines are present in the immediate project area.

2.2 Soils

Eight soils series (Brookville, Eutaw, Houlka, Houston, Leeper, Una/Tuscumbia, Vaiden, and West Point) occur in the general project area. They range from poorly drained to moderately well-drained and most are suitable for the crops commonly grown in Monroe County. The Eutaw and Una/Tuscumbia series are suited to pasture and trees and to a few kinds of row crops.

Pipeline construction activities have the potential to adversely affect soils if not properly mitigated. Impacts could include erosion due to the action of wind or water, reduction of soil productivity by mixing topsoil with subsoil, soil compaction and rutting due to heavy equipment traffic, and contamination from spills and releases of toxic substances. The FERC Plan and Whitetail's ESCP contain measures (e.g., minimizing the quantity and duration of soil exposure, segregating topsoil from subsoil, installing and maintaining erosion and sediment control measures, reestablishing vegetation as soon as possible following final restoration, and others) that would minimize impacts on soils. The SPCC Plan would specify preventive measures and cleanup/disposal procedures related to spills.

Whitetail searched U.S. Environmental Protection Agency (EPA) and Mississippi Department of Environmental Quality (MSDEQ) databases to determine whether there are any known hazardous waste sites or soil or groundwater contamination sites that could be crossed by project activity. No such sites were identified within 0.25 mile of the proposed pipeline or aboveground facilities. Further, Whitetail has developed an unanticipated discovery plan that contains identification, stop work, notification, and handling measures in the event contaminated soils or sediments are encountered during construction.

Soil characteristics that could be affected by construction include prime farmland soils, hydric soils, and compaction-prone soils (table 2). Erodible soils, high shrink/swell soils are also present, as are areas of fertile topsoil. Topsoil in the project area ranges from 6 to over 12 inches in depth.

TABLE 2

Soil Limitations for the Whitetail Natural Gas Storage Project Pipelines (in Acres)

PIPELINE	PRIME FARMLAND	HYDRIC	COMPACTION PRONE	FLOODING OCCASIONALLY OR FREQUENTLY
West Header Right-of-way	61.0	1.6	65.2	16.4
Field Line Corridor	11.3	1.4	13.7	11.4

Note: acreage totals include extra work spaces.

Prime farmland soils are those that generate high production of food, feed, forage, fiber, and oilseed crops with a relatively small expenditure of resources. Most prime farmland soils crossed by the project are actively cultivated, but the definition can apply

to those not currently cultivated. For example, soils currently occupied by pastures, forest, and open land may be classified as prime farmland. The 72.3 acres of prime farmland soils that would be affected by pipeline construction represents about 92 percent of the soils that would be crossed. Construction of the aboveground facilities would also affect prime farmland soils (up to 28 acres). Up to 23 acres of these soils would be permanently affected by the siting and operation of the aboveground facilities. This represents a small percentage of the available prime farmland soils in Monroe County.

About 3 acres of hydric soils, representing about 4 percent of soils crossed, would be temporarily impacted by project construction (also see wetlands discussion in section 2.4). Construction within areas of hydric soils, as well as other areas that are poorly drained, could cause compaction. Soil compaction limits revegetation potential by hindering seed germination, root establishment, and water uptake by plant roots. Whitetail's ESCP contains measures, such as use of timber mats during construction and decompaction efforts during restoration, that would minimize compaction impacts.

Impacts on soils from water and/or wind erosion may be accelerated by removal of surface vegetation and other earth-disturbing activities. Given the limited length (less than 6 miles) of the proposed pipelines, and Whitetail's use of its ESCP, we believe soil impacts from erosion should be minimal.

Whitetail would implement dust mitigation measures as necessary. The primary measure to minimize dust would be soil dampening via water trucks during dry conditions.

2.3 Water Resources

Groundwater

The Whitetail Natural Gas Storage Project area is within the Black Warrior Aquifer system, which consists of the Eutaw, McShan, and Gordo aquifers. These aquifers are highly productive in Monroe and surrounding counties, providing public water supplies to municipalities and industries. The quality of the groundwater is generally good, being soft and generally low in mineral content, although iron, chlorides, and other dissolved solids may be higher in some of the deeper portions. Fresh groundwater (source of drinking water) can extend to about 850 feet below the ground surface in parts of Monroe County. The outcrops for the aquifers are at or near the surface in the general project vicinity; thus the aquifers are capable of providing substantial quantities of water to wells in the project area. None of the aquifers of the Black Warrior Aquifer system are designated by the EPA as sole-source aquifers.

Whitetail's database search identified about 75 domestic, stock, and irrigation wells in the general project vicinity. Four of these may be within 150 feet of the construction right-of-way. Whitetail states that it would attempt to locate them prior to construction and will work with the respective landowners to ensure that project construction and operation would not impact the wells. Whitetail would also conduct pre- and post-construction monitoring of groundwater quality and yield for public and private supply wells located within 150 feet of the construction area. For any well determined to have been negatively impacted by construction, Whitetail would provide a temporary source of potable water and then restore or repair the well, or replace the water supply.

The closest public water supply wells are those that provide water to the City of Aberdeen and are located about 2.5 miles northeast of the project area.

Whitetail states it may need to drill and construct one or more groundwater production wells to supply water for project needs. Whitetail would construct any required water wells within the certificated boundary of the Plant Site and/or the East Well Pad Site. Licensed water well drillers would be used to install any water wells. Construction use of groundwater would be mostly limited to hydrostatic testing (see below) and, to a lesser extent, water for dust control. Whitewater would also use a small amount of water during project operations.

Because pipeline construction is generally confined to depths of about 6 feet, we do not anticipate any significant pipeline construction impacts on the underlying aquifers or groundwater quality.

Mr. Evans raised concerns about potential effects to the freshwater aquifer by Whitetail's saltwater disposal methods associated with the gas withdrawal process. Potable water in the area is extracted from a subsurface depth of about 600 to 900 feet. Whitetail would dispose of excess water produced by gas withdrawal by injecting it at a depth of about 4,700 feet using the proposed S/D wells. Impermeable rock layers between the injection zone, above and below the gas storage zone, would isolate Whitetail's injected water from any potable water.

Storage wells would be constructed in accordance with the MOGB's regulations for protection of groundwater resources. Sufficient surface casing would be run in all wells to extend below the deepest freshwater level. The drilling, casing, cementing, and completion program for all wells would prevent the migration of natural gas or other fluids from one stratum to another. As previously mentioned, Whitetail would capture all drilling fluid with portable mud tanks and would haul the fluids to an approved disposal facility. These measures would ensure that drilling does not adversely impact groundwater supplies in the vicinity of the proposed storage field.

Mr. Evans also raised questions about the potential use of several aging existing wells for gas storage injection. Whitetail has reconfirmed that none of the known existing 28 abandoned wells in the project area would be used for injection or withdrawal related to the proposed project[5]. Whitetail's proposed I/W and S/D wells are those identified in section 1.1 of this EA. All these wells would be new and constructed to current standards.

Spills of hazardous substances during project construction and operation could potentially affect groundwater quality. Whitetail's SPCC Plan would describe the oil and hazardous substances management (storage and disposal) protocols; the preventative measures to be implemented to avoid spills; and the spill response, mitigation, reporting, and remediation measures to be implemented in the event of a spill. It would also specify spill response materials that must be available at the worksite, as well as required spill response training for the construction crew. Implementation of the SPCC Plan would minimize the project's potential short- and long-term impact on groundwater resources.

In conclusion, we have determined that Whitetail's implementation of its ESCP, SPCC Plan, and its proposed private supply well mitigation would adequately minimize impacts on groundwater resources in the project area.

Surface Water

The West Header Right-of-way and Field Line Corridor pipelines would cross 12 intermittent and ephemeral waterbodies (table 3). Many are ditches or agricultural drainages, and all are considered "Classification F" (Agriculture) by the State of Mississippi. All surface waterbodies and channelizations in the project area are a part of the James Creek drainage watershed.

In accordance with the ESCP, Whitetail would complete trenching, pipe installation, and backfilling of "minor" waterbody crossings (less than 10 feet wide) within 24 continuous hours and "intermediate" waterbodies (greater than 10 feet, less than 100 feet wide) within 48 continuous hours, unless a flume is used to allow uninterrupted flows across the trench line. Temporary extra work spaces would be at least 50 feet from the edge of the waterbody unless site-specific conditions do not allow and Whitetail receives appropriate FERC approval. Whitetail states that if it were to use a horizontal drill technique to cross a waterbody, it would file a site-specific plan for FERC approval prior to any such crossing. Per the SPCC Plan, no refueling of vehicles would

[5] Whitetail states it would assess these wells for the need for replugging or other remediation. Whitetail further states it would attempt to locate and remediate an abandoned well on the Evans property, with Mr. Evans' permission.

be allowed within 100 feet of waterbodies unless no reasonable alternative exists, the EI approves, and secondary containment is used.

TABLE 3

Waterbodies Crossed By the Whitetail Natural Gas Storage Project

Pipeline and Station Number	Type	Bank-to-Bank Crossing Width (feet)[a]	Proposed Crossing Method
WEST HEADER RIGHT-OF-WAY			
1242 + 89	ephemeral artificial ditch	6	open cut
1209 + 20	intermittent stream	18	open cut
1203 + 43	ephemeral artificial ditch	4	open cut
1174 + 26	ephemeral natural drain	17	open cut
1150 + 80	ephemeral natural drain	11	open cut
1104 + 71	ephemeral natural drain	4	open cut
1057 + 37	ephemeral altered drain	12	open cut
1051 + 71	ephemeral artificial ditch	10	open cut
1046 + 23	intermittent tributary to James Creek	30	open cut or horizontal drill
1015 + 84	intermittent tributary to James Creek	10	open cut
FIELD LINE CORRIDOR			
113 + 71	intermittent tributary to James Creek	14	open cut or horizontal drill
147 + 40	ephemeral artificial ditch	6	open cut

a: Actual water's width would likely be less. Whitetail reports that many of these waterbodies were dry or barely flowing at time of survey.

Mr. Evans commented that the James Creek watershed was listed as "impaired" as defined under section 303(d) of the Clean Water Act. This regulation requires states to submit lists of waters that do not meet all state water quality standards. The failure to meet water quality standards might be due to an individual pollutant, multiple pollutants, or unknown causes, and can be from point or nonpoint sources. A designation of "impaired" does not preclude construction or operation of the type of facilities proposed

by Whitetail. Neither the COE nor the MSDEQ identified any issues related to construction within the James Creek watershed. It is possible that sediments and waterbodies crossed contain elevated levels of herbicides, pesticides, or other contaminants related to local agricultural practices. Whitetail's use of the ESCP would require the installation of temporary and permanent erosion and sedimentation control structures to minimize impact on surface waters and transport of contaminants within the watershed during construction. In addition, Whitetail would be required to comply with any permit issued by the COE and/or the MSDEQ.

We conclude that the Whitetail Natural Gas Storage Project would not result in a significant impact on surface waters.

Hydrostatic Testing

Whitetail proposes to use about 575,000 gallons of water, obtained from local public or private water supplies, for hydrostatic testing of the pipeline. No chemicals or other agents would be added to the test water. Hydrostatic test water would be discharged into the ditch at station number 147 + 40 of the Field Line Corridor, which feeds into a tributary to James Creek. The discharge method and rate would be controlled to minimize the potential for erosion or scour, in accordance with the ESCP and any state permit. Because only new, clean pipe would be tested, we do not anticipate any impacts from contaminants discharged with the hydrostatic test water.

2.4 Wetlands

Whitetail completed wetland delineations in October 2007. The wetland delineation report and request for jurisdictional determination was prepared and submitted to the COE and filed with the FERC.

Two wetlands would be crossed by the Whitetail Natural Gas Storage Project, one by each of the proposed pipelines (table 4). Two additional wetlands are adjacent to the Field Line Corridor route but would not be crossed or otherwise impacted. All four wetlands are palustrine forested and located in narrow riparian bands adjacent to intermittent drainages. Mr. Evans brought up concerns about construction impacts on wetlands and project facilities being sited in wetlands; however, none of the aboveground facilities nor well sites would be sited in wetlands. Construction-related impacts are discussed below.

TABLE 4

Wetlands Crossed By the Whitetail Natural Gas Storage Project

TABLE 4

Wetlands Crossed By the Whitetail Natural Gas Storage Project

Station Number	Pipeline	Wetland Type	Length of Crossing	Area Disturbed By Construction
1046 + 23	West Header Right-of-way	Palustrine Forested	122 feet	0.20 acre
112 + 51	Field Line Corridor	Palustrine Forested	176 feet	0.29 acre
		TOTAL	**298 feet**	**0.49 acre**

Forested wetlands in the project area are dominated by vegetation with a high tolerance for water within the root zone. Common overstory and midstory species include box elder, black willow, eastern cottonwood, green ash, American elm, honey locust, and sugarberry. Herbaceous and vine species such as Pennsylvania smartweed, blue mistflower, roundleaf greenbrier, poison ivy, Japanese honeysuckle, and trumpet creeper are typical of the understory.

Whitetail would minimize impacts associated with wetland construction through compliance with the ESCP and any COE permit conditions. For example, Whitetail would reduce its right-of-way width to no more than 75 feet when constructing in wetlands and would use temporary erosion control measures to minimize the potential for sedimentation. Temporary work surfaces (e.g., timber mats) or other measures would be used to minimize impacts from construction equipment operating in wetlands. To avoid excessive disruption of wetland soils and native seed and rootstock, grading and excavation within wetland areas would be limited to the area immediately over the trench line unless additional grading is required to provide a safe work area. To facilitate revegetation in unsaturated wetlands, up to 12 inches of topsoil would be removed from the trenchline and stored separately from subsoil.

Following construction, Whitetail would restore the crossed wetlands as nearly as practicable to pre-existing contours and conditions. Temporary construction mats, timber riprap, and other devices would be removed, and permanent erosion control devices would be installed.

Pipeline operation would require a narrow strip over the pipe to be maintained in an herbaceous state. This would represent a permanent conversion of a small amount of forested wetland to a more emergent type. Whitetail would allow understory species to revegetate naturally; however, Whitetail has agreed to plant wetland tree seedlings in the areas used for temporary construction. The impact on the affected portions of forested

wetlands outside of the narrow strip over the pipeline would be long-term rather than permanent. Whitetail also anticipates contributing to a wetland mitigation bank to help offset wetland conversion impacts, in accordance with typical COE requirements.

2.5 Vegetation, Wildlife, Fisheries, and Threatened and Endangered Species

Vegetation

Three general vegetation cover types characterize the area crossed by the proposed facilities: cropland, successional fields (typically land previously used for agriculture now fallow), and forest. Acreages of these cover types that would be impacted by the project are presented in table 5.

TABLE 5

Vegetation Communities Potentially Disturbed by Construction and Operation of the Whitetail Natural Gas Storage Project (in acres)

Project Component	Cropland		Successional Field		Forest		Total	
	const.[a]	oper.[b]	const.	oper.	const.	oper.	const.	oper.
West Header Right-of-way	50.4	22.5	11.6	5.4	3.2	1.5	65.2	29.4
Field Line Corridor	0	0	11.7	5.6	2.0	1.0	13.7	6.6
Plant Site	15.0	10.9	6.5	6.0	0	0	21.5	16.9
East Well Pad Site	3.0	2.9	2.0	1.8	0	0	5.0	4.7
TETCO Interconnect Site	0	0	1.0	0.8	0	0	1.0	0.8
TOTAL	**68.4**	**36.3**	**32.8**	**19.6**	**5.2**	**2.5**	**106.4**	**58.4**

a: Construction impacts are based on a 100-foot-wide temporary right-of-way.

b: Operational impacts are based on a 50- or 60-foot-wide permanent right-of-way (see section 1.4).

Note: Forest acreage totals include both upland and wetland vegetation.

Actively cultivated or rotated cropland covers approximately 64 percent of the project area. Soybeans, wheat, and corn were the dominant crops observed. Incidental species such as Johnsongrass, ragweed, poison ivy, and hairy clustervine are also present. Specific construction methods and impacts discussion for agricultural land is presented in section 2.7, Land Use.

Successional fields represent about 31 percent of the project area. This cover type is dominated by grasses and other herbaceous species, but also contains occasional shrubs and sapling trees. Dominant herbs and forbs include Johnsongrass, Dixie signalgrass, bushy bluestem, Java bean, cutleaf groundcherry, Canada goldenrod, Canadian horseweed, hogwort, and various species of aster. Cottonwood saplings are present at a small number of locations. Most of the successional fields in the project area are part of the Natural Resources Conservation Service (NRCS) Conservation Reserve Program (CRP). The CRP encourages farmers to convert highly-erodible cropland or other environmentally sensitive acreage to vegetative cover in order to reduce soil erosion, enhance wildlife habitat, and protect soil and water quality, among other functions.

The remaining 5 percent of the vegetative cover is represented by various forest types (upland, cutover, and wetland). Upland hardwood forest is limited to isolated stands and wooded strips adjacent to cropland or early successional fields, or along the banks of certain ditches and drainages. Dominant overstory species include Osage orange, Shumard oak, bluejack oak, post oak, mockernut hickory, and hackberry. Eastern red cedar, roughleaf dogwood, and winged elm are present in the midstory layer; and poison ivy, peppervine, trumpet creeper, Japanese honeysuckle, Alabama supplejack, and roundleaf greenbrier are common in the understory. Cutover forest includes opportunistic herbaceous and scrub/shrub vegetation along with isolated, naturally regenerating saplings and mature trees following a timber harvest. Trees and saplings include sweetgum, loblolly pine, honey locust, mockernut hickory, and box elder. Dominant shrub species include Alabama azalea, Chinese privet, and giant cane. The herbaceous layer is dominated by sawtooth blackberry, Japanese honeysuckle, Canada goldenrod, bushy bluestem, little bluestem, American pokeweed, and common reed. The cutover community in the project area is limited to a single stand being used for CRP. Wetland forest was discussed in section 2.4, above.

No protected areas, sensitive plant species, or vegetative communities of special concern were identified within the project area.

Construction of the project would result in impacts to about 106.4 acres of vegetation, typically from clearing and grading. Of this amount, about 58.4 acres would be permanently affected by the presence of the aboveground facilities, the well pad sites, and the pipelines' operational rights-of-way.

Following construction, those areas that were cleared in temporary rights-of-way or workspaces would be allowed to return to agricultural use or revegetated in accordance with the ESCP. In addition, Whitetail states it would actively revegetate cleared forest habitat with saplings or young trees, in coordination with landowners and the Mississippi Forestry Commission. Replanting would be done during the first growing season following construction.

"Permanent" impacts on cropland reflect the presence of the operational rights-of-way, but typical agricultural production would be allowed to revert to the previous use on the permanent easement following construction. More open areas are expected to be fully restored to their pre-construction condition within 2 years of completion of construction. Natural regeneration of shrub or sapling habitat could take 3 to 5 years, while mature forest could take several decades. Whitetail's commitment to active tree replanting (saplings) would aid in the restoration of forest habitat.

Wildlife

The vegetative cover and land use mosaic in the project area provides habitat for wildlife species adapted to the agricultural/forest interface. Common mammal species supported by these habitats include cottontail rabbit; red and gray fox; beaver, squirrel, and various smaller rodents; opossum; raccoon; and coyote. Common bird species include mourning dove, American crow, northern mockingbird, blue jay, and field sparrow. Various other songbirds, as well as raptors and herons, could also be present. A variety of amphibians and reptiles (e.g., various toads and frogs, ground skink, and several species of snake) may also be present in the area.

Whitetail's surveys and agency correspondence revealed no rare, significant, or critical wildlife habitat within the immediate project area.

Impact on wildlife would be primarily attributable to construction noise and habitat loss. Less mobile wildlife may be killed during construction. Temporary displacement of mobile species to similar adjacent habitat would likely result from construction activity. Because of the short length of the proposed pipelines, the period of active linear construction period would be brief (several months), although other project activities such as construction of the compressor station may take longer. Whitetail's use of its ESCP and the timely restoration of construction-impacted areas would minimize temporary and permanent impacts on wildlife habitat in the project area. Also, most of the habitat that would be affected is active cropland, with the ongoing disturbance typical of this use. No large tracts of forest would be crossed, thus avoiding impacts from habitat fragmentation. In addition, Whitetail has committed to avoiding tree clearing (upland and wetland forest) between April 15 and August 15, which should minimize impacts on breeding migratory birds. For these reasons, we do not anticipate significant impacts on wildlife habitat or populations.

Fisheries

The intermittent streams, ditches, and agricultural drainages that would be crossed by the project are considered warmwater fisheries by the State of Mississippi, but do not represent significant fishery habitat. No designated fisheries of special concern would be

crossed. Most of the waterbodies that would be crossed were either dry or barely flowing at the time of Whitetail's field surveys. During rainy seasons, several of the tributaries could contain minnows, sunfish, and shiners; however, the only species of fish seen during the survey was mosquitofish.

Waterbody crossings would be constructed in accordance with the FERC Procedures and Whitetail's ESCP. In-stream impacts could include increased turbidity and suspended solids in the water, and reduced visibility for fish species. Such impacts are expected to be minor and temporary. Whitetail's use of its SPCC Plan would minimize impacts from spills or leaks into surface waters or dry channels.

Threatened, Endangered, and Other Sensitive Species

Whitetail's initial research and correspondence with the FWS and the MNHP indicated that several federally listed or state-listed species (seven mussels, two fish, and a map turtle) could occur in the general project area. However, all of these require aquatic habitat that would not be crossed or affected by the proposed project. In a September 5, 2007 correspondence, the FWS concurred that no federally listed species are present the project area and that no further consultation was necessary. We agree.

In its response to Whitetail (letter dated September 20, 2007), the MNHP expressed concern over downstream aquatic impacts and requested that best management practices be implemented that would avoid runoff of silt or contaminants into waterbodies. Whitetail's use of its ESCP would ensure that proper erosion control and other protective measures are implemented, and use of an SPCC Plan would minimize impacts from spills.

Mr. Evans presented concerns over potential impacts on bald eagles. The bald eagle is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Bald eagles are known to be present in Monroe County and occasionally forage in the general project area, including on the Evans' property. The closest known confirmed bald eagle nest site is an historic nest about 0.8 mile from the project area. Both the FWS (letter dated February 26, 2008) and the MNHP (letter dated February 8, 2008) indicated that the project is not likely to affect this nest site nor bald eagles in general. We agree.

2.6 Cultural Resources

Whitetail completed a cultural resources survey (archaeological and architectural) for the proposed project. The survey included 402.4 acres encompassing the proposed facilities, with a 300-foot-wide corridor examined for the pipelines; and block parcels examined for the Plant Site, TETCO Interconnect, and East Well Pad Site. The report

resulting from the survey was provided to the FERC and the Mississippi State Historic Preservation Office (SHPO).

As a result of the survey, one historic standing structure complex, six newly recorded archaeological sites, and one isolated find were identified. Only one of these, site 22MO1203, was recommended as potentially eligible for the National Register of Historic Places (NRHP), and further eligibility testing was recommended. Whitetail indicated that this site would no longer be crossed by construction activities due to modifications during the project design phase. Thus, site 22MO1203 would be avoided. Whitetail would provide additional protection for the site with fencing and signage during construction. In a letter dated February 18, 2008, the SHPO concurred with the eligibility recommendations in the report, and also with the recommendation for further testing. The SHPO also indicated, however, that "construction plans at this time do not appear to impact the site. With this recommendation, we have no objection with the proposed undertaking." We also concur with the eligibility recommendations, and because the site would be avoided, no further testing is necessary. Therefore, the project would have no effect on any site eligible for listing on the NRHP.

A comment was received from Mr. Evans regarding a potential historic cemetery on or adjacent to his property. No cemeteries were identified within the project survey corridor. No project-related impacts on historic cemeteries are anticipated.

Whitetail contacted the Alabama-Coushatta Tribe of Texas, Chickasaw Nation of Oklahoma, Eastern Band of Cherokee Indians of North Carolina, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, and Tunica-Biloxi Tribe of Louisiana regarding the proposed project. No responses have been received to date. Whitetail has agreed to provide any future correspondence received.

Whitetail provided a plan to deal with the unanticipated discovery of cultural resources and human remains. We requested revisions to the plan. Whitetail provided a revised plan which we find acceptable.

2.7 Land Use

Proposed right-of-way widths and estimated acreage disturbances are presented in section 1.4. Existing land uses crossed by the project include agricultural, forest/ woodland, commercial/industrial, and open land (including CRP areas). Descriptions and acreage of disturbance (both temporary and permanent) for all of these except commercial/industrial were included in the vegetation discussion and table 5 in section 2.5, above. There are no residences located within 50 feet of the pipeline routes or any aboveground facility locations.

Agricultural land

Whitetail would strip and segregate the topsoil layer up to a depth of 1 foot, as described in the ESCP. After the trench is backfilled with subsoil, the topsoil would be replaced. Unless otherwise required by the landowner, Whitetail would leave a crown over the trenchline to compensate for settling. In addition, Whitetail has agreed to construct both pipelines with at least 4 feet of cover, to better accommodate local agricultural practices and tilling. Following construction, Whitetail would test soils for compaction. Any compaction issues would be resolved as per the ESCP. Prior to construction, Whitetail would contact landowners and the NRCS to locate any existing and determine future locations of drainage tiles and irrigation systems. Water flow in crop irrigation systems would be maintained unless shutoff is coordinated with the affected parties.

Construction and operation of the two pipelines would have a minimal disturbance on agricultural land use, as crops would be allowed to grow over the permanent right-of-way. Operation of the aboveground facilities would permanently convert about 14.7 acres of agricultural (non-CRP) land to industrial/commercial use. Whitetail's ESCP and the FERC Plan require monitoring of the right-of-way for at least two growing seasons to ensure successful revegetation. In agricultural areas, revegetation is considered successful when the crop yield on the right-of-way is similar to the yield in the adjacent area. Whitetail states that if vegetative cover and density are not similar or there are excessive noxious weeds after two full growing seasons, it would hire a professional agronomist to determine the need for additional restoration measures such as fertilizing or re-seeding. To ensure that agricultural impacts during construction are minimized and to facilitate effective restoration in active cropland, **we recommend that Whitetail employ EI(s) for the project who are qualified as agricultural specialists (i.e., knowledgeable about Mississippi farming practices)**.

Forest/Woodland

Impacts on forest and woodland are discussed in the vegetation section, above.

Industrial/Commercial Land

Impact on commercial/industrial land would be limited to crossings of State Highway 8 and Watkins Lane by the West Header Right-of-way. These roads represent about 200 feet (0.5 acre) of disturbance. Crossings of minor roads and other utility lines would also be included in this land use category. Whitetail proposes to bore beneath paved public roads, allowing them to remain open during construction. Other roads

would be crossed by open-cut construction, which would require temporarily closing the road and implementing detours. If no reasonable detour is feasible, Whitetail would ensure at least one traffic lane would be maintained during construction, to the extent possible. Construction disturbance at each open-cut road crossing typically would be limited to 1 day, which is not expected to have a significant impact on local traffic patterns. Detour, warning, traffic control, and safety signs would be posted and roads would be restored to pre-construction conditions. Whitetail would minimize road damage by enforcing local weight limitations and restrictions for construction and material delivery equipment and by using tires or other protection for tracked equipment.

Open Land

As described in the vegetation section, most open land crossed by the project is represented by successional fields that are designated as CRP. About 17.2 acres of CRP land would be disturbed during pipeline construction, of which approximately 8.1 acres would be part of the permanent right-of-way. Whitetail states it would work with landowners and local agencies to determine whether land disturbed during construction can be returned to its CRP use, and expects that most such land can be fully restored to preconstruction condition and use within 2 years following right-of-way restoration.

Operation of the aboveground facilities would permanently convert about 10.5 acres of CRP land to natural gas industrial use. This represents only a small percentage of the acreage of CRP land in Monroe County. As such, we do not believe this impact to be significant.

2.8 Air Quality

Monroe County is classified as in attainment with the Mississippi Ambient Air Quality Standards for criteria pollutants, which are the same as the federal National Ambient Air Quality Standards (NAAQS).

Air quality could be affected by construction and operation of the proposed pipelines, compressors, and associated equipment. During construction, a temporary reduction in the local ambient air quality could result from fugitive dust generated by construction activity as a result of equipment traffic and wind erosion of excavated areas. The quantity of fugitive dust emissions would be dependent on the moisture content and texture of the soils that would be disturbed. Dust would be minimized throughout the construction period by use of conventional dust suppression and mitigation techniques such as soil erosion and sedimentation control; restrictions on where vehicles can travel onsite; speed controls for construction vehicles and equipment; proper maintenance of construction equipment; and watering of exposed soil for dust suppression.

There would also be emissions associated with engine exhaust from off-road construction equipment. These emissions would be typical of the type of emissions commonly observed at construction sites and would be temporary. Proper maintenance of construction equipment would minimize such emissions.

Operation of the Whitetail Compressor Station would consist of the following potential air emission sources: four 3,500 hp reciprocating engines, an emergency generator, various tanks, the triethylene glycol natural gas dehydration system, fugitive emissions from equipment leaks, and minor emissions from delivery trucks.

During operation, the engines and other pollution sources would emit varying amounts of pollutants. Those of highest concern include nitrogen oxides (NO_x); carbon monoxide (CO); sulfur dioxide (SO_2), particulate matter under 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$), hazardous air pollutants (HAPs), and volatile organic compounds (VOC). Since natural gas contains very little sulfur, emissions of SO_2 would be minimal. The compressor station emissions would not have any noticeable odors.

Table 6 shows estimated emissions during construction, while table 7 shows potential operational emissions.

TABLE 6

Estimated Construction Emissions (tons)

Year	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	HAPs[a]
2008	1.9	12.1	16.6	10.2	1.9	0.01	0.27
2009	0.9	4.6	7.9	2.1	0.6	0.00	0.11

a: HAPs totals include only benzene, formaldehyde, acetaldehyde, 1,3-butadiene, and acrolein.

TABLE 7

Summary of Estimated Controlled Potential Operational Emissions (tons per year)

Source	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	HAPs[a]
Compressor Engines	41.40	86.39	58.62	0.22	3.78	3.78	-
Dehydrator	0.84	1.60	1.35	0.01	0.12	0.12	-
Compressor Blowdowns	4.46	0	0	0	0	0	-
Tanks	1.97	0	0	0	0	0	-
Truck Loading	0.37	0	0	0	0	0	-
Fugitives	9.55	0	0	0	0	0	-

TABLE 7

Summary of Estimated Controlled Potential Operational Emissions (tons per year)

Emergency Generator	0.25	8.73	0.68	0	1.07	1.07	-
Totals	**58.3**	**96.7**	**60.6**	**0.2**	**3.9**	**3.9**	**14.5**

a: Individual HAPs are not listed for each piece of equipment. The Highest individual HAP is 9.49 tons per year.

The Title V Permit program, as described in 40 CFR Part 70, requires major sources of air emissions to obtain federal operating permits. The Whitetail Compressor Station, if uncontrolled, would be a major source of emissions. Whitetail would add emission controls and limit the maximal operation of the compressors to restrict emissions of NO_x and CO to below 100 tons per year (tpy). A state synthetic minor permit would be filed with the MSDEQ. With the controls in place the facility would be permitted as a major source of air emissions under Title V, and a minor source under the Prevention of Significant Deterioration of air quality regulations. Considering the attainment status of the region and the type of emissions, some degradation of the air quality would occur but no significant impact on air quality is expected.

To determine the impact of NO_x on ambient air quality, an air quality screening analysis was performed. The analysis used the SCREEN3 model to provide a preliminary assessment of short-term air quality impacts from the compressor engines, which were then scaled to longer averaging periods. The analysis considered impacts of NO_x emissions at the station property boundary, off-site ground level receptor, and on the nearest elevated receptor. The result of the screening analysis is summarized in Table 8.

TABLE 8

Estimated (Modeled) Impacts on Air Quality

Modeled Concentration	NO_x	CO
Maximum Modeled Concentration	20.4 $\mu g/m^3$ (annual mean)	180.9 ppm (1-hr average) 126.6 ppm (8-hr average)
Background Concentration	9 $\mu g/m^3$ (annual mean)	100 ppm (1-hr average) 100 ppm (8-hr average)

TABLE 8 Estimated (Modeled) Impacts on Air Quality		
Combined Concentration	29.4 µg/m^3 (annual mean)	281 ppm (1-hr average) 227 ppm (8-hr average)
NAAQS	100 µg/m^3 (annual mean)	40,000 ppm (1-hr average) 10,000 ppm (8-hr average)
Exceeds NAAQS	No	No
Note: µg/m^3: micrograms per cubic meter ppm: parts per million		

The impact estimates are well below the NAAQS for NO_x and CO. The screening model overestimates the concentration of pollutants to account for a margin of safety. Furthermore, the model is conservative and does not account for site-specific meteorological conditions. Thus, the Whitetail Natural Gas Storage Project would not have a significant impact on ambient air quality.

2.9 Noise

Local noise levels can be affected during construction and operation of pipeline, storage wells, and compressor station facilities. The ambient sound level of a region is defined by the total noise generated within the specific environment, and is usually comprised of sounds emanating from natural and artificial sources. The EPA has determined that noise levels should not exceed a day-night sound level (L_{dn}) of 55 decibels on the A-weighted scale (dBA), the level which protects the public from indoor and outdoor activity interference. The Commission's regulations require that any new compressor station not exceed this level at any noise sensitive area (NSA). An L_{dn} of 55 dBA is equivalent to a continuous noise level of 48.6 dBA. The State of Mississippi does not regulate ambient noise levels, nor are there currently any applicable county regulations. The City of Aberdeen does have a qualitative noise measure that requires compliance with a General Nuisance Ordinance.

Construction noise is highly variable. Many construction machines operate intermittently and the types of machines in use at a construction site change with the construction phase. The sound level impacts at the NSAs from the construction activities would be dependent on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles/machines used simultaneously, and the distance between the sound source and receptor. Because of the temporary nature of construction activities, no long-term noise effects are anticipated from construction activity.

Construction of the new wells may occur 24 hours a day, 7 days a week. Such drilling activity has the potential to present a significant noise impact if residences are nearby. However, due to the distance from the West Well Pad Area and the East Well Pad Site to the nearest homes (about 1000 feet away), this noise should not be significant.

Whitetail conducted an ambient sound survey to determine the existing noise levels in the project vicinity. Whitetail also conducted an acoustical analysis to estimate the noise impact resulting from operation of the compressor station. The results listed in Table 9 indicate that the noise attributable to the project should be lower than the requirement of 55 dBA L_{dn} at the nearby NSAs.

TABLE 9

Projected Noise Impacts from Operation of the Whitetail Compressor Station

NSA	Distance and Direction	Ambient Noise (L_{dn}, dBA)	Noise attributable to Compressor Station (L_{dn}, dBA)	Total Noise (L_{dn}, dBA)	Noise Increase (dBA)
1	984 feet North (cluster of 3 homes)	53.9	50.3	55.5	1.6
2	2,888 feet Northwest	53.9	41.8	54.2	0.3
3	4,189 feet Northeast	53.9	40.6	54.1	0.2
4	1,950 feet Northeast	63.0	44.4	63.1	0.1

Whitetail would also install a blowdown at the compressor station to evacuate natural gas from the facility in the event of an emergency, accident, or maintenance. Whitetail would install a silencer on the emergency blowdown to ensure that the noise from blowdowns is significantly reduced. The resultant noise impact at the closest NSA (i.e., NSA 1) due to a blowdown is estimated to be below 35 dBA. This should not result in a significant noise impact at this or other area residences.

We received a comment from Mr. Evans who was concerned about the "screaming turbine" noise. Mr. Evans also informed staff of an additional NSA (a barn converted into an apartment space) that needed to be taken into account.

Whitetail would not be using turbines to drive the compressors; rather, it is proposing to use reciprocating internal combustion engines to drive the compressors. Regardless, the noise concern for both turbines and reciprocating internal combustion engines are an important matter for FERC to address. As can be seen from the noise

impacts presented in table 9, the ambient noise environment is currently very loud. We do not expect the noise to increase significantly over the ambient noise levels. Moreover, if the existing background noises are absent (such as the noise from military overflights commented on by Mr. Evans), the estimated noise impact from the compressor station is still well below 55 L_{dn} dBA. The noise levels at Mr. Evans' apartment (NSA 4 in table 9) would be higher than 55 L_{dn} dBA, but this is a result of the high levels of current ambient noise and not attributable to the proposed compressor station.

To ensure that the closest residents do not experience any significant noise impacts from the proposed project and that the noise attributable to the Whitetail Compressor Station does not exceed 55 dBA L_{dn} at the nearest NSA, **we recommend that Whitetail file a noise survey no later than 60 days after placing the Whitetail Compressor Station in service. If the noise attributable to the operation of the compressor station at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, Whitetail should install additional noise controls to meet that level within 1 year of the in-service date. Whitetail should confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey no later than 60 days after it installs the additional noise controls.**

2.10 Pipeline Reliability and Safety

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The Whitetail Natural Gas Storage Project facilities would be designed, constructed, operated, and maintained in accordance with DOT Minimum Federal Safety Standards specified in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Whitetail's specifications and procedures exceed the requirements in Part 192 and include, among other things, pressure testing to pressures higher than required, patrolling of the rights-of-way more frequently, and 100 percent non-destructive testing of all girth welds.

Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency. The proposed facilities would be connected to Whitetail's Gas Control Department via a Supervisory Control and Data Acquisition system. Key elements of the plan include regular monitoring of wells and procedures for identifying an emergency event and

establishing communication with local fire, police, and public officials. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials.

The standards in Part 192, along with advances in pipeline and wellhead manufacture and well drilling techniques, minimize the potential for accidental gas leakage or other system failure. Whitetail's project construction and operation would represent a minimum increase in risk to the public and we are confident that with the options available in the detailed design of the facilities, that they would be constructed and operated safely.

2.11 Cumulative Impacts

Cumulative impacts may result when the environmental effects associated with the proposed action are added to impacts associated with projects in the past, present, or reasonably foreseeable future. Cumulative impacts could occur as a result of the construction of multiple projects in the same vicinity and time frame.

Impacts of the Whitetail Natural Gas Storage Project would be primarily additive to existing industrial facilities in the project area. Whitetail's storage facilities would located in an area of historic natural gas production operation. Other pipeline operations (e.g., Texas Eastern's existing pipeline and Egypt Compressor Station) are also in Monroe County. The proposed project would be consistent with like use in the area and would not significantly impact ongoing agricultural operations. Whitetail would coordinate with Monroe County regarding any local utility and road projects with regard to construction access and timing issues. We are not aware of any residential development in the project area that would be affected by the proposed project. No other projects were brought to our attention during scoping that would introduce a significant cumulative impact.

3.0 ALTERNATIVES

The Commission has three possible courses of action in processing a certificate application. It may grant the application with or without conditions; postpone action pending further study; or deny the application. The Commission will decide among these courses of action, depending on which would best serve the public convenience and necessity.

We consider alternatives to a proposed action to determine if any are reasonable and preferable to the proposed action. Alternatives to the Whitetail Natural Gas Storage Project discussed in this section include the "no-action" alternative; system alternatives; alternative project sites; alternative pipeline routes; and alternative facility sites/design configurations. The evaluation criteria we used for our alternatives analysis are:

- technical and economic feasibility and practicality;
- significant environmental advantage over the proposed action; and
- meeting the project purpose and need.

3.1 No-Action Alternative

Under the no-action alternative, no natural gas storage facility would be constructed. The proposed site would not be developed to create natural gas storage capacity and the facilities associated with the storage field would not be built. As such, the environmental effects discussed in this EA would not occur. However, the no-action alternative would not achieve the stated objective of meeting the growing demand for natural gas storage to serve local and regional markets. Whitetail contends that the no-action alternative would continue to limit the availability of flexible natural gas storage services for surrounding customers.

Under this alternative potential natural gas customers may choose other energy sources to compensate for the reduced availability of natural gas. Another company may petition to use the depleted Aberdeen Gas Field for a similar purpose or propose other natural gas storage or pipeline projects. Power providers may elect to use other fuels to provide the requisite power to regional consumers. Such actions likely would transfer impacts from one location to another (and may involve greater, the same, or less impact depending on project length, location, and collocation) but are unlikely to eliminate or substantially reduce the impacts associated with the proposed project which, as discussed in this EA, are not considered to be major or significant.

3.2 System Alternatives

System alternatives are options to the proposed action that would make use of other existing, modified, or proposed natural gas systems to meet the stated objectives. Whitetail's investigations did not identify any economically viable alternate geologic structures within the region in which to construct and operate a natural gas storage facility. Further, Whitetail evaluated the expansion of existing interstate pipeline systems to meet some of the project objectives. Expansion of existing pipeline systems within the region to reach regional markets would result in construction of a pipeline system that would result in greater environmental impacts as compared to those associated with the proposed project, which would use a minimal amount of pipeline construction to interconnect with the Texas Eastern's existing system. We do not find the need to further investigate system alternatives for the proposed project, given that anticipated effects would be minor.

3.3 Project Site Alternatives

Whitetail evaluated oil and gas reservoir locations in 18 Mississippi counties. Based on geologic considerations (e.g., strata depth, field size, and presence of active production), markets, access to major interstate pipelines, and physical site characteristics such as potential environmental impacts and constraints on development, Whitetail decided to propose the depleted Aberdeen Gas Field in Monroe County. This location is within 20 miles of three major interstate natural gas pipelines and exhibits subsurface qualities which are conducive to storage development, including a strong water drive and definite reservoir boundaries. We find the proposed storage field site acceptable.

3.4 Pipeline Route Alternatives

Whitetail considered four pipeline routes for the West Header Right-of-way before deciding on the proposed route. Alternative route 1 (which would have exited the Plant Site to the north before routing toward the west and northwest) was Whitetail's original consideration for the West Header Right-of-way. Whitetail conducted cultural, ecological, and environmental surveys for this routing, and it would likely have been acceptable from an environmental standpoint. However, Whitetail claims that negotiations with a landowner north of the Plant Site were unsuccessful. Thus, Whitetail realigned the routing to cross more company-owned land and to parallel State Highway 8.

Alternative routes 2 and 3 would have involved the purchase (alternative 2) or paralleling (alternative 3) of an existing pipeline right-of-way northeast of the proposed route. However, this would have required either replacing the existing 4-inch-diameter pipeline or expanding the right-of-way in an area constrained by other use. In any event, Whitetail states that the right-of-way was not for sale.

The proposed route involves the same or less impact on streams, woodlands, and wetlands compared to the three alternative routes. As such, and because Whitetail states it has secured all necessary landowner agreements for the proposed route, we find no reason to recommend an alternate route.

3.4 Facility Site/Design Configuration Alternatives

Mr. Evans commented that he was opposed to the proposed location of the Whitetail Compressor Station because of noise concerns. He suggested that the compressor station be built either closer to the East Pad Well Site or further to the southwest of the project area.

Based on its investigations, Whitetail chose the proposed Plant Site and East Well Pad Site due to the sites' proximity to geologic structural highs (atop the reservoir structure) and adjacent to State Highway 8, thus allowing the location of I/W and S/D wells to be sited in two compact well pad sites.

We evaluated a Plant Site location about 0.5 mile south of the currently proposed site. According to Whitetail, this location was acceptable with regards to the underlying strata and proximity to the interconnect point. However, this site is located in a wooded area with no direct access to roads. Thus, we have determined that this site is not preferable to the proposed site which is closer to State Highway 8 and would not permanently impact forest land.

We also considered an alternative well pad site to the east of the proposed East Well Pad Site. However, there is a documented presence of potentially significant cultural resource finds near the well locations. The proposed site would have a smaller footprint and would avoid impacts on sensitive cultural sites.

As discussed in section 2.9, we believe that noise impacts from the proposed Whitetail Compressor Station would be minimized. To ensure that the station is in compliance with acceptable noise thresholds, we have recommended that Whitetail file a noise survey no later than 60 days after placing the Whitetail Compressor Station in service. If the noise attributable to the operation of the compressor station at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, we are recommending that Whitetail install additional noise controls to meet that level within 1 year of the in-service date.

The proposed facility siting minimizes the project footprint, thus reducing surface impacts and avoiding impacts on waterbodies, wetlands, and woodlands. Alternate sites may increase the amount of right-of-way needed for the associated pipeline corridors. In addition, Whitetail owns the proposed compressor station site and has secured all

necessary pipeline easements associated with it. Whitetail reports that "it is unlikely that Whitetail would be able to purchase these [alternate] properties." Because of these considerations, we find the proposed sites for the compressor station and well pads acceptable.

4.0 STAFF'S CONCLUSION AND RECOMMENDATIONS

Based on the analysis in this EA and our review of Whitetail's application and other filed materials, we conclude that if Whitetail constructs and operates the facilities in accordance with its application and supplements, along with our mitigation measures listed below, approval of this project would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any Certificate the Commission may issue.

1. Whitetail shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Commission Order. Whitetail must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
    b. justify each modification relative to site-specific conditions;
    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
    d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**

2. The Director of OEP has delegation authority to take whatever steps are necessary to ensure the protection of all environmental resources during activities associated with construction and operation of the project. This authority shall allow:

    a. the modification of conditions of the Commission Order; and
    b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from construction.

3. **Prior to any construction**, Whitetail shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EI, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets and data responses. **As soon as they are available, and**

before the start of construction, Whitetail shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for the facility approved by the Commission Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Whitetail's exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to this Order must be consistent with these authorized facilities and locations. Whitetail's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipelines to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Whitetail shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

   This requirement does not apply to minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation measures;
   c. recommendations by state regulatory authorities; and
   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of this certificate and before construction begins**, Whitetail shall file an initial Implementation Plan for review and written approval by the Director of OEP describing how Whitetail will implement the mitigation measures required by the Order. Whitetail must file revisions to the plan as schedules change. The plan shall identify:

    a. how Whitetail will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
    b. the number of EIs assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
    c. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
    d. the training and instructions Whitetail will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
    e. the company personnel (if known) and specific portion of Whitetail's organization having responsibility for compliance;
    f. the procedures (including use of contract penalties) Whitetail will follow if noncompliance occurs; and
    g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

        (1) the completion of all required surveys and reports;
        (2) the mitigation training of onsite personnel;
        (3) the start of construction; and
        (4) the start and completion of restoration.

7. Whitetail shall employ EI(s) for the project who are qualified as agricultural specialists (i.e., knowledgeable about Mississippi farming practices).

8. Whitetail shall file updated status reports prepared by the head EI with the Secretary on a **bi-weekly basis until all construction-related activities, including restoration and initial permanent seeding, are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

    a. the current construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;

b. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
c. corrective actions implemented in response to all instances of noncompliance, and their cost;
d. the effectiveness of all corrective actions implemented;
e. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Commission's Order, and the measures taken to satisfy their concerns; and
f. copies of any correspondence received by Whitetail from other federal, state or local permitting agencies concerning instances of noncompliance, and Whitetail's response.

9. Whitetail must receive written authorization from the Director of OEP **before commencing service** of the project. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas of project-related disturbance are proceeding satisfactorily.

10. **Within 30 days of placing the certificated facilities in service**, Whitetail shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
b. identifying which of the Certificate conditions Whitetail has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

11. Whitetail shall file a noise survey **no later than 60 days after placing the Whitetail Compressor Station in service**. If the noise attributable to the operation of the compressor station at full load exceeds an L_{dn} of 55 dBA at any nearby NSAs, Whitetail must install additional noise controls to meet that level **within 1 year of the in-service date**. Whitetail shall confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey **no later than 60 days** after it installs the additional noise controls.