REVIEW AND EVALUATION OF SITE ASSESSMENT REPORT
THOROUGHBRED GENERATING COMPANY, LLC

PROPOSED MERCHANT POWER GENERATING FACILITY
CENTRAL CITY, MUHLENBERG COUNTY, KENTUCKY

Prepared for:

KENTUCKY STATE BOARD OF ELECTRICAL GENERATION
AND TRANSMISSION SITING
PUBLIC SERVICE COMMISSION, COMMONWEALTH OF KENTUCKY

Prepared by:

MACTEC ENGINEERING AND CONSULTING, INC.

MACTEC Project 3142-03-0086

MACTEC

MACTEC

September 4, 2003

Mr. John A. Rogness III
Manager, Management Audit Branch
Public Service Commission, Commonwealth of Kentucky
211 Sower Blvd
P. O. Box 615
Frankfort, KY 40601

Subject: **Review and Evaluation of Site Assessment Report**
Thoroughbred Generating Company, LLC
Proposed Merchant Power Generating Facility
Central City, Muhlenberg County, Kentucky
MACTEC Project 3142-03-0086

Dear Mr. Rogness:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to submit the attached, "Review and Evaluation of Site Assessment Report" for the Thoroughbred Generating Station.

Our services were provided in accordance with our contract with Public Service Commission (PSC) of the Commonwealth of Kentucky M0217900. We look forward to assisting the PSC throughout your review process. If you have any questions regarding this report or if MACTEC can be of any further assistance, please do not hesitate to contact the undersigned.

Sincerely,

MACTEC ENGINEERING AND CONSULTING, INC.

Milo B. Eldridge by [illegible] with permission
Milo B. Eldridge
Project Scientist

Nicholas G. Schmitt, P.E.
Senior Principal

MBE/NGS:lmg
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cc: Gresham Smith and Partners
Birch, Trautwein & Mims, Inc.

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SECTION A

BACKGROUND STATEMENT

This document is one of the first reviews of a *Site Assessment Report* (SAR) submitted to the Kentucky State Board on Electrical Generation and Transmission (Board). The SAR was submitted by Thoroughbred Generating Company, LLC (TGC) to the Kentucky Public Service Commission (PSC), serving as staff to the Board. The proposed facility will be known as the Thoroughbred Generating Station (TGS). The PSC retained MACTEC Engineering and Consulting, Inc. (MACTEC) to perform this review. TGC has submitted the SAR to support its application to construct and operate a merchant electric generating facility in Muhlenberg County under SB 257 (the ACT), passed by the General Assembly of the Commonwealth of Kentucky in 2002. The provisions of this ACT are embodied in KRS 278.

PROVISION OF THE ACT ESTABLISHING THE SAR REVIEW PROCESS

The ACT defines a class of merchant power plants and requires them to obtain construction certificates as a prerequisite to the commencement of actual construction activity. The ACT created the Board and gave it authority to grant or deny construction certificates requested by individual applicants. The Board is an arm of the PSC for administrative purposes.

The ACT created the application process and, within the process, the following series of steps for preparing and submitting this report:

1. The applicant files for a construction certificate and pays the fees.
2. The applicant submits required items, including the SAR.
3. If it wishes, the Board may hire a consultant to review the SAR and provide comments concerning the adequacy of the information and to propose mitigation measures. The Board, at its discretion, may direct the consultant to prepare a separate SAR.

4. The consultant must deliver the final report so the Board can meet its own statutory decision deadline – 90 days or 120 days from receipt of an administratively complete application, depending upon whether the Board will hold a hearing.

5. To provide adequate time for public notice, the SAR review is to be complete within 30 days of receipt of an administratively complete application.

COMPONENTS OF A SAR

KRS 278 indicates a complete SAR should include:

A description of the proposed facility that shall include a proposed site development plan that describes:

1. Surrounding land uses for residential, commercial, agricultural, and recreational purposes;

2. The legal boundaries of the proposed site;

3. Proposed access control to the site;

4. The location of facility buildings, transmission lines, and other structures;

5. Location and use of access ways, internal roads, and railways;

6. Existing or proposed utilities to service the facility;

7. Compliance with applicable setback requirements as provided under KRS278.704(2), (3), or (5); and

8. Evaluation of the noise levels expected to be produced by the facility;

An evaluation of the compatibility of the facility with scenic surroundings;

The potential changes in property values resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the facility;

Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and

The impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility.

The site assessment report shall also suggest any mitigating measures to be implemented by the applicant including planting trees, changing outside lighting, erecting noise barriers, and suppressing fugitive dust. separate data collection and additional evaluation.

IMPLEMENTING THE SAR REVIEW PROCESS

TGC's application has triggered this SAR review process to occur under the ACT. Through the PSC, the board retained MACTEC as the consultant to conduct the SAR review. The review included a site visit, follow-up data collection with the applicant and some limited amount of separate data collection and additional evaluation.

SAR REVIEW METHODOLOGY

MATEC and our sub-consultants, Gresham Smith & Partners (GS&P) and Birch, Trautwein and Mims, Inc. (BTM) proceeded in this sequence:

1. Conducted a review of the first SAR review completed under the ACT to obtain preferred procedural approach.
2. Conducted a brief review of secondary data sources to obtain background information and geographic setting for the Thoroughbred project.
3. Conducted a limited review of relevant evaluation criteria to identify potential issues and assessment approaches to serve as benchmarks for review adequacy.
4. Reviewed the contents of the SAR and application.
5. Identified additional information we deemed useful for a proper review, and submitted questions to the applicant via the Board.

6. Conducted the required site visit, including obtaining oral and written information supplied by the applicant, over a two day period in August, 2003.

7. Conducted drive-by tours of selected other sites and their surrounding land uses as reference by applicant as background support information.

8. Conducted interviews and data collection with a number of outside sources as indicated in this document.

9. Compiled and incorporate all of the foregoing into the analysis in support of this report.

REPORT FORMAT AND LIMITATIONS

This report is formatted to be responsive to KRS 278 and our contract. Section A provides a general introduction into the SAR and the review process. Section B provides an executive summary of our review findings. Section C provides the detailed findings and conclusions of the review and also presents any additional information used to develop our findings. Section D presents a detailed discussion concerning recommended mitigation measures and future Board actions.

There are inherent limitations to any review process, in particular a review process that is completed in accordance with the requirements of a newborn program, such as the SAR review. These limitations should be considered when using this report as a decision making tool. Two limitations are apparent: one, the applicant, the PSC staff and MACTEC must use their judgment and work together to determine what is adequate review; and secondly, development of a merchant power plant is an iterative process with a possibility that some features of the facility may change slightly during the development process. MACTEC's review process attempts to include the potential for minor changes in some features, and such minor changes would not impact the outcome of this review.

SECTION B

EXECUTIVE SUMMARY

Description of the Proposed Facility/Site Development Plan

TGS is a proposed 1500-megawatt, pulverized coal fueled, electric generating plant to be located in Muhlenberg County, approximately two miles northeast of Central City in western Kentucky. In Section 8.2 the SAR provides a description of the TGS project in terms of surrounding land uses, legal boundaries, access control, location of buildings, location of access way and internal roads, utility services and setback requirements. Conclusions with respect to the previously listed descriptive elements of the facility follow in the bulleted paragraphs. Other issues associated with site development, including scenic evaluation, potential for property value to change, noise and traffic evaluations and mitigation measures, are discussed subsequently in this report.

- Surrounding land use—The TGS plant site is defined by TGC as a 4,100-acre parcel containing the location of the proposed plant. The majority of the proposed site of the electric generating station is located within the Gibraltar Mining Complex (owned by Peabody Coal Company) and has been previously disturbed by surface and underground mining activities. Because the mining took place before reclamation laws were instituted, the development of the generating station would actually improve the ground surface condition of the site. The Peabody Wildlife Management Area would lie within the boundaries of the site, as shown on Exhibit A of the Scenic Evaluation performed by J.L. Carman & Associates, Inc., in Section 8.3 of the SAR. The nearest residence is approximately 1.2 miles (6,600 feet) away, with Central City sprawl reaching just inside a two-mile radius from the plant and the Green River Correctional Facility falling about 1.5 miles away from the generating station.

- Access Control (and security)—Access to the TGS will be from US Highway 62 with a security building located on the entrance road. Access control and security measures are specified in the SAR, and the power plant facility and the Special Waste Landfill, will be surrounded with a cyclone wire fence at least six feet tall. There will be no public roads within the site.

- Utility services—The proposed site currently has electric and phone service available, and Central City has agreed to extend the potable water and sewer service to the site, with a connection branching from infrastructure on

Highway 277, near the Green River Correctional Facility. Central City will only provide water for consumption and showers; all plant water will be drawn directly from the Green River.

- Setback requirements—As shown on Drawing 8.1 Site Location Map, 2 Mile Radius, SB 257 2(2)(b), the proposed site meets setback requirements under KRS 278.704. The criteria the plant must satisfy is governed by Kentucky state law, as the project is in accordance with all existing local governance, and Muhlenberg County has not adopted any additional zoning ordinances, orders, laws or regulations with regard to the proposed project site (per letter correspondence received June 23, 2003 by Dianna Tickner of TGC from Rodney Kirtley, Muhlenberg County Judge Executive). KRS 278.704 requires "...the exhaust stack of the proposed facility is at least one thousand (1,000) feet from the property boundary of any adjoining property owner and two thousand (2,000) feet from any residential neighborhood, school, hospital or nursing home facility." The nearest site property boundary is at least 2,500 feet from the proposed stack location, the nearest of any one of the listed facilities to the proposed stack location is approximately 8,200 feet.

- Other facility site development plan descriptions provided in Section 8.2 of the SAR—Legal boundaries, location of buildings and location of access way and internal roads appear to be included as outlined in SB 257 5(3)(a)(2), (4) and (5).

Compatibility with Scenic Surrounding

Mr. John L.Carman and Associates, Inc. (JLC) prepared a report detailing scenic compatibility of the proposed power plant and its surrounding area. His analysis identified three visual units, "sensitive environments", that could be negatively impacted by the visibility of the power plant:

1. Western Kentucky Parkway, a primary east-west transportation corridor of the region;

2. The Green River to the north of the proposed power plant; and

3. The residential community of Central City 1.5 miles to south and west of the power plant.

The JLC study assumes that the power plant development will be more visually acceptable than the existing mine development. However, if the plant is visible to the viewers from these locations the viewers could be negatively impacted. Three line of sight assessments were made from the Western Kentucky Parkway, three from Green River and three from Central City. The three land uses and the line of sight profiles represent a radial view-shed of the project.

Residential properties are scattered throughout the forested areas that surround the site. Because the forested vegetative cover and topography precluded any view of the proposed development, no additional line of sight assessments were needed.

The vegetation and topography within the existing, disturbed coal mining area, and the absence of any direct views to the site leave the proposed TGS compatible with its scenic surroundings. The color scheme chosen for the stack and the plant seem to fit or strive to minimize the dominance of the building and stack according to the meteorological conditions typical of the area.

Potential Changes in Property Value for Adjacent Property

There are, according to a study by G. Herbert Pritchett, 35 tracts of land shown on PVA maps as adjacent properties. Their land use breakdown is as follows:

Residential	8
Vacant Residential	4
Correctional Facility	1
Cemetery	1
Industrial/Railroad	1
Industrial/Mining	12
Industrial/Vacant/Mining	6
Agricultural/Mining	1
Church/Cemetery	1

According to aerial photos with the proposed facility platted, none of the residential properties will be closer than 1.25 miles.

There are, within a much-discussed 2-mile radius, approximately 98 residential properties. However, the topography of the area, together with the existing forested vegetation surrounding the site, will allow only the smokestack to be evident.

Governments within the United States have developed land use standards of compatibility to minimize the impact of industrial land uses on adjacent properties. Land use compatibility is a factor considered in general appraisals concerning the "highest and best" use of properties. Many

general issues are considered when siting of facilities in an effort to minimize resulting negative effects on nearby properties and land uses.

The Kentucky Revised Statutes, Chapter 100 (KRS 100) permits local governments to establish zoning and subdivision regulations to govern the use of land within its jurisdictions. However, public utility facilities operating under the jurisdiction of the PSC are excepted from jurisdiction of local Planning Commissions by KRS 100.324. According to the Pennyrile Area Development District, Muhlenberg County does not have zoning district regulations affecting the area of the proposed generation facility. Therefore, there are no limitations on the use of property surrounding the TGS site. Central City, Kentucky, does have a zoning code; however, it does not affect the unincorporated area of the county where the TGC facility will be located.

Based upon Birch, Trautwein & Mims, Inc. (BTM) team review of the subject site, the additional study sites and the analysis of Mr. Pritchett's study, which included review of changes in property values adjoining three similar facilities, the team concurs with the conclusion that adjacent property values will not be adversely affected.

Anticipated Noise Levels from Construction and Operations

Various government and private agencies around the country utilize noise assessment methodologies based on accepted and published techniques. In general these methods are meant to estimate the increase in noise levels caused by various activities above the existing ambient noise levels of the study area.

The typical noise study is accomplished by:

- Identifying nearby sensitive receptors such as residences, schools, churches, parks, etc.;
- Measuring existing ambient noise levels;
- Estimating construction and operation noise levels;
- Calculating the total noise levels due to both the existing ambient levels and the estimated construction and operation level.

In the case of the TGS project, noise concerns are expected to be associated with construction of the facility, "steam blows" at initial start-up, and operational activities.

Burns & McDonnell of Kansas City, Missouri prepared a noise evaluation for the TGS project. The Burns & McDonnell evaluation addresses noise levels which are expected to arise from the TGS project at the property boundary (3,350 feet distant), the nearest residence (6,600 feet), and a nearby church (8,600 feet).

Based upon MACTEC's field visit and review of the Burns & McDonnell evaluation, we agree that the construction and operation of the TGS site should have minimal noise impacts upon nearby residences and other sensitive receptors. However, it is highly recommended that silencers be utilized during start-up "steam blows" as that operation should generate the greatest noise levels.

Impacts of Land-based Transportation

This section of the SAR review involves the Traffic Evaluation, and examines the impacts the proposed TGS will have on the existing roadway system, in this case US 62. Rail impacts regarding the Paducah and Louisville Rail Line were also reviewed. Gresham, Smith and Partners (GS&P), serving as traffic sub-consultant to MACTEC, performed the traffic evaluation review.

Access to the TGS will be from US 62. A new access road will be built into the property between mile markers 20 and 21. US 62 is a two-lane undivided rural road in rolling terrain. The SAR states the existing width of US 62 is 22 feet; a recent check with the Kentucky Transportation Cabinet (KYTC), District 2 indicates the existing pavement width is 20 feet. The existing Average Daily Traffic (ADT) on US 62 is 2,112 vehicles per day (vpd) as indicated on a 2002 traffic count (Exhibit 1) furnished by the KYTC. The SAR states the capacity of US 62 is 33,600 vpd. Further, the SAR states improvements proposed on US 62 at the access road are to include widening for a 320 feet eastbound left-turn lane and a 320 feet westbound right turn lane. The SAR also states the KYTC was consulted regarding the design and construction of the new access to the plant site. The new access road is proposed to be 48 feet wide.

There will be one at-grade railroad crossing of the Paducah and Louisville Rail Line within the plant site. The applicant's SAR states this will be primarily used during construction for large equipment deliveries and during operation for access to the coal combustion waste landfill; the road will be used infrequently during plant operation with access controlled at all times.

Based on the SAR Traffic Evaluation and additional investigation and analysis conducted by the GS&P Traffic Review Team, the following conclusions and recommendations are offered regarding the proposed TGS's impacts on traffic and transportation.

- Peak hour construction traffic generated by the site was analyzed for the peak construction period at the intersection of US 62 and the new access road, and found, with improvements to US 62 as specified, to be manageable, and that the intersection will operate at an acceptable Level of Service (LOS).

- Capacity analysis on the US 62 roadway itself in this vicinity shows the LOS is reduced from an existing C to D in peak hours during construction. While this is somewhat less than desirable, it will occur for a fairly short duration. It is noted the analysis used near worst case conditions.

- Neither truck traffic nor rail traffic appears to present a problem during construction or during normal operation of the facility.

- After construction, during normal operation of the plant, traffic impacts are rather negligible and no problems with traffic would be anticipated.

Recommendations

- TGC plans to stagger arrival and departure times of construction workers. In order for the intersection of US 62 and the new access road to operate safely and efficiently, staggered arrivals and departures need to be maintained as planned – spread over two hours – especially during heavy construction months.

- The new access road from US 62 to the site should allow for two inbound lanes in the AM and two outbound lanes in the PM during heavy construction months.

- The intersection of the new access road and US 62 should be monitored during construction for the possible need for manual (police) traffic control during AM and PM peak periods.

Roadway geometrics on US 62 at the access road could be modified as detailed in this report with approval of KYTC, District 2. Particular recommendations would include elimination of pavement for a westbound left turn lane, and consideration of three 14-foot wide lanes for the new access road with no median so as to facilitate reversible lane operation during construction. See Exhibit 3.

SECTION C

FINDINGS AND CONCLUSIONS

This section provides detailed review and evaluation of each element of the SAR as prescribed in KRS 278.708 (3). It is organized into the following five sections:

1. Description of Proposed Facility/Site Development Plan.
2. Compatibility with Scenic Surroundings.
3. Potential Changes in Property Values for Adjacent Property Owners.
4. Expected Noise from Construction and Operation.
5. Impacts on Land-based Transportation.

MACTEC followed a systematic approach within each subsection: first, MACTEC describes generally accepted assessment criteria; secondly MACTEC summarizes the relevant information included in the SAR; thirdly, we present supplemental information, if any, obtained about TGC during the SAR review and its impacts; and finally, MACTEC draws its own conclusion about TGS impacts and recommended mitigation.

DESCRIPTION OF PROPOSED FACILITY / SITE DEVELOPMENT PLAN

Potential Issues and Standard Assessment Approaches

The applicant's SAR contains information regarding facility description and site development in Sections 8.1 and 8.2; SB 257 5(3)(a) (other evaluations fall under SB 257 5(3)(b) (c) and (e) and SB 257 5(4) in the SAR and are addressed hereafter in individual sections of this report):

- Subsection (a)(1): surrounding land uses for residential, commercial, agricultural and recreational purposes;
- Subsection (a)(2): the legal boundaries of the proposed site;

- Subsection (a)(3): proposed access control at the site;
- Subsection (a)(4): the location of facility buildings, transmissions lines and other structures
- Subsection (a)(5): the location and use of access ways, internal roads and railways;
- Subsection (a)(6): existing utilities to service the facility;
- Subsection (a)(7): compliance with applicable setback requirements as provided under KRS 278.704; and
- Subsection (a)(8): an evaluation of the noise levels expected to be produced by the facility.

Applicant's Submittal

The following paragraphs address the content of the applicant's SAR with regard to the aforementioned bulleted items. In general, the required description of the proposed facility and site development plan is primarily contained in Sections 8.1 and 8.2 of the SAR. Some items of related or supplementary information come from other sections of the SAR.

Surrounding land uses. Section 8.1 identifies the proposed location of the project as a 4,100-acre portion of the Peabody Coal Company Gibraltar Mining Complex that has been previously disturbed by surface and underground mining activities. Section 8.2.1 reports the adjacent land to have been used primarily for surface mining and ancillary facilities, and the spreadsheet of adjacent landowners included in the SAR shows that nearly half of all adjacent land is owned by Peabody Energy. Viewing Map 8.1 Site Location Map..., most of the properties adjoining the site boundaries appear to be wooded or agricultural areas. Relatively few residential areas fall within a two-mile radius of the site, and it appears that none fall within a one and one-quarter mile radius of the site.

Additional information regarding surrounding land uses appears in Sections 8.3 through 8.6 of the SAR, and in their various listed attachments or appendicies.

Legal boundaries. The legal boundary of the site is listed by latitude, longitude and distance values in Section 8.2.2 Legal boundary SB 257 5(3)(a)2. Property acquisition and deed transfer

information is also listed in this section. A separate binder labeled "Property Deeds SB 257 5(3)(a)2" is included with the SAR, and contains copies of the property deeds acquired for the site development.

Access control. In Section 8.2.3 the applicant describes the security and access control features to be utilized at the plant.

> ***Security.*** TGS specifies that a security building will be located on the entrance road where only authorized persons showing proper identification will be allowed to enter the plant. All visitors will be required to sign-in at the security building following a confirmation of their appointment. The building will be staffed 24 hours per day, 365 days per year.
>
> ***Access control.*** The power plant facilities and special waste landfill will be surrounded by cyclone wire fence, at least 6 feet high. Access will be solely through attended or locked gates. The outer property boundary will be delineated with periodic "no trespassing" signs, and no public roads will exist within the site.

Location of buildings. The plant will include approximately 35 buildings, all buildings are shown on Map 8.2.4 Pulverized Coal Generating Plant Location & Building Plan.

Location of access way and internal roads. Access to the Thoroughbred Plant will be from US 62, with entrance design details included in Section 8.6, attached to the SAR. Inside the fenced area of the plant will be an number of asphalt-paved roads and parking areas. The site will also have rail access via the Paducah and Louisville Railroad and per their standards, and barge access along the Green River in the existing Peabody Coal Company Gibraltar slip. All road and rail access details are shown in Map 8.2.5 Access Roads & Rail Siding Map.

Plant utilities. The plant site currently has electric and phone service available. Potable water and sewer service will be extended to the plant site by agreement with Central City for the purpose of consumption and shower water only. The connections for both the potable water and sewer will be made on Hwy 277 near the Green River Correctional Facility. 8.1 Site Location

Map shows all existing and proposed utility locations. In Section 8.2.6 of the SAR a letter from Central City Municipal Water and Sewer System Superintendent, Mr. Jimmy W. Brown, confirms the City's capacity to support the additional load placed on the water and sewer systems by the TGS.

Compliance with applicable setback requirements. Setback requirements and affirmation of compliance are detailed in section 8.2.7 of the SAR. The State has jurisdiction regarding the setback requirements because the local governing body has no ordinances, orders, regulations, laws or anything of the sort in place, and is not promulgating such legislation that would affect the setback requirements for the proposed plant. A letter from Rodney Kirtley, Muhlenberg County Judge Executive, to Dianna Tickner, of TGC, dated June 17, 2003 verifies the governance of KRS 278.704. TGS meets governing setback requirements in that the exhaust stack will not be closer than 1,000 feet to any property boundary, and that there are no residential neighborhoods, schools, hospitals or nursing home facilities within 2,000 feet of the stack location.

Supplemental Investigations, Research and Analysis

After reviewing the information contained in the applicant's SAR, MACTEC sought supplemental means (site visits and documents associated with the proposed project) to more fully describe the details of the proposed facility description and site development plan.

Surrounding land uses. Visits to the proposed TGS site verified information contained in the SAR.

Access control. Although TGC has delineated appropriate access control and security issues, it appears their listed actions may not be adequate to meet industry standards. MACTEC has provided additional measures in the Conclusions and Recommendations section that are typical of power generation facilities and should improve the security of the TGS site.

Location of Buildings. As of August 28, 2003, MACTEC received notice that TGC had updated the permit status section of its application. One of the documents, inserted into Section 5.4.7, entitled "BREC Facility Study (July 31, 2003)" addressed transmission line interconnections and operation details. In this study TGC identified the parties involved in the line interconnections

and stated their continuation in the process of making necessary agreements and contracts in regard to the treatment of the interconnection facilities. The study indicates an intention to diverge from TGC's original plan to use a 345 kV loop for interconnection to using a 345 kV switching station. It was not stated whether this change in interconnection affects the transmission line layout as shown in Map 8.1 Site Location Map. TGC must clarify if the change in interconnection requires the modification of the aforementioned map.

Plant utilities. TGC did not mention the use of natural gas in the SAR. Section B—Emission Points, Emissions Units, Applicable Regulations, and Operating Conditions of the applicant's Title V Air Quality Permit, Permit Number V-02-001, details the necessity of a fuel for plant startup and stabilization. The applicant has not finalized whether it will use number two diesel fuel or natural gas for these activities; therefore no details regarding the use of natural gas as a utility have been included in the SAR. This information will be necessary if TGC decides to use natural gas in plant operations.

Conclusions and Recommendations

Based upon our review of the applicant's SAR, subsequent conversations with the applicant and/or its legal representatives, and additional data collected by MACTEC and our sub-consultants, we have reached the following conclusions and recommendations (all recommendations are underlined) concerning the description of the proposed facility and site development plan:

- TGC has generally complied with the legislative requirements for describing the facility and site development plan with the exception of a few iterative details, which should be added to the SAR as they become finalized.
- TGC correctly identified surrounding land uses as they existed at the time of our review.
- TGC has followed protocol for establishing and recording accurate legal boundaries.
- TGC's plan for access control and security lists appropriate measures, but should be enhanced to specify these additional items:
  - Fenced, lighted plant perimeter.

- Storage buildings with hazardous or dangerous materials must be locked.
- Only personnel who have attended a safety and security induction course will be permitted to work on-site.
- All employees and subcontractors working at the site must have a site security pass (proper identification), which must be carried at all times.
- Access for site personnel and visitors will be through a security gate controlled by security personnel.
- All vehicles entering/leaving the site should be subject to search by TGS security at the discretion of the security officer.
- Speed limit signs should be posted to reflect safe and appropriate speeds in the access road and on roads throughout the site.

- TGC has submitted 8.2.4 Pulverized Coal Generating Plant Location & Building Plan that shows all buildings to be constructed on site. Finalization of transmission lines interconnection features needs to be made and drawings modified if necessary by TGC.
- TGC has submitted 8.2.5 Access Roads & Rail Siding Map that shows both road and rail access to the plan.
- Any utility service not already under contract should ensue under compliance with all state and federal requirements, including required mitigation.
- TGC has submitted a site development plan that is in compliance with applicable setback requirements.
- TGC should notify the Board to seek a permit for construction of any additional major construction item, such as new gas transmission lines and new electric transmission lines, and through proper submittals and reviews, assure the Board that any significant impact is effectively mitigated.
- TGC must clarify if the change in interconnection requires the modification of the aforementioned map.

COMPATIBILITY WITH SCENIC SURROUNDINGS

This section of the SAR review addresses the compatibility of the proposed TGS with scenic surroundings. This component of the SAR is identified in KRS 278.708 (3)(b).

Standard Methodology and Issues for Scenic Studies

Visual project analysis techniques assess the visual attributes of a landscape at the project scale and focus on two key areas: analyzing the landscape as it currently exists and assessing the visual impact of the proposed alterations before they are made.

The basic concepts and procedures of visual resource management systems for government agencies were established over two decades ago, with ongoing updates and revisions.[1] Each method describes the various features of the existing visual setting and the project's proposed visual characteristics, including horizontal and vertical dimensions of structures, structure placement and color, and lighting. The view-shed is identified and key observation points and visual susceptibility are determined. Factors included are viewer exposure, relative project size, season, light conditions, quality, viewer sensitivity, visibility, exposure, contrast and dominance.

A general model for a Visual Impact Assessment is outlined with five steps:[2]

1. Conducting a landscape description or inventory.
2. Assessing user or viewer characteristics.
3. Making preliminary line-of sight determinations.
4. Establishing key observation points.
5. Assessing impacting activity/land use characteristics.

For the proposed TGS facility the project features under review for scenic compatibility are the project structures, any of the stacks, project lighting and plumes. The basic traffic patterns by the construction traffic and the proposed future traffic are not projected to change from the existing traffic patterns. Thus a detailed examination of the traffic pattern is not necessary in this scenic compatibility section.

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[1] U.S. Forest Service. Landscape Aesthetics: A Handbook for Scenery Management, Agriculture Handbook Number 701. 1995; U.S. Bureau of Land Management. Visual Resourve Inventory. BLM Handbook H-8410-1; and Bureau of Land Management. Visual Resource Contrast Rating BLM Handbook H- 8431-1. ,U.S. Federal Highway Admistration. n/d. Visual Impact Assessment for Highway Projects. Washington, D.C.: American Society of Landscape Architects.

[2] Foundations for Visual Project Analysis, edited by Richard C. Smardon, James F. Palmer, John P. Felleman, John Wiley & Sons, Inc., 1986

Applicant's Submittal

Mr. John L. Carman and Associates, Inc. (JLC) prepared a report detailing scenic compatibility of the proposed power plant and its surrounding area. His analysis identified three visual units, "sensitive environments", which could potentially be negatively impacted by the visibility of the power plant:

1. Western Kentucky Parkway, a primary east-west transportation corridor of the region;
2. The Green River to the north of the proposed power plant; and
3. The residential community of Central City 1.5 miles to south and west of the power plant.

The JLC study assumes that the power plant development will be more visually acceptable than the existing mine development. However, if the plant is visible to the viewers from these locations the viewers could be negatively impacted. Three line of sight assessments were made from the Western Kentucky Parkway, three from Green River and three from Central City. The three land uses and the line of sight profiles represent a radial view-shed of the project. Residential properties are scattered throughout the forested areas that surrounded the site. Because the forested vegetative cover and topography precluded any view of the proposed development, no additional line of sight assessments were needed.

The JLC study describes the old mine site east of Central City, Kentucky, as in close proximity to the Green River, the Paducah-Louisville Railroad and the Western Kentucky Parkway. The proposed plant is on a previously strip mined site essentially surrounded by forested landholdings. In profile the power plant is 1,725 feet in length with the stack being 650 feet in height. The base elevation of the power plant and stack are proposed to be 440 feet mean sea level (msl). The top of the stack will be approximately 1,090 feet msl. In addition to the power plant, a special waste landfill area will be created over the life of the plant on adjacent area of the site. It will be contoured to the land and reclaimed with natural ground cover. The existing tree buffer and thick vegetation will essentially remain surrounding the site.

The methodology uses topographic maps to plot "sight line profiles" between the selected viewpoints and the highest elevation of the proposed TGS, approximately 1,090 feet msl. If the profile shows there is no topographic obstruction to the line of sight, then the plant could be visible. An analysis of the elevation needed for vegetation to effectively screen the top of the stack from each visual unit was conducted by JLC. The study also examines contextual elements of the area including the tree cover, rolling topography and average elevations of the Parkway, the Green River and Central City. It discussed the existing lands uses within two miles, the Green River Correctional Facility lying just west of the proposed power station, radio station towers, six cell tower locations and the presence of three other power plants with in the area and finally number of rainy and cloudy days reported for the area. The study describes the site as located in a fairly remote area, with a significant distance to any populated areas and that climatic conditions can create visual obstructions to landscape objects in the distance.

The JLC study finds that from the Green River view points there are marginal obstructions due to landforms; however, with trees lining the river corridor of over 50 feet in height the visibility of the proposed stack is blocked. The vegetation obstruction includes a dense mixture of evergreen and deciduous trees that will provide at least partial obstruction during the winter months. The frequent low visibility atmospheric conditions and the scale of the stack viewed at a distance also minimize the dominance of the stack. Profiles showing the topographic conditions between the proposed plant and Central City residential properties reveal minimal to no landform obstructions in the line of sight. However vegetation of sufficient height was observed to effectively block the views of the power plant.

The line of site profiles between the plant and the Western Kentucky Parkway did show topographic obstructions from the three key points as well as vertical vegetation heights of 50 feet that effectively block the views of the proposed station and the proposed landfill. The report cites the forest vegetation, the frequent low visibility conditions and the scale of the stack viewed at a distance as minimizing and eliminating the negative visual impacts.

The JLC study uses acceptable methodology of identifying key project components that could potentially create visual impacts and identifies Key Observation Points (KOP) to test visual impacts. The study all describes the existing conditions, the context conditions of the site and the

surrounding area. The rolling topography and the dense vegetation are appropriately discussed and highlighted in the line of sight profiles as having a critical effect on the visual impact of the proposed project.

Scenic Assessment of Winter Time Impacts. The proposed power plant site is currently surrounded with a mixture of deciduous and evergreen forest. During the winter, the proposed stack and the plant buildings may be visible at some locations because of the deciduous trees loosing their leaves. Because of the density of vegetation, however, the views into the site and of the stack will be predominately screened. The Central City residential properties have approximately 250 feet width of mixed vegetation that is has a height of 50 feet between the residential property and the proposed site development. Winter views along the Western Kentucky Parkway and the Green River also are restricted because of the rolling topography and the width, height and the variety of the tree buffer. Trees at the edge of the grassland area along the River and along the Parkway are fairly consistently 70 feet in height. The buffer width ranges from a couple hundred feet along the Green River (Exhibit B Profile AD) to a mile (Exhibit D, Profile AK).[3] The winter views of the plant will not affect the scenic compatibility.

Scenic Surroundings Impact. Visible emissions from the proposed facility have been addressed in ambient air quality permitting. All air pollution sources typical to coal-fired power plants have been addressed in this permitting, based on a site visit, discussions with Thoroughbred personnel, a review of site drawings, the Title V Permit and the Permit Application Statement of Basis. All sources that are expected to emit pollutants in more than negligible quantities have been addressed in the permit by requiring pollution controls.

The only source of emissions that does not have a specific control requirement listed in the Title V Permit is plant roadways. Roads are listed as an insignificant activity in the permit however there is a requirement to implement reasonable control measures (401 KAR 63:010) to prevent fugitive emissions. In addition, this requirement also states that no visible fugitive emissions shall be visible beyond facility's property line. The site assessment report states that all roads will either be paved or be treated with water/chemicals.

[3] The following distances were summarized from onsite observation, the slight line profiles and the U.S. Geological Survey Land Use and Land Cover Map of the Thoroughbred Generating Station

Transmission Lines. Transmission lines to the TVA plant and D.B. Wilson plant are proposed as part of the power plant development but are not part of this permit application. A fuller discussion of the towers, the tower structure and the location routes are part of another phase of the application process The tentative location of the transmission lines leading from the proposed plant are shown on the 8.1 Site Location Map. The lines to the D.B. Wilson plant (i.e. leading to the north) are located on lower topography between the plant and the residential properties of Central City. Any view of the transmission wires and towers will not be predominant and will essentially be blocked from view by the mixed vegetation buffer. Both the Green River and the Western Kentucky Parkway are crossed at an angle that affords only a brief view of the transmission towers and lines. Therefore the scenic compatibility of the transmission towers and lines on the power plant site shall be minimal. However, factors to be considered to minimize the visual impacts of transmission lines and towers include the minimization of visual contrast by tower design and location, minimizing clearing, and avoiding linear swaths down hillsides.

This evaluation does not include a detailed study of the transmission lines. However, as indicated in TGC's application in Sections 1 and 5, TGC has indicated they will make separate application for any transmission facility it may own.

Field Investigation. MACTEC staff traveled the site, and the surrounding area to determine if the power plant site would be visible from the Western Kentucky Parkway, all areas of Central City and from Green River locations cited in the JLC report. We also traveled to other locations past the two mile circumference area. We found that the proposed building location is blocked from view due to the dense vegetation surrounding the site and the rolling topography of the general area. Also detailed topography and mapping were provided to enable checking of the line of sight profiles developed by JLC.

Other potential issues not discussed in the report included stack lighting and the proposed intake structure located in the Gibraltar Slip on the Green River. The topography and vegetation of the area would block the view of stack lighting which is required for air safety. The property across the river from the Gibraltar Slip is not developed except for agriculture use and has a thick tree

buffer on the rivers edge. Also the angle of the slip precludes any long view of the intake structure from boat users going up or down stream.

Conclusions and Recommendations

The vegetation and topography within the existing, disturbed coal mining area and the absence of any direct views to the site leave the proposed TGS plant compatible with its scenic surroundings. The color scheme chosen for the stack and the plant seem to fit the surroundings or strive to minimize the dominance of the building and stack according to the typical meteorological conditions.

POTENTIAL CHANGES IN PROPERTY VALUES FOR ADJACENT PROPERTY OWNERS

Potential Issues and Standard Assessment Approaches

Development of a new coal-fired power plant can raise issues related to potential changes in property values for nearby property owners. These issues may arise from the widespread perception that a power plant and its ancillary facilities – such as ash disposal landfills, overhead electric transmission lines and electric transformer sites – may be "undesirable land uses" whose impacts are expected to be translated economically into negative effects on property values. Studies also show that impacts may extend for some distance from the site, and possibly beyond the immediately adjacent properties.

Criteria for evaluating property values effects that reflect the concerns of a broad range of interested parties typically include these aspects of the issue[4]:

- Land use compatibility
- Findings from other empirical studies

[4] See the following document for a summary of criteria developed by the Power Plant Siting Collaborative covered in 1993 by the Public Service Commission of Wisconsin. PSC Overview Series: common Power Plant Siting Criteria. Retrieved July 5, 2002, from http://psc.wi.gov/consumer/electric/document/brochure/plntsitg.pdf.

Land Use Compatibility. Governments within the United States have developed land use standards of compatibility to minimize the impact of industrial land uses on adjacent properties. Land use compatibility is a factor considered in general appraisals concerning the "highest and best" use of properties. Many general issues are considered when siting of facilities in an effort to minimize resulting negative effects on nearby properties and land uses. Among these considerations are potential adverse impacts caused by traffic, excessive noise, vibration, smells, or visual nuisances.

The Kentucky Revised Statutes, Chapter 100 (KRS 100) permits local governments to establish zoning and subdivision regulations to govern the use of land within its jurisdictions. However, public utility facilities operating under the jurisdiction of the PSC are excepted from jurisdiction of local Planning Commissions by KRS 100.324. According to the Pennyrile Area Development District, Muhlenberg County does not have zoning district regulations affecting the area of the proposed generation facility. Therefore, there are also no limitations on the use of property surrounding the TGS site. Central City, Kentucky, does have a zoning code, however, it does not affect the unincorporated area of the county.

In examining the proposed location for this power plant the MACTEC review team visited the area, viewing the proposed location of the generating station and the surrounding areas. Additionally, the team visited the three similarly located power-generating stations cited in the report prepared by G. Herbert Prichett & Associates, Inc, to view the impact of those facilities on the surrounding land uses.

The site of the proposed generating station is located within the properties owned primarily by Peabody Energy, east of Central City, Kentucky. The site is located on land that has been impacted by strip mining in the past. Some portions of the area were mined before adoption of the current mine reclamation laws and some after.

KRS Chapter 278 requires that exhaust stacks for this type of facility be "one-thousand (1,000) feet from any property boundary of any adjoining property owner and two-thousand (2,000) feet from any residential neighborhood, school, hospital or nursing home facility." According to the report, the proposed power station will be isolated from adjoining non-industrial land uses, being

approximately 1.25 miles (6,600+ feet) from the nearest single-family residential structure. The Green River Correctional facility appears to be approximately 1.20 miles (6,300+ feet) west of the proposed facility. According to the Prichett study the Green River facility recently (FY 2000 – 2001) housed an average of 914 inmates. The MACTEC review team examined the aerial photographs submitted and finds this to be an accurate measurement. Additionally, the proposed facility will be 1.27 miles (6,700+ feet) from U.S. Highway 62, the primary access to the proposed facility.

According to information provided by the developer the only portion of the proposed facility that will be visible off-site will be the emission stacks. The details of this issue are addressed elsewhere in this report. The MACTEC review team made an on-site inspection of the facility location. Visibility off-site is buffered by trees and topographic features. The construction of the proposed generating station would appear to result in further reclamation of the previously strip-mined property. Based upon a visit to the similar facilities highlighted in the applicant's report, in the MACTEC review team's opinion, it is likely that the proposed facility will provide an opportunity to attract industrial uses that desire to be located near a power generating station and surface transportation facilities (rail and highway). This will, potentially, provide employment opportunities for the surrounding area.

There have been issues raised in previous studies[5] that the construction of such facilities and the resulting electrical transmission lines are undesirable or can have an adverse impact on surrounding property values. The proposed generating station is located close to the center of the properties owned by the applicant, resulting in a substantial property buffer surrounding the proposed facility. The exact locations of proposed transmission lines have not been finalized. However, two transmission line corridors are shown on TGS drawing 8.1; a 345 KV line to the north for potential connection to the D. B. Wilson power plant with a near perpendicular crossing of the Green River; and, a 500 KV line to the south for potential connection to TVA with a perpendicular crossing of U.S. 62. Electrical transmission lines that service existing facilities are located within the general area. These lines radiate from the proposed TGS in a northerly and a southerly direction and cross U.S. 62 northeast of the proposed TGS. It would appear, therefore, that the construction of the proposed generating station will have a very limited impact on

[5] Farber, Stephen. Undesirable Facilities and Property Values: A summary of Empirical Studies. Ecological Economics 24 (1998) 1-14.

surrounding non-industrial properties. The proposed facility is sited further from nearby residences than the similar plants cited in the Prichett report.

Two of the similar facilities cited in the applicant's report have industrial employers located in close proximity to the generating stations. These facilities are located along the Ohio River in western Kentucky and they appear to utilize river transportation for movement of goods. The proposed generating station has access to a port facility on the Green River, which also connects to the Ohio River. Coal has been transported by river from this location in the past.

According to the information provided in the Prichett report, the similarly situated facilities appear to have had an overall positive impact on land values of the surrounding properties and to have provided new employment opportunities for residents of the area. In summary it would appear that the proposed electrical generating facility has the potential to have a positive impact on the properties in the surrounding area and will provide employment opportunities in the area.

Findings from Empirical Studies. The proposed facility will be located in the central part of a 2,982-acre campus. The property has previously undergone both pre-law and post-law reclamation after removal of coal.

The site is compatible with the proposed use and the location of the facility meets/exceeds the requirements of KRS 278.704.

There are, according to a study proposed by G. Herbert Pritchett, 35 tracts of land shown on PVA maps as adjacent properties. Their land use breakdown is as follows:

- Residential 8
- Vacant Residential 4
- Correctional Facility 1
- Cemetery 1
- Industrial/Railroad 1

- Industrial/Mining 12
- Industrial/Vacant/Mining 6
- Agricultural/Mining 1
- Church/Cemetery 1

According to aerial photos with the proposed facility platted, none of the residential properties will be closer than 1.25 miles.

There are, within a much-discussed 2-mile radius, approximately 98 residential properties. However, the topography of the area, together with the existing forested vegetation surrounding the site, will allow only the smokestack to be evident.

A study evaluating the potential for changes in property values of adjacent property owners resulting from the ultimate construction and operating of the proposed facility has been prepared by Mr. Pritchett.

BTM team members who specialize in land use/planning and valuations of properties have reviewed this study.

The BTM team physically viewed the proposed site, the adjacent property and the existing generating facilities cited in Mr. Pritchett's report.

The report considers potential affects on property values by evaluating any possible decrease in value caused by the proximity of the proposed facility and the likely increase in population due to permanent operating jobs at the completed facility.

In its analysis, the BTM team agrees with Mr. Pritchett's property valuation approach by comparing sales of property within the generating plat area to sales of similar properties in further removed areas. This represents proper appraisal practice.

Mr. Pritchett additionally met with other appraisers, real estate brokers and property valuation administrators in each of the counties wherein the study generating facilities are located. His evaluation concluded that no marked differences in value occur due to the proximity of the plants. It should be noted that the residential study area near Trimble County LG&E Energy plant (LG&E Trimble) is located immediately across a county road from the facility. The LG&E Trimble facility is a similar facility which will use coal to drive steam turbines to make electricity. The residential area adjacent to this facility, is in much closer proximity than the nearest residential structures of the proposed TGC facility, without a marked difference in property values or occupancy.

The second approach taken by Mr. Pritchett is to evaluate the possible increase in the permanent labor force brought about by the construction/operation of the facility and the resulting demand for housing. According to his study, 352 new households will be created resulting in increased demand for housing. The increase in demand will more than likely cause an upward pressure in property values.

Based upon BTM's team review of the subject site, the study sites and the analysis of Mr. Pritchett's study, the team concurs that adjacent property values will not be adversely affected. It should also be noted that in the MACTEC review team's opinion, the influx of construction workers and the need for temporary housing will likely cause at least a temporary increase in the value of residential rental property.

EXPECTED NOISE FROM CONSTRUCTION AND OPERATION

Anticipated Noise Levels from Construction and Operation

This section of the SAR review addresses the anticipated peak and average noise levels associated with the construction and operation of the proposed TGS. This component of the SAR is identified in KRS 278.708 (3)(a)(8) and (3)(d).

Standard Methodology and Issues for Noise Studies

Various government and private agencies around the country utilize noise assessment methodologies based on accepted and published techniques. In general these methods are meant to estimate the increase in noise levels caused by various activities above the existing ambient noise levels of the study area.

The typical noise study is accomplished by:

- Identifying nearby sensitive receptors such as residences, schools, churches, parks, etc.;
- Measuring existing ambient noise levels;
- Estimating construction and operation noise levels;
- Calculating the total noise levels due to both the existing ambient levels and the estimated construction and operation level.

In the case of the TGS project, noise concerns are expected to be associated with construction of the facility, "steam blows" at initial start-up, and operational activities.

Applicant's Submittal

Burns & McDonnell of Kansas City, Missouri prepared a noise evaluation for the TGS project.

The Burns & McDonnell evaluation addresses noise levels which are expected to arise from the TGS project at the property boundary (3,350 feet distant), the nearest residence (6,600 feet), and a nearby church (8,600 feet).

The evaluation utilizes the collection of existing noise level measurements at seven locations. Five of the locations were within the site boundary and two were outside the site boundary. These measured levels were used as ambient noise levels with which the construction and operation noise levels were combined. The construction and operation noise levels were obtained

from a US EPA document titled "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances"[6], which presents noise levels associated with various sources. The noise levels are extrapolated to several distances, the property boundary, the nearest residence, and the other six ambient measurement locations. The noise levels are then compared to a table of typical sound levels adapted from "Architectural Acoustics"[7] and "Architectural Graphic Standards"[8].

Noise levels due to construction at the nearest residence are expected to be 47 dBA which is below the measured ambient level of 54 dBA at that location and would be expected to increase that level by no more than one dBA. Also, since the site is currently an active coal mine, the evaluation expects little increase in traffic related noise from existing levels.

Noise levels during start-up "steam blows" are projected to be as high as 130 dBA at 100 feet and 94 dBA at the nearest residence. Silencers are expected to be used which typically reduce the noise levels by 30 dBA.

Noise levels during operation of the site are also expected to be no more than one dBA above the measured ambient levels at the seven measurement locations.

The Burns & McDonnell evaluation concludes that none of the sensitive receptors will experience a noticeable increase in noise levels from measured existing noise levels and that ambient noise levels beyond the TGS property boundary will not increase as a result of operations.

Field Investigation. MACTEC staff traveled the site, and the surrounding area to determine if any residences or other sensitive receptors might be nearer the power plant site than the 6,600 feet noted in the Burns & McDonnell evaluation. No other sensitive receptors were found to be nearer than 6,600 feet at that time. Also, due to the dense vegetation surrounding the site and the rolling topography of the area, it can be anticipated that some level of natural attenuation of noise levels will be achieved.

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[6] Bolt, Berenek, and Newman (Prepared under contract for the US Environmental Protection Agency), Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 31, 1971.
[7] M. David Egan, Architectural Acoustics, 1988.
[8] Ramsey and Sleeper, Architectural Graphic Standards, 1994.

Conclusions and Recommendations

MACTEC's review of the Burns & McDonnell noise evaluation finds that it adequately addressed the noise impacts to the surrounding area from the construction and operation of the TGS. However, there are several portions of the evaluation that require attention:

- Figures 3-1 and 7-1 should be of better resolution and include monitoring point MP-6 (Nelson Creek Church);
- The means by which the noise level contour lines on Figure 7-1 were generated should be explained. Whether by computer modeling or hand drawn;
- Section 4, sentence 4 states that MP-6 noise levels were high because of mine traffic. However MP-6 is listed in table 6-2 and other places as the Nelson Creek Church. Several other instances in this section seem to confuse the various sampling locations;
- Clarify the distance column in Table 4-1. Most of the distances seem to be from the stack of the TGS. However MP 3 and MP 5 show a distance less than that to the stack;
- Table 6-1 does not list a sound pressure level for Air Quality Control Equipment in the Property Boundary and the Nearest Residence column;
- Background sound levels at the measurement locations listed in Table 4-1 do not match those listed in Table 6-2.

Based upon MACTEC's field visit and review of the Burns & McDonnell evaluation, we agree that the construction and operation of the TGS site should have minimal noise impacts upon nearby residences and other sensitive receptors. The following is the only recommendation dealing with the noise issue.

- <u>It is highly recommended that silencers be utilized during start-up "steam blows" as that operation should generate the greatest noise levels.</u>

IMPACTS ON LAND-BASED TRANSPORTATION

REVIEW OF TRAFFIC EVALUATION

Introduction

This section of the SAR review involves the Traffic Evaluation, and examines the impacts the proposed TGS will have on the existing roadway system, in this case US 62. Rail impacts regarding the Paducah and Louisville Rail Line were also reviewed. GS&P, serving as traffic sub-consultant to MACTEC, performed the traffic evaluation review.

Background Information

Access to the TGS will be from US 62. A new access road will be built into the property between mile markers 20 and 21. US 62 is a two-lane undivided rural road in rolling terrain. The SAR states the existing width of US 62 is 22 feet; a recent check with the Kentucky Transportation Cabinet (KYTC), District 2 indicates the existing pavement width is 20 feet. The existing Average Daily Traffic (ADT) on US 62 is 2,112 vehicles per day (vpd) as indicated on a 2002 traffic count (Exhibit 1) furnished by the KYTC. The SAR states the capacity of US 62 is 33,600 vpd. Further, the SAR states improvements are proposed on US 62 at the access road to include widening for a 320 feet eastbound left-turn lane and a 320 feet westbound right turn lane. The SAR also states the KYTC was consulted regarding the design and construction of the new access to the plant site. The new access road is proposed to be 48 feet wide.

There will be one, at-grade railroad crossing of the Paducah and Louisville Rail Line within the plant site. The applicant's SAR states this will be primarily used during construction for large equipment deliveries and during operation for access to the coal combustion waste landfill; the road will be used infrequently during plant operation with access controlled at all times.

Potential Issues and Review Methods

Several potential traffic issues were addressed in the SAR and have been reexamined as a part of this traffic review. Those issues include:

- *New Access Road.* The location of the new access road at its intersection with US 62, as well as the roadway geometrics of this intersection and associated proposed improvements to US 62. Our Review Team has had discussion with KYTC, District 2 regarding this.

- *Existing Traffic.* Current traffic on US 62 is based on information supplied by KYTC.

- *Generated Traffic.* Traffic volumes projected to enter and leave the site during both construction and operation of the plant. These generated traffic volumes were added to the existing traffic on US 62, and a determination made to see if the roadway and the new intersection could handle the added traffic.

- *Truck Traffic.* Number of trucks or heavy vehicles accessing the plant during both construction and operation of the plant.

- *Traffic Analysis - Safety and Congestion.* A determination of whether the additional traffic will create peak hour congestion on US 62 and any safety concerns. The current review will focus on the issue of intersection capacity at the new access road and US 62 during peak hours. Our Review Team used Highway Capacity Software (HCS) to conduct this analysis. Safety at the at-grade railroad crossing within the plant site is also a consideration.

Applicant's Submittal

New Access. The SAR Traffic Evaluation states that the Kentucky Department of Highways was consulted regarding the design and construction of the new access road into the plant. During the site review, TGC officials informed us the location of the new access point was determined in cooperation with the Kentucky Department of Highways, District 2 Office. A preliminary design was established to improve US 62 at the new access road by widening US 62 and constructing a 320 feet left turn lane and a 320 feet right turn lane into the new access road. The access road would be 48 feet wide and under stop control. A rail siding will be constructed into the plant 1.5 miles east of Central City.

Existing Traffic. The SAR Traffic Evaluation states the existing traffic on US 62 is 2,112 vehicles per day (vpd). No information is provided on peak hour volumes or directional split. It is also stated that US 62 is designed for approximately 33,600 vpd.

Generated Traffic. During construction, site labor is expected to peak at approximately 2,900 personnel. The SAR Traffic Evaluation anticipates 70% of the personnel will drive their own vehicle and 30% will carpool. This means 2,030 vehicles would enter the site and leave the site per day during the peak period of construction. It is mentioned the peak traffic would occur prior and up to 7:00 am and at 5:30 pm. Actual work shifts may vary slightly by season. Truck traffic is expected to be 90 trucks per day during peak construction. Although another 142 trucks per day for concrete, sand and aggregate are mentioned, this does not occur during the peak construction period; and, it is possible this material could be delivered by rail or barge. Service and support vendors would account for another 30 vehicles per day during peak construction. Thus, during peak construction, traffic generation would be some 2,200 vehicles in the AM to the site and some 2,200 vehicles leaving the site in the PM.

During plant operation, the plant will employ some 150 people, three quarters of which may be onsite at the same time. Traffic volumes generated should be 75-90 vpd. The worst case regarding trucks would be 4-6 trucks per week.

During construction, it appears the worst case increase in rail involvement would add some 10-15 trains a week on average. P & L Railway has said capacity is not an issue and they would welcome the increased traffic on their line. During operation of the plant, an additional 3-5 trains per week are anticipated.

Traffic Analysis. Basically, the SAR Traffic Evaluation states that some 2,200 vpd will be added to US 62 during peak construction. It further states that when adding this to an existing volume of 2,112 vpd, total traffic on US 62 should be around 4,300 vpd. Initially, it was not readily apparent from the SAR whether there would be 2,200 vehicles entering the site and 2,200 vehicles leaving the site in a day, or whether the total vehicles entering and leaving the site during a day would be 2,200. The evaluation goes on to say that since US 62 can handle some 34,000 vpd, construction traffic and plant operation traffic will not adversely impact traffic patterns in

the area. No consideration is given to peak hour traffic analysis. Train traffic is not an issue; in fact P & L Railway would welcome the increased traffic on their line.

Reviewer's Supplemental Investigation and Analysis

After reviewing the written Traffic Evaluation Section of the SAR, the GS&P Team met with representatives of MACTEC, TGC and others at the site for a thorough field review. We also spoke with personnel from the Kentucky Department of Highways' District 6 Office in Madisonville, as well as the Rail Section, Division of Design, and the Traffic Counts Section, Division of Planning, KYTC in Frankfort. The team also requested from TGC clarification to several questions it had, including the projected traffic issue. Answers to our questions were furnished by e-mail. The Review Team sought to further verify and expand on information contained in the SAR as a part of our assessment of the issues. Our primary concern from the outset, was the impact of the construction traffic on US 62 during peak hours; the SAR Traffic Evaluation did not address this.

Access Road and Site Access in General

As mentioned above, our review team feels the controlling factor in this traffic evaluation review is operation of the intersection of US 62 with the new access road during peak hours during the construction period – especially the peak construction period. We address this issue in the following traffic analysis section. Based on the information supplied in the SAR regarding number of operating employees, vehicle deliveries, etc., (which we accept as factual) there should not be any traffic issues during normal plant operation.

Our review of the access road location and roadway geometrics yielded the following comments:

- Two discussions were held with KYTC, District 2 regarding the new access road. Although the person most knowledgeable of the project was not available, the Permits Engineer felt fairly sure that preliminary approval of the proposal had been given, i.e., District 2 has basically concurred with the location of the new access road entry point onto US 62 and the road improvement concept.

- The westbound left turn lane pavement is not needed since there is no entrance planned on the south side of US 62 opposite the new access road.

Eliminating this from the plans would shorten the length of widening needed on US 62 and save the applicant associated construction costs. The Permits Engineer agreed with this idea.

- In order to facilitate better traffic movement, thereby reducing congestion and increasing safety, during construction the access road could be two-lanes in and one lane out in the AM peak period, and two-lanes out and one lane in during PM peak hours. This would allow eastbound left turns to occur into the entrance with westbound right turns, which in turn would reduce the eastbound queue of left turns and reduce rear-end accident potential. This could be accomplished with reversible lane pavement markings and/or traffic cones. The westbound right turn radius may need to be increased to further facilitate the left and right turns from US 62 occurring together. This situation could be monitored for the need for manual (police) traffic control as well.

- Of course, all final geometry of the entrance and US 62 improvements will be as approved by the KYTC District 2 Traffic and Permits Office.

- Access by rail does not appear to be a problem.

Existing Traffic

Existing traffic on US 62 was confirmed by the KYTC's Division of Planning and is shown in Exhibit 1. This count not only provides the ADT but also shows peak periods and peak hourly volumes. This assisted with peak hour traffic analysis performed. For purposes of traffic analysis, existing traffic on US 62 was assumed to have a 60/40 directional split – 60% westbound towards Central City in the AM and 60% eastbound away from Central City in the PM.

Projected or Generated Traffic

Projected traffic for the normal operating of the facility is rather insignificant and not the controlling factor. Construction traffic is the control and where we focused our review. The Review Team had no way to confirm the maximum number of employees to be used on the project, and thus accepted the number of 2,900 shown in the SAR Traffic Evaluation. We were, however, furnished a table (Figure 2) by TGC showing the number of employees by month of construction. *(In a subsequent discussion with the applicant, it was noted this table is for hourly workers only; during the peak month, for instance, there could be 600-700 more people on site.*

The table was furnished only to show the peak construction months and the corresponding ramp-up and ramp-down in construction activity.) We also accepted the "rule of thumb" mentioned in the SAR that 30% of the construction traffic would carpool. As mentioned previously, the manpower peak involves some 2,200 vehicles entering the site in the AM and 2,200 leaving the site in the PM. The main point to be derived from Figure 2 is that the peak construction period lasts for at least seven months.

Some ambiguity existed regarding the 2,200 vehicles mentioned above. And, we had questions about arrival and departure times. Depending on how determined (whether any trucks and vendors actually arrived/departed during employee arrivals and departures, and whether some of the trucks for concrete sand and aggregate should be included), but using the 30% carpool rule, the projected number of vehicles arriving in the AM and departing in the PM could range from 2,030 to 2,300. The 2,300 number is explained below in an e-mail response from TGC to our inquiry.

> *"The traffic will not all enter and leave at the same peak hour. It is difficult to say at this point, but the 2,300 will be a max during a few months of construction. During this time, this traffic could be spread out over a few hours in the morning and the evening. Also, depending on the construction schedule, some of this traffic could be for the night shift.*[9]*"*

Thus, for our traffic analysis, we assumed that construction traffic arrived over a two-hour period in the AM and exited the site over a two-hour period in the PM. We attempted to use the worst case or near worst case situation regarding projected traffic, and used 2,200 vehicles over a peak period of two hours for the traffic analysis. This results in an AM peak hour of 1,100 vph entering the site, and a PM peak hour of 1,100 vehicles exiting the site.

It should also be noted that, based on the applicants project construction man-power projections, the peak man-power projections and thus the peak traffic projections are for a short duration in the expected 50 month construction schedule. The peak man-power projections indicate that a five month duration, construction months 27 through 31, will have 95 percent or more of the projected peak man-power; and, a eight month duration, construction months 26 through 34, will have 90 percent or more of the projected peak man-power. All other months during the

[9] E-mail from Brad Fredkin of Peabody Energy to Milo Eldridge of MACTEC sent August 15, 2003 at 4:39 p.m.

construction process are projected to be below 90 percent of the peak man-power demands and consequently below the peak traffic projections.

Traffic Analysis

Due to the nature of the traffic generated by the construction of the power plant, analysis was performed for the peak hour traffic generated by the plant. According to the applicant's traffic report which assumed a standard workweek of 5 – 10 hour shifts, this peak hour traffic would occur "prior and up to 7:00AM and at 5:30PM". According to information received from the applicant, this peak hour traffic "could be spread out over a few hours in the morning and the evening." We assumed this to mean that the traffic entering the plant in the morning did so between 5:00AM and 7:00AM and the traffic exiting the plant in the evening did so between 5:00PM and 7:00PM.

A directional split of 60/40 was assumed for existing traffic and traffic generated by the construction of the power plant. Sixty percent of the existing traffic was assumed to be headed west on US 62 toward Central City in the morning and then east in the evening. Sixty percent of the traffic generated by the construction of the power plant was assumed to be headed east from Central City to the power plant in the morning and then west in the evening. Thus, with the 60/40 split, the 1,100vph breaks down into 660vph eastbound in the AM from Central City and westbound toward Central City in the PM peak hour. And, 440vph would enter the site from the east in the AM peak hour and exit to the east in the PM peak hour.

The KYTC provided an hourly traffic count for US 62 at traffic count station 002 recorded from August 5 to August 7, 2002. This count indicates an average of 108vph from 6:00AM to 7:00AM and an average of 138vph from 5:00PM to 6:00PM. With the 60/40 split, this gives eastbound/westbound volumes of 43vph/65vph in the morning and 83vph/55vph in the evening. These volumes were used for existing traffic during the analysis periods.

According to the KYTC, the existing roadway has 10 foot lanes with 1 foot shoulders. Due to the nature of the road and its speed limit of 55 mph, we classified it as a Class 1 highway. Based on a site visit, the terrain type was classified as rolling with four access points per mile. Due to the

winding alignment of the roadway, no passing zones were estimated to account for 75% of the area and the base free flow speed was estimated to be 55 mph. During the peak hours of analysis, truck traffic was assumed to be 5% and recreational vehicle traffic was assumed to be 0%.

The first step of analysis was to determine the capacity of the existing two lane roadway and its ability to accommodate the additional construction traffic. Using Highway Capacity Software (HCS), the existing road was determined to operate at a Level of Service C based on the average travel speed of 49.1 mph during the evening peak analysis period. (Level of Service (LOS) is a measure of traffic flow with A being best and F being worst.) After adding the proposed traffic generated by the construction of the power plant to US 62 west of the power plant entrance from MP19.2 to MP20.3, the LOS changes to a D based on the average travel speed of 43.7 mph. The biggest impact on the traffic was in percent of time-spent-following. The existing time-spent-following was 39.5% which would be a LOS B if it had not been for the relatively low average travel speed due to the roadway alignment. The proposed time-spent-following is 74.3% which is still a LOS D. The segment of roadway east of the power plant entrance is also a LOS D with an average travel speed of 45.1mph and time-spent-following of 69.2%. These results have been summarized and can be seen in the following table.

Two Way Analysis	LOS	Avg. Travel Speed (mph)	Time Spent Following (%)
Existing Roadway	C	49.1	39.5
Proposed Roadway West of Power Plant	D	43.7	74.3
Proposed Roadway East of Power Plant	D	45.1	69.2

The next step of analysis was to determine the intersection capacity. The entrance could operate with a LOS C for the left turning movement if only one entrance lane was provided and the right turning movement into the power plant was uncontrolled. The left turning movement could be improved to a LOS A if two entrance lanes are provided and the right turning movement is channelized into a separate lane. To eliminate a conflict point and utilize the proposed three lane entrance made necessary by the exiting volume in the evening, we recommend considering a reversible center lane since the exiting traffic volume will be very low in the morning. The right turn movement into the power plant could be controlled with removable traffic cones during this morning peak period. These results have been summarized and can be seen in the following table.

Intersection Analysis LOS	One Lane In / Two Lanes Out	Two Lanes In / One Lanes Out
AM Peak Period	C	A
PM Peak Period	C	F

Analysis of the evening peak period indicates that the exit would operate at a LOS F if only one lane was provided. If right and left turn lanes are used the LOS for each movement becomes a C.

Fugitive Dust. Fugitive dust from high-traffic, non-facility roads (i.e., public roads) will not increase significantly. These roads are currently paved or will be paved therefore fugitive dust will be minimized.

Safety and Congestion

The volume of left turns, and right turns as well, from US 62 into the new access road is high in the AM peak hours – 660 vehicles per hour (vph) lefts and 440 vph rights. Westbound through traffic opposing the eastbound left turn is relatively low (65vph). Congestion caused by peak construction traffic during the peak hours at the new access road is determined to be acceptable with nothing worse than a LOS C provided that there are two lanes exiting the plant in the PM peak hour. As construction traffic entering and leaving the access road grows, it is recommended the traffic be monitored for the possible need for manual (police) traffic control during peak periods. This is always an option to further enhance traffic operation and safety.

Regarding the possible safety issue at the at-grade railroad crossing within the property, TGC furnished the following response to our inquiry:

> *"The at-grade railroad crossing will be a locked gate and this crossing will only be used when large material is moved into and out of the plant and the rail underpass road is not passable. Crossing protection will be as required by the Paducah & Louisville Railroad.*[10]*"*

[10] E-mail from Brad Fredkin of Peabody Energy to Milo Eldridge of MACTEC sent August 15, 2003 at 4:39 p.m.

In conversation with the Rail Section of the Division of Design at KYTC, it was suggested the minimum protection should be cross bucks.

Conclusions and Recommendations

Based on the SAR Traffic Evaluation and additional investigation and analysis conducted by the GS&P Traffic Review Team, the following conclusions and recommendations (recommendations are underlined) are offered regarding the proposed TGS's impacts on traffic and transportation.

- Peak hour construction traffic generated by the site was analyzed for the peak construction period at the intersection of US 62 and the new access road, and found, with improvements to US 62 as specified, to be manageable, and that the intersection will operate at an acceptable Level of Service.

- Capacity analysis on the US 62 roadway itself in this vicinity shows the LOS is reduced from and existing C to D in peak hours during construction. While this is somewhat less than desirable, it will occur for a fairly short duration. It is noted the analysis used near worst case conditions.

- Neither truck traffic nor rail traffic appears to present a problem during construction or during normal operation of the facility.

- After construction, during normal operation of the plant, traffic impacts are rather negligible and no problems with traffic would be anticipated.

- Thoroughbred plans to stagger arrival and departure times of construction workers. In order for the intersection of US 62 and the new access road to operate safely and efficiently, staggered arrivals and departures need to be maintained as planned – spread over two hours – especially during heavy construction months.

- The new access road from US 62 to the site should allow for two inbound lanes in the AM and two outbound lanes in the PM during heavy construction months.

- The intersection of the new access road and US 62 should be monitored during construction for the possible need for manual (police) traffic control during AM and PM peak periods.

- Roadway geometrics on US 62 at the access road could be modified as detailed in this report with approval of KYTC, District 2. Particular recommendations would include elimination of pavement for a westbound left turn lane, and consideration of three 14-foot wide lanes for the new access road with no median so as to facilitate reversible lane operation during construction. See Exhibit 3.

SECTION D

RECOMMENDATIONS

This section presents our recommendations concerning the proposed TGC project, including recommendations for further mitigation measures. The MACTEC team provides specific recommendations on the elements of the SAR, as presented in Section C, which the Board might consider before arriving at a decision on TGC's pending application for construction certification. Since this permit and review program is in its infancy, the MACTEC team also looked at overarching issues and recommendations that may help establish standards for future applications.

Specific Mitigation Recommendations Related to SAR Elements

The following recommendations are based on the MACTEC team's review of the SAR, additional information obtained both prior to and during this review, and discussions with TGC personnel.

Description of Proposed Facility/Site Development Plan

Based upon our review of the applicant's SAR, subsequent conversations with the applicant and/or its legal representatives, and additional data collected by MACTEC and our sub-consultants, we have reached the following conclusions and recommendations (recommendations are underlined) concerning the description of the proposed facility and site development plan:

- TGC has generally complied with the legislative requirements for describing the facility and site development plan with the exception of a few iterative details, which be added to the SAR as they become finalized.
- TGC correctly identified surrounding land uses as they existed at the time of our review.
- TGC has followed protocol for establishing and recording accurate legal boundaries.

- TGC's plan for access control and security lists appropriate measures, but should be enhanced to specify these additional items:

  - Fenced, lighted plant perimeter.
  - Storage buildings with hazardous or dangerous materials must be locked.
  - Only personnel who have attended a safety and security induction course will be permitted to work on-site.
  - All employees and subcontractors working at the site must have a site security pass (proper identification), which must be carried at all times.
  - Access for site personnel and visitors will be through a security gate controlled by security personnel.
  - All vehicles entering/leaving the site should be subject to search by TGS security at the discretion of the security officer.
  - Speed limit signs should be posted to reflect safe and appropriate speeds in the access road and on roads throughout the site.

- TGC has submitted 8.2.4 Pulverized Coal Generating Plant Location & Building Plan that shows all buildings to be constructed on site.
- TGC has submitted 8.2.5 Access Roads & Rail Siding Map that shows both road and rail access to the plan.
- Any utility service not already under contract should ensue under compliance with all state and federal requirements, including required mitigation.
- TGC has submitted a site development plan that is in compliance with applicable setback requirements.
- TGC should notify the Board to seek a permit for construction of any additional major construction item, such as new gas transmission lines and new electric transmission lines, and through proper submittals and reviews, assure the Board that any significant impact is effectively mitigated
- TGC must clarify if the change in interconnection requires the modification of the aforementioned map.

Compatibility with Scenic Surroundings. The vegetation and topography with the existing coal mining disturbed area and the absence of any direct views to the site leave the proposed TGS facility compatible with its scenic surroundings. The color scheme chosen for the stack and the

plant seem to fit it's surroundings or strives to minimize the dominance of the building and stack according to the typical meteorological conditions. Therefore no recommendations are deemed necessary or appropriate.

Potential Changes in Property Values for Adjacent Property Owners. Based upon BTM's team review of the subject site, the study sites and the analysis of Mr. Pritchett's study, the team concurs with the conclusion that adjacent property values will not be adversely affected, and no recommendations are deemed necessary or appropriate.

Expected Noise Levels from Construction and Operation: Based upon MACTEC's field visit and review of the Burns & McDonnell evaluation, we agree that the construction and operation of the TGS site should have minimal noise impacts upon nearby residences and other sensitive receptors. The following is the only recommendation concerning the noise issue:

- It is highly recommended that silencers be used during start-up "steam blows" as that operation should generate the greatest noise levels.

Impacts of Land-based Transportation. Based on GS&P review of the SAR we present the following recommendations concerning land-based transportation:

- TGC plans to stagger arrival and departure times of construction workers. In order for the intersection of US 62 and the new access road to operate safely and efficiently, staggered arrivals and departures need to be maintained as planned – spread over two hours – especially during heavy construction months.
- The new access road from US 62 to the site should allow for two inbound lanes in the AM and two outbound lanes in the PM during heavy construction months.
- The intersection of the new access road and US 62 should be monitored during construction for the possible need for manual (police) traffic control during AM and PM peak periods.
- Roadway geometrics on US 62 at the access road could be modified as detailed in this report with approval of KYTC, District 2. Particular recommendations would include elimination of pavement for a westbound left turn lane, and consideration of three 14-foot wide lanes for the new

Overall Recommendations Concerning Siting Issues Related to the Proposed TGC Project

After reviewing the and evaluating the applicant's SAR, visiting the site, gathering additional information and conducting further analyses, where necessary, the MACTEC team recommends the following concerning the siting aspects of the proposed TGC project:

A. While we have noted a number of deficiencies in the SAR, we believe these have been primarily addressed in this report. We do not believe additional data will change the outcome of this report. We believe the corrections needed to a few drawings and providing explanations to some minor concerns can be done by addendum to the SAR.

B. Presuming the project is developed as specified in the applicant's SAR and as presented in supplemental information provided by the applicant, and presuming the recommendations and mitigation measures provided herein are implemented by the applicant we do not believe there will be significant unmitigated impacts from the development and operation of the TGC facility within the topic areas specified in the SAR.

ATTACHMENTS

EXHIBITS

KENTUCKY TRANSPORTATION CABINET-DEPARTMENT OF HIGHWAYS
DIVISION OF TRANSPORTATION PLANNING

PORTABLE TRAFFIC RECORDER REPORT

ROUTE: US0062 NUHLENBERG COUNTY STATION 002

WEEK OF AUGUST 05 TO AUGUST 11 2002

DATE:	05	06	07	08	09	10	11	
DAY:	MON	TUE	WED	THU	FRI	SAT	SUN	TOTALS
12- 1 AM		16	20					36
1- 2 AM		8	10					18
2- 3 AM		8	3					11
3- 4 AM		6	14					20
4- 5 AM		52	37					89
5- 6 AM		93	95					188
6- 7 AM		114	102					216
7- 8 AM		142	152					294
8- 9 AM		130	126					256
9-10 AM		110	96					206
10-11 AM	151	128						279
11-12 AM	153	117						270
12- 1 PM	151	129						280
1- 2 PM	187	137						324
2- 3 PM	146	171						317
3- 4 PM	161	155						316
4- 5 PM	189	176						365
5- 6 PM	143	133						276
6- 7 PM	113	117						230
7- 8 PM	103	104						207
8- 9 PM	84	86						170
9-10 PM	55	78						133
10-11 PM	47	35						82
11-12 PM	22	27						49
TOTALS:	1705	2272	655					4632

AVERAGE DAILY TRAFFIC: 2112

MONTHLY FACTOR: 96
AXLE FACTOR : 95
TOTAL HOURS : 48
AM HIGH HOUR: 153 BETWEEN 11-12 AM ON MONDAY
PM HIGH HOUR: 189 BETWEEN 4- 5 PM ON MONDAY

MILE POINT : 21.8
COUNTED BY : DIST 2
DATA SOURCE : VOLUME
ARRAY : TUBE
LANES COUNTED: ALL LANES

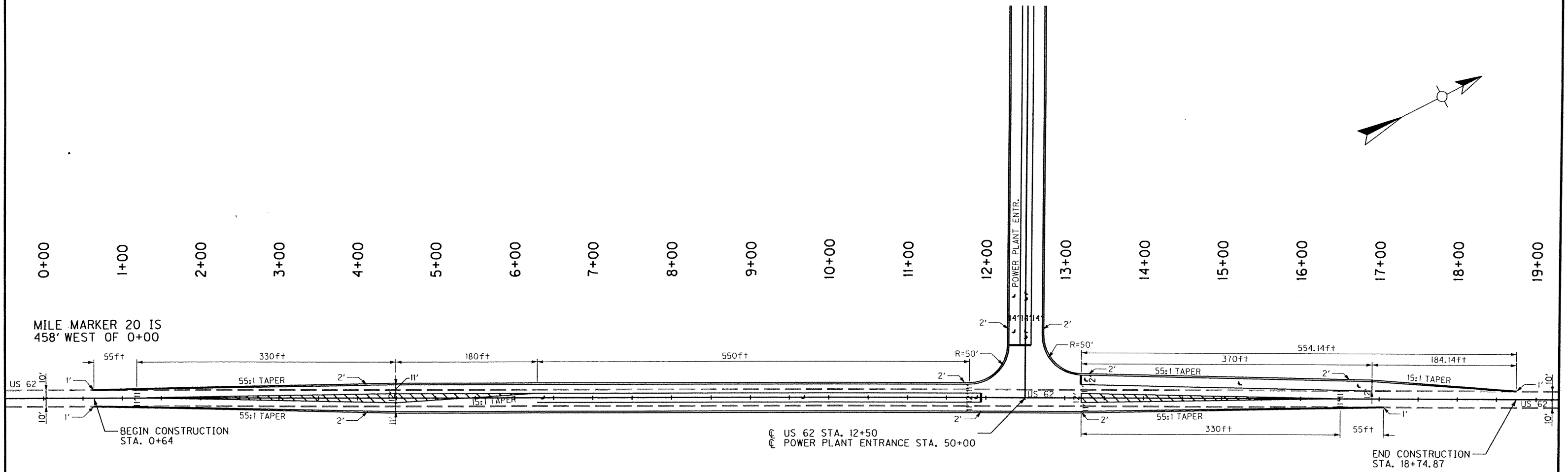
Exhibit 1

Thoroughbred Power Project
2 each - 750 MW Coal Fired Units (Pulverized)
Central City, Kentucky
Manpower Timing (Hourly Workers)

	Month of Construction	Total Manpower
Start Construction	1	32
	2	74
	3	88
	4	101
	5	115
	6	150
	7	175
	8	215
	9	242
	10	246
	11	265
	12	235
	13	271
	14	290
	15	391
	16	458
	17	482
	18	621
	19	679
	20	760
	21	913
	22	1053
	23	1233
	24	1375
	25	1623
	26	1894
	27	2149
ManPower Peak	28	2231
	29	2205
	30	2203
	31	2150
	32	2085
	33	2025
	34	1940
	35	1851
	36	1728
	37	1704
	38	1543
	39	1440
	40	1255
	41	1133
Completion - Unit 1	42	1038
	43	906
	44	858
	45	787
	46	658
	47	601
	48	572
	49	472
	50	211
Completion - Unit 2	51	

Salaried Workers (supervisors, inspectors, engineers) and other workers will be on-site at times in addition to these workers.

Exhibit 2



SCALE: 1"=120'

NO	REVISION	BY	DATE

THROROUGHBRED
GENERATING STATION
EXHIBIT 3

GRESHAM, SMITH AND PARTNERS
Atlanta Birmingham Charlotte Dallas Hollywood, FL Jacksonville
Louisville Nashville Richmond Tampa Silver Spring
239 SOUTH 5TH STREET, SUITE 1200, LOUISVILLE KENTUCKY 40202, TELEPHONE: 502-627-8900