PART IV. OPERATION PLAN

Chapter 27. Surface Mining Permit Applications: Minimum Requirements for Reclamation and Operation Plan

§2701. Responsibilities_____ Acknowledged.

A. It is the responsibility of the applicant to provide to the office the information required by this Chapter, except where specifically exempted in this Chapter.

B. It is the responsibility of state and federal governmental agencies to provide information to the office where specifically required in this Chapter.

PART IV - A. General Requirements

§2703. Operation Plan: General Requirements

A. Each application shall contain a description of the mining operations proposed to be conducted during the life of the mine within the proposed mine plan area including, at a minimum, the following:
1. a narrative description of the type and method of coal mining procedures and proposed engineering techniques, anticipated annual and total production of coal, by tonnage, and the major equipment to be used for all aspects of those operations;

2. a narrative explaining the construction, modification, use, maintenance, and removal of the following facilities (unless retention of such facilities is necessary for post-mining land use as specified in §5431):
a. dams, embankments and other impoundments;
b. overburden and topsoil handling and storage areas and structures;
c. coal removal, handling, storage, cleaning, and transportation areas and structures;
d. spoil, coal processing waste, and noncoal waste removal, handling, storage, transportation, and disposal areas and structures;
e. mine facilities; and
f. water and air pollution control facilities.

RESPONSE:

The mine is primarily a single seam ("I" seam) surface mine, designed to supply approximately 385,000 tons of lignite per year, 1,925,000 tons over the permit term. The actual tonnage could vary from 80,000 to 700,000 tons of lignite per

year based on the open market demands of the activated carbon plant and third party sales. The conceptual five-year permit terms are detailed on Exhibit 2703-1. Explanation of the permit terms are included on Exhibit 2703-1.

The current mining method consists of a mobile equipment fleet for overburden removal. In potential future production plans, there is the possibility of the mobile equipment fleet working concurrently with a dragline to remove overburden. The addition of a dragline will depend on strip ratio, production needs, and available capital. Reclamation activities will be conducted by a similar mobile fleet and support equipment.

Standard engineering techniques have been applied in developing the mine plan. Through analysis of exploration holes, an economically recoverable lignite deposit was outlined. Dependent on actual sales, approximately 8.2 million tons of lignite are projected to be mined in this Permit Area. Criteria used in delineating this deposit include:

- lignite in-place density: approximately 80 pounds per cubic foot;
- mining recovery: approximately 93 percent of in-place tonnage;
- minimum mineable lignite thickness: 18 inches to three feet depending upon overburden depth, which was determined from geologic modeling of exploration holes;
- weathering depth: minimum of 25 feet of overburden, since shallower lignite may be oxidized through weathering and may exhibit unacceptable quality characteristics; and
- maximum overburden depth: approximately 120 feet.

Field exploration activities produced data detailing overburden depths and characteristics, lignite elevations and thicknesses, and additional reserve characteristics. These data were used in developing the mine plan.

A mine plan was developed to provide the nominal design tonnage of 385,000 tons per year, while maximizing economically-recoverable lignite. Based upon this mine plan, Mine Support Facilities were designed and major equipment selected on a class-type basis to accommodate the estimated overburden removal requirements and delivery schedule needs. Generally, the mine will develop in a one open pit mining sequence; however, two open pits could be necessary depending on delivery schedule and strip ratios.

A list of major equipment currently used at the mine is presented in Table 2703-1 along with additional equipment that could potentially be used at the mine site. Other equipment may be substituted in the future as mining conditions and/or economics dictate.

TABLE 2703-1. MAJOR EQUIPMENT LIST

Surface Miner
Excavator(s)
Rear Dump Haul Truck(s)
Bulldozer(s)
Scraper(s)
Motor Grader(s)
Water Truck(s)
Front-End Loader(s)
Tractor & Lowboy

Dragline
Power Transformer Sub-Station
Trail Cable(s)
Electrical Junction Box(es)

Pumps (Various Applications)
Fuel Truck(s)
Lube Truck(s)
Mechanics Truck(s)
Boom Truck(s)
Welding Truck(s)
Sampling Unit(s)
Forklift(s)
Drill(s)
Crane(s)
Man Lift(s)
Light Plant(s)
Air Compressor(s)
Farm Tractor(s) and Implement(s)

Emergency Generator
Water Truck Fill Station(s)
Pickup(s)
Ambulance
SUV(s)
All-Terrain Vehicle(s) (ATV)

All dams, sedimentation ponds, diversions, embankments, and major modifications to these structures will be constructed following the design and

specifications prepared by a qualified Louisiana registered professional engineer and approved by the Office and/or MSHA. As-built drawings will be prepared by a professional engineer who will certify the structure as completed and ready to serve the purpose for which the structure was designed and built.

All sedimentation ponds and embankments will be maintained to protect the integrity of the structures. Slopes will be constructed with erosion protective covers and any rills will be repaired as soon as practical. Spillway structures will be inspected as required and after every significant storm event. If any damage is observed during these inspections, these will be repaired as soon as practical. Inspection reports containing the conditions observed, the needed repairs, and the date of the repairs. An annual inspection report will be prepared under the supervision of a qualified Louisiana registered professional engineer. This report containing information on available storage within the sedimentation ponds, as well as the condition of embankments, will be submitted annually to the Office. Required dam reports will also be submitted to MSHA.

Ponds will be managed such that adequate sediment storage will be maintained. All sedimentation ponds will have sufficient storage to retain the runoff volume corresponding to the 10-year, 24-hour storm event.

Sedimentation pond SP-002 will remain as long as the facilities are being utilized, and then removed and reclaimed during the appropriate phase of bond release. SP-002 and SP-003 control runoff within the watersheds that are anticipated to be mined south of Five Forks Road. In addition, SP-004 through SP-007 will control runoff within the watersheds north of Five Forks Road within the Permit Area.

All ponds will remain in use until reclaimed lands within their watershed area meet the performance standards of the Regulations and in accordance with the requirements of the LPDES permit.

Prior to topsoil/overburden removal, the vegetative cover that will interfere with the use of these materials will be cleared from the areas to be disturbed. All timber will be removed prior to mining operations. Brush piles and/or windrows may be constructed to provide wildlife cover whenever practical. Remaining timber, brush, and tree stumps will be piled by bulldozers and burned and/or buried in the pit in accordance with applicable federal, state, and local regulations.

After timber removal, clearing and grubbing, overburden will be removed for construction or mining activities. Conceptual stockpiles of removed topsoil/overburden materials are identified on Exhibit 2703-1. Locations of conceptual stockpiles associated with construction activities will vary depending on field conditions. However, volumes and haul distances will remain approximately the same for each conceptual stockpile. Side slopes for materials approved for use in the top four feet will be shaped at approximately 3:1 grades to minimize erosion losses. The stockpiles will be revegetated as soon as practical with an annual cover (Appendix 2715-2) to promote surface stabilization. The spoil material will be placed back in the pits and the overburden identified to contain acid-forming or toxic-forming materials will be placed as low in the pit as practical. The approved materials will be used in the top four feet during contemporaneous reclamation activities in accordance with the permanent program performance standards of the Regulations.

Figures 2703-1 through 2703-4 display the proposed excavation plans which will provide at least four feet of approved materials, depending on the type of equipment to be used. The selection of the proposed topsoil substitute material is discussed in detail in Section 2715 of this Permit Application, with reference to Appendices 2531-2, 2531-5, 2531-7, 2531-8, and 2531-9. In the event an insufficient thickness of approved materials is present on the surface, mobile equipment will be used to bring in additional approved materials to compensate for the deficit. The final outcome will be that overburden removal and grading operations will result in a minimum of four feet of nonacid-forming, nontoxic-forming, and noncombustible materials. The native topsoil will be salvaged to be replaced on the disturbed surface in areas for which the use of topsoil substitute materials has not been approved by the Office.

As the overburden removal and loading operations advance, bulldozers will conduct rough backfilling and grading operations. To maintain the mine's projected annual tonnage rate, the overburden removal equipment is scheduled to operate up to 24 hours per day, seven days per week. A variance for an extension from the 180-day time period to a 270-day time period from coal removal to rough grading for the pit area, including the final pit within the area, is requested from the Office. This is necessary due to a variable coal delivery schedule. This operation is not a standard coal supply to a power plant, rather it is to produce activated charcoal, which is a market-driven product. When demand is high, the coal advance is increased and coal is extracted in a timely manner. When demand is down or the plant is down for maintenance or burner testing, the advance and coal extraction is reduced, sometimes greatly. This can be very unpredictable and the mine operation supplies the flexibility required by the activated charcoal plant. When the open pit has delayed activity, the previous two to three pits may have rough regrade delayed because of a lack of

prebench spoil material from the delayed open pit. Even with this delay, rough regrade will be no greater than four pits (note: there are no spoil ridges, as it is not a dragline operation) behind the pit being worked. It is currently planned that bulldozers and motor graders will be able to achieve the desired postmining grade. When distances prohibit the use of bulldozers for final postmining contour work, either a loader and haul truck fleet or scraper fleet will be utilized along with motor graders. Postmining topography is illustrated on Exhibit 2715-3.

Regraded areas may be scarified or otherwise treated, if necessary, to minimize erosion, eliminate slippage surfaces, or promote root penetration. The final postmining surface will be reclaimed in a manner that ensures a minimum cover of four feet over all acid-forming, toxic-forming or combustible materials, prevents excess compaction, and is consistent with the approved postmining land uses and topography. Stabilization of the final surface will involve seeding an annual or perennial cover as soon as conditions allow.

The overburden removal equipment will excavate overburden to above the top of the lignite. A front-end loader, excavator, or surface miner will remove and load lignite into on-highway trucks or haul trucks which will transport the lignite from the active pit to the end users' facilities and/or run-of-mine (ROM) lignite stockpile area as illustrated on Exhibit 2703-1. Blasting will not be required.

To prevent water from hindering loading and hauling activities, a series of ditches and sumps may be constructed in or around the pits to control surface and ground water inflows, as necessary. This water will be pumped through pipes or into ditches and passed through a sedimentation pond prior to discharge.

To provide a source of dry lignite in wet weather conditions, a ROM lignite stockpile will be utilized. It will also serve as a source of lignite when the active pit is inaccessible. The lignite will be placed on the ROM pile by haul trucks or on-highway trucks. This lignite storage area will have a maximum capacity of approximately 75,000 tons and will be maintained, as necessary, by mobile equipment to minimize the potential for spontaneous combustion. Temporary lignite stockpiles also may be utilized in the pit.

All primary roads in the Permit Area will be located, designed, constructed, and maintained in accordance with the approved specifications and the permanent program performance standards of the Regulations. Detailed design plans for these roads are provided under the response to Section 2737 of the Permit Application. The general location of each primary road within the mine plan area is shown on Exhibit 2703-1. The ramps in the active mining areas will be extended as the mining operations advance. The road surface will be maintained on a regular basis by grading, cleaning the ditches, and adding surfacing material when needed. The haulroads will be either mined through or removed and reclaimed at the end of their useful life. When the road is no longer required, and when possible, the materials will be salvaged and the surface will be regraded and reclaimed to the approved postmining land use. Five Forks does not anticipate using any materials that are not salvageable for use in future construction activities. However, in the event that some materials are deemed to be unsalvageable, they will be disposed of in accordance with the LDEQ's requirements for waste disposal.

Berms and ditches will be utilized in rough graded areas to maintain dry pit conditions and retain sediment within disturbed areas. These erosion and water control measures will be used in conjunction with sedimentation ponds and,

therefore, will be installed in appropriate locations. Berms and water control features that are temporary in nature may be constructed with available construction materials then removed and reclaimed at the end of their useful life.

Grading operations will be monitored and controlled to ensure that a minimum of four feet of approved material is maintained over all acid-forming, toxic-forming, and combustible materials.

Combustible refuse, noncombustible refuse, flammable liquids, and chemicals will be handled in accordance with applicable federal, state, and local regulations. Non-lignite wastes will be handled in a manner that will prevent fires and not degrade surface and ground water. Examples of non-lignite wastes generated at the mine include trees and tree by-products, and inert and essentially insoluble waste. The disposal of non-lignite wastes will be conducted in accordance with all federal, state, and local requirements. Waste materials will be reclaimed and reused or salvaged whenever practical. Unsalvageable combustible wastes will, when possible, be disposed of by controlled burning. Tires will be routinely recycled or disposed in accordance with federal, state, and local regulations. Non-lignite, non-hazardous, and non-toxic wastes that are generated during surface mining activities may be disposed of in the mining pits, however, not until appropriate approval from the LDEQ is obtained.

The Mine Support Facilities are shown on Exhibit 2703-1, and will consist of an office building, a shop and warehouse, a ready area for employees, parking for equipment and vehicles, an above-ground fuel and oil storage yard with a fueling and servicing area, and a wash bay. The mine will utilize an existing water supply system, the Chesnut-Readhimer Water System, for potable water. Non-potable water used for dust suppression, fire suppression, and the wash bay will

be acquired from permitted sedimentation ponds onsite. An above ground water tank adjacent to the Mine Support Facilities is a possibility to ensure a supply of water is readily available for fire suppression and the wash bay. All sewage will be treated through a septic tank in accordance with applicable regulatory standards prior to discharge. Fencing and lighting will be installed for safety and security, as deemed appropriate. These facilities will be designed, constructed, and maintained to meet all applicable mining, safety, environmental, and building regulations and codes. All surface runoff from the mining facilities and water utilized by the wash bay will be collected into SP-002.

Power to the office and shop facilities will be supplied by an overhead transmission line. Though not specifically designed into the mine plan at this time, a dragline may be used for overburden removal, requiring a separate electrical distribution system.

All facilities that are part of the Mine Support Facilities will remain in use for the life of the Permit Area, and then removed and reclaimed during the appropriate phase of bond release.

The sedimentation ponds detain the storm runoff from mining areas and will serve to retain sediments and to treat water to meet requirements of the LPDES permit. On an as-needed basis, flocculants may be added to accelerate settling of solids; and additives may be utilized to adjust the pH of the water. When water is discharged from sedimentation ponds, it will meet LPDES effluent limitations developed to protect the surface water resources downstream of the mine. Best management practices (BMP's) will be used throughout the mine to minimize erosion. Examples of these practices may include, but are not limited to, prompt revegetation of reclaimed areas, check dams installed in ditches,

sumps in ditches and inlets, and collection ditches transporting sediment laden runoff. A detailed discussion of sediment control structures is provided under the response to Section 2725 of this Permit Application. Diversions may also be utilized, in which case a detailed discussion is provided under the response to Section 2729 of this Permit Application.

Roads, ramps, and other areas where particulates may be generated will be sprayed regularly with water or other dust suppression additives to minimize generation of particulate matter and provide safe conditions for vehicular movement. Further details regarding the air pollution control plan are provided in Section 2711.

All water pollution and air control systems will remain in use for as long as needed in the Permit Area, and then removed and reclaimed during the appropriate phase of bond release.