

**Review and Evaluation of  
Estill County Energy Partners, LLC  
Site Assessment Report**

Prepared for:

**Kentucky Public Service Commission  
Kentucky State Board of Electrical Generation and Transmission Siting  
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## Section A - General Statement

### **Background Statement**

This document is a review of the Site Assessment Report (SAR) submitted to the Kentucky State Board on Electric Generation and Transmission Siting (Board). Estill County Energy Partners, LLC (ECEP) submitted the SAR to the Public Service Commission (KPSC), serving as staff to the Board. The KPSC has retained Brighton A & E, Inc, a DLZ Company, to perform this review pursuant to KRS 278.708(5). ECEP has submitted the SAR to support its application to construct a merchant electric generating facility in Estill County under SB 257, enacted by the General Assembly of the Commonwealth of Kentucky in 2002. The provisions of the ACT are embodied in KRS 278.700 – 278.716.

### **Provisions Establishing the SAR Process**

KRS 278.706 defines a class of merchant power plants and requires that their owners to obtain construction certificates as a prerequisite to the commencement of actual construction activity. The ACT created the Board and gave it the authority to grant or deny construction certificates requested by individual applicants. The Board is an arm of the KPSC for administrative purposes.

KRS 278.700 – 278.716 created the application process and, within the process, a series of steps for preparing and submitting this report:

1. The applicant files for a construction certificate and pays the required fees.
2. The applicant submits the required items, including an 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 proposed 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 on whether the Board will hold a hearing.

### **Implementing the SAR Review Process**

ECEP's application has triggered this SAR review process to occur under the ACT. The Board retained Brighton as the consultant to conduct the SAR review, including a site visit and follow up data collection with the applicant, a limited amount of separate data collection and additional evaluation.

## **SAR Review Methodology**

Brighton A & E, Inc., conducted the review of the SAR in this sequence of tasks:

1. Reviewed the contents of the SAR and application;
2. Performed a brief review of secondary data sources to obtain background information and geographic setting for the ECEP project;
3. Performed a limited review of relevant evaluation criteria to identify potential issues and assessment approaches to serve as benchmarks for review adequacy;
4. Reviewed other SAR reviews completed under the ACT to obtain preferred procedural approach;
5. Conducted a site visit and review of the application on June 24, 2004;
6. Identified additional information needed for a proper review and submitted questions to the applicant via the Board;
7. Conducted interviews and data collection with a number of outside sources as indicated in this document;
8. Compiled and incorporated all the foregoing in the analysis.

## **Report Format**

This report is formatted to be responsive to KRS 278. The report is divided into 4 sections:

Section A – General Statement	Provides a general introduction to the SAR and review process.
Section B – Executive Summary	Summarizes the Findings, Conclusions, and Recommendations.
Section C – Findings and Conclusions	Provides a summary of the SAR, details of findings and additional information.
Section D – Recommendations and Mitigation	Provides detailed recommendations for mitigation measures and future Board actions.

## **Report Limitations**

There are inherent limitations to any review process of documents such as the SAR. The Board should consider the limitations of this report as part of their decision making process. Two prominent limitations are apparent.

The first limitation is that the applicant, KPSC, and Brighton must judge what information is relevant to the SAR and what level of detail is appropriate for this review process. The reviews of the first and second SAR reviews, Kentucky Mountain Power and Thoroughbred Generating Company, respectively, have provided only guidance.

The second limitation is that the development of the merchant power plant is an iterative process with some issues unresolved at this time. Brighton attempts to qualify the various scenarios so the appropriate mitigation measures may be recommended to the Board.



## Section B – Executive Summary

This document is the fourth review of a Site Assessment Report (SAR) in compliance with KRS 278.708(5). To carry out this law, the Kentucky Public Service Commission (KPSC) staff serves as staff to the Kentucky State Board on Electrical Generation and Transmission Siting (Board). The KPSC received a SAR from Estill County Energy Partners, LLC (ECEP) on June 11, 2004 related to the project. The KPSC staff retained Brighton A & E, Inc. (Brighton), a Kentucky-based firm, to review the SAR for the KPSC and the Board. Brighton was directed by KPSC staff to review the SAR for adequacy, visit the site and conduct supplemental research where necessary, and to provide recommendations about proposed mitigation measures. This is the summary of Brighton's final report, which encompasses the SAR review, establishes standards for evaluation, summarizes information from the applicant, notes deficiencies, offers supplemental information and draws conclusions and recommendations related to mitigation. Issues outside the scope of KRS 278.708, such as regional economic impact, electricity market or transmission system effects and broader environmental issues were not addressed in this review. This document represents Brighton's best effort to meet these objectives within the scheduled constraints of this case.

### **Description of the Proposed Facility/Site Development Plan**

The SAR provides a description of the ECEP project in terms of surrounding land uses, legal boundaries, access control, facility location, utility service, setback requirements and noise levels. ECEP is a proposed 110-megawatt electric generating plant located in Estill County, located approximately two miles west of the City of Irvine in eastern Kentucky. Conclusions with respect to other descriptive elements of the facility follow:

#### **1.1 Surrounding land uses for residential, commercial, agricultural and recreational purposes**

The proposed facility is located adjacent to an existing industrial park and is designated as a commercial use. Carhartt, Inc. operates a manufacturing facility in the Estill County Industrial Park.

Agricultural and residential areas are located on the opposite side of the Kentucky River from the proposed facility. The nearest neighborhood is approximately 3,100 feet from the proposed exhaust stack.

Located east of the proposed site are additional residential areas in the vicinity of Coal Wash Road, KY 89 and Stump Road. All traffic to the proposed site will utilize Coal Wash Road until the new proposed industrial access road is constructed from KY 499. This review recommends the applicant utilize the proposed access road upon its completion to minimize impact on nearby residential land uses.

## **1.2 Legal boundaries of the proposed site:**

ECEP is proposing to construct and operate the power generating facility on property owned by Foxtrot Properties, Inc. The ownership of the proposed site is currently in dispute between Foxtrot Properties and DLX, Inc. The determination of the property ownership is currently being considered in Bankruptcy Court.

A boundary survey of the proposed site has been recommended to ensure the legal boundaries of the proposed site.

## **1.3 Proposed access control to the site**

Proposed roadway improvements to access the site are discussed in detail in Section 5 – Impacts on Land Based Transportation. The applicant proposes to construct perimeter fencing to establish a secured area around the facility to prevent unauthorized access. The SAR did not go into enough detail regarding security measures to be taken. This review recommends additional security measures to be taken to secure the proposed facility.

## **1.4 Location of facility buildings, transmission lines, and other structures**

ECEP has demonstrated that the essential elements of a power-generating facility have been planned. The majority of existing structures within the perimeter fencing will be removed, while most other buildings located on the property but outside the security fencing will remain. The proposed facility layout appears to be satisfactory.

The proposed 161 kV transmission line from the power plant will cross over the Kentucky River and KY 52 and connect to the Kentucky Utilities West Irvine substation located south of the proposed site. The electric line will be located in existing easements owned by Kentucky Utilities.

## **1.5 Location and use of access ways, internal road and railways**

ECEP has proposed constructing a paved access road to the main entrance of the plant from Coal Wash Road. CSX currently maintains the railroad across the site, which can be used to provide material and equipment deliveries to the facility. The paved internal roadway system within the facility appears to be adequate for functionality and accessibility.

## **1.6 Existing or proposed utilities to service the facility**

The proposed facility has contacted all service providers in the area, Irvine Municipal Utilities (water and sewer), Jackson Energy Electric Cooperative, Alltel, and Columbia Gas. All utilities have indicated the ability or future capacity to serve the proposed facility.

**1.7 Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), or (5)**

All property boundaries, residential neighborhoods, hospitals, schools, and nursing homes are located at distances greater than required. All set back requirements of the proposed facility have been achieved in accordance with Kentucky law.

**1.8 Evaluation of the noise levels expected to be produced by the facility**

The evaluation of noise levels is fully described in Section 4 – Evaluation of Anticipated Peak and Average Noise Levels Associated with the Facility’s Construction and Operation at the Property Boundary.

**2 Compatibility with Scenic Surroundings**

The SAR presented Key Observation Points (KOP) from six locations in the area to determine visibility of the proposed facility with respect to its surroundings. The hilly terrain of the proposed site and its adjacent areas significantly reduce visual impacts.

**3 Potential Changes in Property Values for Adjacent Property Owners**

A review of the appraisal report has determined that it follows guidelines of the Uniform Standards of Professional Appraisal Practice (USPAP). The appraisal examined detrimental conditions of the proposed power plant to determine if it had an impact on adjacent property values. The report concludes that the impact from the proposed power plant is Class I No Detrimental conditions or Benign Conditions.

**4 Evaluation of anticipated peak and average noise levels associated with the facility’s construction and operation at the property boundary.**

The applicant has sufficiently documented that the noise levels from the construction and operation of the power plant will be at acceptable levels (i.e., below typical thresholds for significance) at the property boundary and at the nearest residences. KRS 278.708 does not state criteria for noise levels. Many federal agencies use 65 dBA as an average threshold where human annoyance increases. Therefore, Brighton has used 65 dBA Day Night Average Sound Levels (DNL) as a standard for determining acceptable noise levels.

Steam blows, which occur at the end of construction and during emergency conditions during operation of the power plant, may produce peak noise levels as high as 120 dBA immediately next to the noise source without any mitigation. To mitigate these undesirable noise levels, silencers are recommended for the proposed facility. The steam blows during construction and operation are also recommended to occur during typical waking hours of 7:00 a.m. and 9:00 p.m, except under emergency conditions.

Brighton recommends noise monitoring if adjacent property owners complain and the Board staff deems the complaints to be legitimate. If the monitored noise levels are above 65 dBA DNL, then an evaluation of additional practical noise mitigation measures should occur.

## **5 Impacts on Land-based Transportation**

### **5.1 Road Transportation**

The proposed facility is near three major corridors, KY 52, KY 89, and KY 499. The KYTC has proposed a new road from KY 499 to provide improved access to the proposed power plant. However, a construction schedule for this road has not been determined. Therefore, all traffic analysis of two lane highways is based on existing roadway conditions.

The analysis shows the capacity of the existing two lane highways is satisfactory and there will be minimal impact during construction and operation of the proposed facility. Truck deliveries during non-peak hours is recommended to reduce its impact on the roadway system.

### **5.2 Rail Transportation**

The existing rail facilities are sufficient to meet intended uses of the proposed power plant. The use of rail deliveries is recommended as opposed to truck deliveries to minimize impacts on the existing roadways.

## Section C – Findings and Conclusions

### **Introduction**

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

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

Each of the five elements of the SAR is reviewed in the following manner: first, the generally accepted assessment criteria is described; second the relevant information presented in the initial SAR is summarized; third, other information obtained in the review to supplement the SAR is described; and finally, conclusions on ECEP impacts are presented.

## **1 Description of Proposed Facility / Site Plan**

The applicant's SAR of the Proposed Facility / Site Plan must include, in accordance with KRS 278.708 (3)(a):

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

- 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 to the site;
- Subsection (a)(4): The location of facility buildings, transmission lines, and other structures;
- Subsection (a)(5): Location and use of access ways, internal road and railways;
- Subsection (a)(6): Existing or proposed utilities to service the facility;
- Subsection (a)(7): Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), or (5) and;
- Subsection (a)(8): Evaluation of the noise levels expected to be produced by the facility.

Each of the subsections will be evaluated independently as listed below.

## 1.1. Surrounding land uses for residential, commercial, agricultural and recreational purposes

### *Criteria*

Estill County does not have planning and zoning regulations<sup>1</sup>, hence the existing land uses are not explicitly determined. Existing structure types and topography are used to evaluate the properties in the vicinity of the project area. Brighton's staff reviewed the land use map included in the SAR<sup>2</sup> to determine if the applicant's delineation of the land uses is essentially correct.

### *Summary of SAR*

The SAR refers to Exhibit C for the delineation of surrounding land uses as residential, agricultural, and commercial. The Kentucky River borders the property. Daniel Boone National Forest and the city of Irvine are located to the east. Residential neighborhoods are located beyond one-half mile from the proposed facility.

The remaining portion of the applicant's section on land uses discusses the viewsheds. This report will discuss the viewsheds in detail in Section 2 - Compatibility with Scenic Surroundings.

### *Review*

The applicant's SAR section 12.a.1 refers to Exhibit C, a map showing land uses of the surrounding area<sup>3</sup>. Estill County does not have zoning requirements; therefore, the applicant estimated residential uses using homes, buildings, and topography to determine residential, commercial, and agricultural areas. The applicant makes no distinction between commercial and industrial areas, as it is not required by statute<sup>4</sup>. Please refer to Figure 1.



**Photograph 1 - Estill County Industrial Park, with Carhartt, Inc.**  
Photograph taken by Brighton A & E, Inc., from project site. June 29, 2004

<sup>1</sup> Estill County Energy Partners, LLC. Application for Certificate to Construct a Merchant Electric Generating Facility, Exhibit Q. June 11, 2004.

<sup>2</sup> ECEP Application, Exhibit C.

<sup>3</sup> ECEP Application, Exhibit C.

<sup>4</sup> Kentucky Revised Statutes 278.708(3)(a)(1).

The project site and the adjacent Estill County Industrial Park (to the east) are listed as commercial. At this time, Estill County Industrial Park contains only one business, Carhartt, Inc. (See Photograph 1), which manufactures and repairs clothing at this facility. The industrial park has 35 acres remaining available for development.



The Kentucky River borders the proposed site to the north, west, and south. The areas located across the river from the project site are residential, forested, or agricultural areas (see Photograph 2). The nearest residence is 2,170 feet, and the nearest residential neighborhood is approximately 3,100 feet from the proposed stack location.

**Photograph 2 - Existing agricultural land use on the west side of the Kentucky River Looking at Project Site. Existing Conveyor System of Coal Processing Plant in the Background**  
*Photograph taken by Brighton A & E, Inc., June 29, 2004*

Residential areas are located east of the project site along Coal Wash Road (see Photograph 3), KY 89, Witt Road, and Stump Road (see Photograph 4). The terrain between the residential areas and the proposed power generating section of the site is visually buffered by forested hills.



**Photograph 3  
Homes off Coal Wash Road**  
*Photograph taken by Brighton A & E, Inc., from Coal Wash Road. June 29, 2004*



**Photograph 4 - Residential  
Neighborhood off  
Stump Road**

*Photograph taken by Brighton  
A & E, Inc., June 29, 2004*

The city of Irvine and the Daniel Boone National Forest are located to the east of the project site.

The proposed stack and the associated buildings are approximately 6,200 feet from the intersection of Coal Wash Road and KY 89<sup>5</sup>. Per Brighton's request, residential neighborhoods are to be clearly delineated<sup>6</sup> on the Land Use Map (See Map 1). From the aerial photograph dated



Spring 1998, only one residential neighborhood is located off of Stump Road near KY 499. The only other residences are scattered among local roads in a rural setting. Since the time that aerial photographs at the existing site were taken, additional homes appear to have been constructed off Coal Wash Road to establish a small residential neighborhood (see Photograph 3).

The applicant has listed two homes on the site owned by Fox Trot Properties, LLC in the application<sup>7</sup>, approximately 2,650 feet and 2,850 feet from the proposed exhaust stack, but has excluded these houses from the land use map listed in Exhibit C. Upon further investigation, the applicant states these homes are not currently being used, nor is any future residential use planned<sup>8</sup>.

The agricultural areas delineated by the applicant were found to be essentially correct.

The commercial and industrial areas are correctly identified on the map in the immediate vicinity of the proposed site. There are additional commercial areas, which are located at a distance greater than 5,000 feet from the proposed site, but are not delineated on the maps. These areas are along KY 89 near or in North Irvine and along KY 52, near or in West Irvine. Due to the distances involved, this is not a significant issue.

<sup>5</sup> ECEP Application, Exhibit C.

<sup>6</sup> ECEP Response. Information Request No. 1, Question 2.

<sup>7</sup> ECEP Application, Section 2.4, page 9.

<sup>8</sup> ECEP Response. Information Request No. 1, Question 1.

### *Conclusion*

The site offers a natural isolation from the adjacent areas by means of the terrain. The Kentucky River provides a natural boundary from commercial and industrial areas located on the east side of the river and the agricultural and forested areas immediately to the north, west and south of the proposed site.

The nearby residences and neighborhoods to the south will have minimal impact from the proposed project.



**Photograph 5**  
**Coal Wash Road**  
**Looking Toward**  
**Site at Intersection**  
**of Stump Road**  
**and Witt Road.**  
*Photograph taken*  
*by Brighton A & E,*  
*Inc., June 29, 2004*

The residential neighborhoods along Coal Wash Road are visually buffered from the site due to the hilly forested terrain (see Photograph 5). However, these neighborhoods could be negatively impacted by increased traffic to and from the project site. A detailed discussion of the traffic impacts of the site from the applicant's project is under Section 5 - Impacts on Land Based Transportation.

## **1.2. The legal boundaries of the proposed site**

### *Criteria*

The evaluation of tax maps and deeds for the property have been utilized to determine the legal boundaries of the site.

### *Summary of SAR*

The application describes the boundary of the site by referring to Exhibit B, a map showing Site Boundaries. Four parcels owned by Fox Trot Properties, LLC are shown as the project site. CSX railroad, Witt Road, and Stump Road divide the site into different lots.

### *Review*

The review of the project site boundary reveals the site is a collection of several parcels<sup>9</sup> totaling 620 acres<sup>10</sup>. The parcels shown on the tax maps reflect to a reasonable degree of accuracy the property boundaries shown on Exhibit B.

The applicant furnished deeds<sup>11</sup> to show Fox Trot Properties, LLC as the owner of the properties where the proposed facility is located. The property was obtained from Kentucky Processing Company in an auction approved from the Bankruptcy Court.<sup>12</sup> The deeds provided are not discreetly deeded parcels and are established by other property rights that cross or abut the property to create the parcels.

The site is currently owned by Fox Trot Properties, LLC, while the applicant is Estill County Energy Partners, LLC. The applicant explains that the corporations, Foxtrot Properties, LLC and Estill County Energy Partners, LLC, are affiliates and have common ownership<sup>13</sup> under Jacquelyn Yates<sup>14</sup>.

An interview with Ms. Dunaway-Barnes, the Property Valuation Administrator of Estill County, it was revealed that property taxes were delinquent since 1993.

On July 14, DLX, Inc. and the Trust of Maxie LaViers (Trust) intervened in the ECEP application for a certificate of construction for a merchant power plant. DLX and the Trust claim that they own several tracts of property claimed by Foxtrot Properties.

The first group of property is the refuse pile tract and Right of Way. DLX Inc. and the previous property owner, Kentucky Processing Company (KPC), are in dispute over the ownership of the

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<sup>9</sup> Estill County, Property Valuation Administrator. Maps 55 and 56. June 29, 2004.

<sup>10</sup> ECEP Response. Information Request No. 1, Question 4.

<sup>11</sup> Deeds provided by Applicant.

<sup>12</sup> ECEP Response. Information Request No. 1, Question 4.

<sup>13</sup> ECEP Response. Information Request No. 1, Question 5.

<sup>14</sup> Gerald Mack. Telephone Interview. July 13, 2004.

refuse pile tract. To protect its interest, DLX lodged and recorded a notice of lis pendens in the County Clerks office prior to the KPC bankruptcy auction<sup>15</sup>.

Foxtrot Properties, LLC acquired the property from KPC at the bankruptcy auction<sup>16</sup>.

DLX also claims that it may also own the land of the former coal processing plant, now the proposed location of the merchant power plant<sup>17</sup>. DLX, Inc. is currently engaged in adversary action that is pending before the Honorable Joe Lee in the United States Bankruptcy Court<sup>18</sup>.

The second group of properties in dispute is the Calla Subdivision. DLX claims ownership of two tracts within the subdivision<sup>19</sup>. Foxtrot Properties also claims to own the properties in question<sup>20</sup>.

### *Conclusions*

ECEP needs to demonstrate that it may operate the proposed facility within recognized property lines. In Section D – Recommendations for Mitigations, Brighton has proposed a boundary survey should be performed on the property.

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<sup>15</sup> DLX Motion to Intervene. Page 3.

<sup>16</sup> ECEP Response to Request No. 1, Question 4.

<sup>17</sup> DLX Motion to Intervene. Page 4.

<sup>18</sup> DLX Motion to Intervene. Page 3.

<sup>19</sup> DLX Motion to Intervene. Page 5.

<sup>20</sup> ECEP application. Exhibit B.

### 1.3. Proposed access control to the site

#### *Criteria*

Evaluation of the applicant's proposed security plan is based on standard industry practices. Access control consists of any combination of barriers, gates, electronic security equipment, and/or guards that can deny entry to unauthorized personnel or vehicles<sup>21</sup>.

#### *Summary of SAR*

The applicant proposes to construct perimeter fencing around the immediate facility to prevent unauthorized access. The fencing will be seven feet in height with one foot of three strand barbed wire. The main entrance will be equipped with a motorized cantilevered gate, card reader, barrier trips, and voice and video communications with the facility control room.

#### *Review*

In review of the security procedures proposed by the applicant, Brighton posed several questions regarding the perimeter fencing locations<sup>22</sup> to determine the limits of the secured perimeter. Security fencing, including placement on the existing concrete retaining wall, will enclose the proposed facility. The number of entrances to the facility, by vehicle and rail, raises security issues. ECEP will lock all entrances that are not in active use to prevent unauthorized access<sup>23</sup>.

The steep topography from the Kentucky River to the proposed facility provides additional security from unauthorized access. The existing railroad tracks and sidetracks serve as an extra security precaution from unauthorized vehicle access. The proposed controlled perimeter is properly designed to channel vehicles to the controlled access points<sup>24</sup>.

The site will have one access, other than the main entrance<sup>25</sup>, for vehicle traffic. The secondary vehicle access will be secured with a locked gate.

The delivery of 120,000 tons of coal per year to the proposed facility will utilize existing sidetracks located on site. The delivered coal will supplement approximately 1.2 million tons of coal per year that will be mined from the site. The applicant does not provide operational procedures at this time for maintaining a secured perimeter during delivery of coal by rail.

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<sup>21</sup> Department of Defense. Minimum Antiterrorism Standards for Buildings. July 31, 2002.

<sup>22</sup> ECEP Response. Information Request No. 1, Questions 7 - 12.

<sup>23</sup> ECEP Response. Information Request No. 1, Question 10.

<sup>24</sup> Department of Defense. Minimum Antiterrorism Standards for Buildings. July 31, 2002.

<sup>25</sup> ECEP Response. Information Request No. 1, Question 1.

*Conclusions*

The security practices should be typical of standard power plant security. The SAR did not go into detail with regard to security measures to be taken. In Section D – Recommendations for Mitigation, additional security measures are strongly advised.

#### **1.4. The location of facility buildings, transmission lines, and other structures**

##### *Criteria*

Evaluation will be based upon the applicant's plans for facility buildings, transmission lines, and other structures. Brighton reviewed the plans for essential elements of the facility layout.

##### *Summary of SAR*

The applicant's SAR section 12.A.4 includes a list of proposed building structures for the power generating facility. A map in Exhibit G is referenced in the report to show the location of the proposed facility<sup>26</sup>.

##### *Review*

The proposed facility considers the existing topography of the site in the layout of the power plant. In further discussions with the applicant, a basic description of the plant operation demonstrated that the essential elements of a power generating facility have been planned<sup>27</sup>.

Upon further investigation, Brighton has determined that the existing Rail Unloading Shed and River Water Intake Structure will be renovated and utilized for the operation of the facility. All other existing structures within the perimeter fencing will be removed<sup>28</sup>.

Other buildings located on the property, but outside the perimeter fencing, will remain. These include the warehouse, maintenance shops and administration buildings<sup>29</sup>. The two existing residences on site were not addressed in the SAR to determine if they will remain or be removed. In further inquires, ECEP has stated that these homes will not be occupied or used in conjunction with the proposed power plant.<sup>30</sup>

Exhibit A, 2 Mile Vicinity Map, shows the proposed location of the Transmission Line<sup>31</sup>. The Transmission line will leave the power plant and cross the Kentucky River and KY 52 passing through agricultural, forested, and residential area to the Kentucky Utilities West Irvine Substation. The transmission line will utilize an existing electric easement that is currently owned by Kentucky Utilities. The construction of this electric line will require a construction certificate from the KPSC as required in KRS 278.714<sup>32</sup>. Therefore, any impact from the construction of the proposed 161kV Transmission Line is outside the scope of the SAR review.

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<sup>26</sup> ECEP Application, Exhibit G.

<sup>27</sup> Meeting with ECEP and KPSC. June 24, 2004.

<sup>28</sup> ECEP Response. Information Request No. 2, Question 2.

<sup>29</sup> ECEP Application, Exhibit G.

<sup>30</sup> ECEP Response, Information Request No.1, Question 1.

<sup>31</sup> ECEP Application, Exhibit A.

<sup>32</sup> ECEP Response. Information Request No.2, Question 3.

*Conclusions*

The proposed facility layout appears to be satisfactory, for security and other location criteria limitations covered by this review. Additional security measures are strongly advised in Section D – Recommendations for Mitigation, in this report.



## **1.5. Location and use of access ways, internal road and railways**

### *Criteria*

The location and use of access ways and railways to the proposed facility will be discussed in detail in Section 5 – Impacts on Land Based Transportation. In this section, the internal road system within the facility will be evaluated on practicality and accessibility to the proposed buildings on site.

### *Summary of SAR*

Section 12.a.5 of the application refers to Exhibit D, 2,000 feet Site Vicinity Map to show the access to the plant<sup>33</sup>. The proposed access road to Coal Wash Road will serve as a point of access to the facility from KY 499. The proposed access road from KY 499 will provide an improved corridor to the facility. ECEP has proposed constructing a paved road from the termination of Coal Wash Road to the main entrance<sup>34</sup>.

CSX currently maintains the railroad across the site, which can be used to provide material and equipment deliveries to the facility.

Exhibit G, Facility Site Layout shows the internal roads within the Facility to provide access to buildings and structures<sup>35</sup>.

### *Review*

Access to the facility will be discussed in detail later in this report under Section 5 - Impacts to Land Based Transportation. The paved internal roadway system within the facility appears to be adequate for the internal roads<sup>36</sup>. The existing rail sidetracks will be utilized for railcar storage and unloading of coal.

The evaluation of temporary haul roads within the site boundaries is outside the scope of this review because it does not directly pertain to the facility and will be regulated under the Kentucky Natural Resources and Environmental Protection Cabinet – Department for Surface Mining, Reclamation and Enforcement (DSMRE)<sup>37</sup>.

### *Conclusions*

The proposed location of the internal roads layout appears to be satisfactory.

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<sup>33</sup> ECEP Application, Exhibit D.

<sup>34</sup> ECEP Application, Section 12.a.3, page 25.

<sup>35</sup> ECEP Application, Exhibit G.

<sup>36</sup> ECEP Response. Information Request No.2, Question 5.

<sup>37</sup> ECEP Response. Information Request No.2, Question 2.

## **1.6. Existing or proposed utilities to service the facility**

### *Criteria*

This section is a review the applicant's plans for providing utilities to the site. Brighton has sought verification that of the utilities is able to provide service to the proposed facility.

### *Summary of SAR*

Columbia Gas will provide natural gas for the facility from a distribution line along KY 89. In Exhibit L, the applicant provides a copy of the letter from Mr. Samuel C. Dudley, of Columbia Gas, who states natural gas can be provided to the site<sup>38</sup>.

The electrical needs of the facility will be self-generated during plant operation. When the plant is not in operation, electricity will be obtained from Kentucky Utilities through the proposed 161 kV line.

An existing Jackson Energy Electric Cooperative line runs through the proposed facility site. The Site Facility Map, Exhibit G, shows the electric line will be relocated<sup>39</sup>.

Irvine Municipal Utilities will provide the potable water and sewer connections to service the facility.

ECEP has applied for and received conditional approval for the withdrawal of 4 million gallons per day from the Kentucky River for industrial use.

### *Review*

Columbia Gas appears to be able to provide gas service to the plant. To bring adequate service to the facility, the applicant is likely to contribute to the cost of the infrastructure improvements required. In further conversation with Sam Dudley, he also states that additional engineering studies are required to determine the requirements for the proposed connection<sup>40</sup>. The existing gas line from KY 89 and along Coal Wash Road will likely be upgraded to service the proposed power plant.

The feasibility of the electrical service is outside the limits of this SAR review because a new 161 kV line will provide electricity to the facility when the plant is not in operation. The 161 kV line will require a construction certificate from the KPSC<sup>41</sup>.

Jackson Energy Electric cooperative is in discussions with ECEP to relocate the electric line. At this time, a final determination of where to relocate the electric line has not been decided<sup>42</sup>. An

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<sup>38</sup> ECEP Application, Exhibit L.

<sup>39</sup> ECEP Application, Exhibit G.

<sup>40</sup> Sam Dudley. Telephone Conversation. June 28, 2004.

<sup>41</sup> ECEP Response. Information Request No.2, Question 3.

inquiry with Jackson Energy Electric reveals that this line is a 7.2 kV electric line that feeds the Jackson Energy Electric Cooperative area. One option for relocating the line is to move it to the perimeter of the property. The other option being explored is to cut through the property and lower the line as needed, as coal refuse is recovered. At this time, a relocation decision has not been made<sup>43</sup>.

Fox Trot Properties, LLC will dedicate easements as required for the relocation of the Jackson Energy Electric line<sup>44</sup>.

Irvine Municipal Utilities is ready to provide potable water and sewer services, as connections to the site along Coal Wash Road already exist<sup>45</sup>. The existing water and sewer infrastructure along Coal Wash Road will serve the proposed site.

The applicant intends to withdraw an average of 4 millions gallons per day from the Kentucky River for industrial uses. After use of the water, an average of 2 million gallons per day will be returned to the Kentucky River. The intake and discharge apparatuses will remain at the same location as the former coal washing facility. The withdrawal of water from the Kentucky River is permitted by the Kentucky Division of Water<sup>46</sup>, and therefore outside the scope of this report. The feasibility of treating the industrial wastewater from the site is outside the scope of this report because the Kentucky Division of Water is the responsible regulatory agency<sup>47</sup>.

The applicant neglected to mention the utility provider for telephone service in the SAR. Upon further investigation, ECEP stated it would obtain Kentucky ALLTEL as the local provider<sup>48</sup>. At this time, ECEP has not yet determined the long distance telephone service provider.

### *Conclusions*

The applicant appears to be able to obtain all non-permitted utilities such as water, gas, telephone and sewer required to operate the facility. ECEP will still be required to obtain a permit for the proposed Transmission Line from the Kentucky Public Service Commission. The Kentucky Division of Water requires a permit to be obtained for water withdrawal and discharges to the Kentucky River.

While ECEP has not yet determined a long distance telephone service provider, this is not a concern.

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<sup>42</sup> ECEP Response. Information Request No.2, Question 8.

<sup>43</sup> Mike Benham. Telephone Conversation. July 6, 2004.

<sup>44</sup> ECEP Response. Information Request No.2, Question 8.

<sup>45</sup> Billy Williams. Telephone Conversation. July 6, 2004.

<sup>46</sup> ECEP application, Exhibit F.

<sup>47</sup> ECEP application, Exhibit F.

<sup>48</sup> ECEP Response. Information Request No.2, Question 10.

**1.7. Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), or (5)**

*Criteria*

Brighton has determined the applicable setback requirements based on the KRS 278.704. Verification of school, hospital, and nursing home locations was obtained using a telephone directory<sup>49</sup> and an interview with a local official<sup>50</sup>.

KRS 278.704(2) states:

Except as provided in subsections (3), (4), and (5) of this section, no person shall commence to construct a merchant electric generating facility unless 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.

*Summary of SAR*

The applicant states that the facility is a former coal processing facility. The applicant shows on Exhibit D, 2,000' Vicinity Map, the nearest residential neighborhood is 3,100 feet from the proposed exhaust stack<sup>51</sup>. The nearest school is 7,000 feet, and the nearest hospital or nursing home is 9,500 feet from the exhaust stack.

ECEP states that there are no Planning and Zoning requirements in Estill County, therefore, no additional setback requirements apply to the facility.

*Review*

The property was the former site of South East Coal Company. In the time of operation from 1957 to the early 1990's, this site was a coal processing facility. Therefore, the applicant is exempt from meeting the 1,000 foot property boundary requirement as required in KRS 278.704(2) by KRS 278.704(5). KRS 278.704(5) states:

If the merchant electric generating facility is proposed to be located on a site of a former coal processing plant in the Commonwealth of Kentucky where the electric generating facility will utilize on-site waste coal as a fuel source, then the one thousand (1,000) foot property boundary requirement in subsection (2) of this section shall not be applicable; however, the applicant shall be required to meet any other setback requirements contained in subsection (2) of this section.

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<sup>49</sup> Alltel, Alltel Directory Distributed and Serving the Community of Irvine (Alltel Publishing Corporation, September 2003).

<sup>50</sup> Interview with Theresa Sparks. July 1, 2004.

<sup>51</sup> ECEP application, Exhibit D.

Site visits to the area on June 24, 29, and July 1, 2004 verified the approximate location of the homes and neighborhoods. Brighton confirms the location of the nearest residence to be approximately 2,100 feet and the nearest residential neighborhood is approximately 3,100 feet from the proposed exhaust stack.

An evaluation of the schools in the area revealed the following schools in the Irvine area<sup>52</sup>:

1. Estill County High School
1. Estill County Middle School
2. Estill Springs Elementary School
3. Estill County Adult Education Learning Center
4. Artageous, Inc.
5. Headstart School
6. West Irvine Elementary School

The Estill County High School is located approximately 7,000 feet from the proposed facility. This location is also the site of the Estill County Middle School. All other school facilities mentioned above are located at greater distances from the proposed site.

The only hospital in the area is the Marcum and Wallace Memorial Hospital<sup>53</sup>. The Hospital is approximately 10,500 feet from the proposed facility.

The application has omitted any mention of a nursing home facility. The Irvine Health and Rehabilitation Center<sup>54</sup> is located approximately 12,500 feet from the proposed facility.

### *Conclusions*

All setbacks in subsection (2) and (5) have been met. The SAR review confirms that all other setback requirements for residential neighborhoods, schools, hospitals, and nursing home facilities have been met in accordance with KRS 278.704(2).

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<sup>52</sup> Alltel.

<sup>53</sup> Alltel.

<sup>54</sup> Alltel.

### **1.8 Evaluation of the noise levels expected to be produced by the facility**

The evaluation of noise levels is fully described in Section 4 - Evaluation of Anticipated Peak and Average Noise Levels Associated with the Facility's Construction and Operation at the Property Boundary.

## 2 Compatibility with Scenic Views

### *Criteria*

The compatibility of the proposed power plant with the scenic surroundings has been evaluated in two parts. The first describes the existing views, while the second part involves the views anticipated with the proposed development.

A common method of evaluating “scenic views” compatibility utilizes the horizontal and vertical dimensions of the structures, color and lighting of the proposed development. This is evaluated from several key observation points (KOP) to determine the impacts of the power plant on the surrounding areas.

A standard visual analysis is obtained in the following sequence:

1. Analysis of the existing site visual setting.
2. Identification of key observation points.
3. Assessing the viewer or user of each observation point.
4. Evaluation of impacts to KOPs.

Compatibility with the scenic surrounding analysis often includes impacts to traffic. However, this report will describe traffic impacts later in this report in Section 5 – Impacts to Land Based Transportation.

### *Summary of SAR*

ECEP describes the site as a former coal washing facility that has been extensively developed to support a large scale coal processing facility and its adjacent refuse disposal area. Local residents and property owners are accustomed to existing industrial facilities and have made property decisions and investments with knowledge and history of large scale industrial facilities and industrial operations on the Site<sup>55</sup>.

The facility will be compatible with the scenic surroundings and will generally improve the appearance. The applicant makes several claims of improvements to the appearance of the site, which will require additional regulatory approvals, as described below:

1. The applicant will reclaim the coal to the standards of the Kentucky Department for Surface Mining, Reclamation and Enforcement. A permit from this agency is required for this operation.
2. To minimize impact, ECEP has requested Kentucky Utilities to install the 161 kV line within existing rights-of-way and easements. This segment of the infrastructure improvements will require a construction certificate from the KPSC.
3. The facility will withdraw and discharge water to the Kentucky River adjacent to the site to avoid construction of water lines across new off-site rights-of-way. Approval

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<sup>55</sup> ECEP Application, Section 12, Page 30.

- for water withdrawal and discharge requires the Kentucky Division of Water approval.
4. Ash generated by operation of the site will be disposed of on-site reducing truck traffic, except when ash may be used as stable fill to support off-site development. A permit from the Kentucky Natural Resources and Environmental Protection Cabinet will be required.



**Photograph 6 - Existing Site Looking at Location of Proposed Power Plant**  
*Photograph taken by Brighton A & E, Inc., Dated June 29, 2004*

The applicant also makes the following claims of improvements:

1. Large deteriorating structures will be replaced with a modern facility (see Photograph 6).
2. The facility will be located on the site to minimize its impact on the viewshed from the surrounding community and areas.
3. Direct access to KY 499 will alleviate any traffic congestion issues for the industrial development. This will be discussed further in Section 5 – Impacts to Land Based Transportation.
4. The facility will be fueled primarily with waste coal recovered from the site, minimizing rail or truck traffic associated with delivering fuel from off-site sources. This section will be discussed further in Section 5 – Impacts to Land Based Transportation.



The applicant refers to Exhibit E, (see Figures 2 and 3), to examine viewsheds from surrounding locations to indicate whether the stack will be visible. ECEP has selected five key observation points to view the facility as representative of the community visual impacts. The five locations are the following:

- A-A West Irvine on Highway 52
- B-B Courthouse in Irvine
- C-C Forest Boundary East of KY 89, High Point along Daniel Boone National Forest
- D-D House Beside County Road West of Kentucky River
- E-E Estill County High School

ECEP concludes that while the stack will be visible in some immediate adjacent areas, it will not be visible from the majority of the nearest communities because of topography between the site and the communities.

#### *Review*

The proposed facility is located on the site that operated as a coal washing facility formerly owned by South East Coal Company. This site has not been in active use as a large-scale coal washing facility since the early 1990's. Therefore, the local residents and communities have become accustomed to the current uses of the land in the past decade. Any impacts for scenic comparisons with the power plant and former coal washing facility should be considered minimal, if at all, due to the passage of time.

The proposed facility requires the removal of many existing buildings for the construction of the proposed buildings, as stated in Section 1.4 – The location of facility buildings, transmission lines, and other structures.

The facility is located on-site, where the use of the topography helps minimize visual impacts to the community due to its isolated nature, as discussed in Section 1.1 – Surrounding land uses for residential, commercial, agricultural and recreational purposes.

The visual line-of-sight provided by the applicant was needed to determine if the stack was visible from various locations. In this visual line-of-sight, obstructions such as trees and minor buildings are not considered. Thus, the lines-of-sight presented are a worst-case scenario. Upon request by Brighton, the lines-of-sight were modified by the applicant to determine how much of the stack and/or Circulating Fluidized Building (CFB) would be visible from each viewpoint<sup>56</sup>. The CFB is a building structure that is 175 feet in height, and it has a much more distinct profile than the 243-foot-tall stack<sup>57</sup>.

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<sup>56</sup> ECEP Response. Information Request No.2, Question.

<sup>57</sup> ECEP Application, Exhibit E.

West Irvine on Highway 52, KOP A-A, is approximately 5,100 feet away from the proposed stack location. KY 52 is major transportation corridor in the local area. The applicant was conservative by ignoring a ridge, twenty or more feet in height, on the side of KY 52, which blocks the view of the proposed facility.

During Brighton's site visit, personnel went to the Cedar Grove Church, at the hilltop (see Photograph 7) near KOP A-A, to observe the site. The road, West Cedar Grove Road, is located off Sand Hill Road, and is estimated to have minimal traffic and few observers<sup>58</sup>. The existing facility could be seen from approximately 5,000 feet away. Most of the proposed facility will be visible from Cedar Grove Church.



**Photograph 7 - Cedar Grove Church, Looking at Site, Near Key Observation Point A-A**  
(Existing buildings on-site can be seen in the far background)  
*Photograph taken by Brighton A & E, Inc., Dated June 29, 2004*

Estill County Courthouse is the KOP B-B (see Photograph 8). This point of observation, along with the remainder of the city of Irvine, has no visibility of the site due to Sweet Lick Knob, which rises approximately 500 feet above the community.



**Photograph 8 - From Estill County Courthouse Looking Toward Site, Key Observation Point B-B**  
*Photograph taken by Brighton A & E Inc., Dated June 29, 2004*

Key Observation Point C-C comes from the Vantage Point of Daniel Boone National Forest. This point of observation is inaccessible by vehicle. The nearest point that Brighton personnel came within this KOP C-C was approximately 2,000 feet horizontally and 320 feet vertically. The number of observers from this point of observation is virtually zero. The profile shown on Exhibit E, (2 of 2) shows approximately 160 feet of the stack and most of the CFB to be observable. If the points of visual obstruction (coal refuse

<sup>58</sup> Alltel.

hills) located on the site property are reclaimed, then all of the proposed facilities will be observable from this vantage point.

Key Observation Point D-D is located along Sandhill Road. This road is located along a broad ridge with homes located periodically off the road in a rural environment with agricultural and forested lands.

The profile for this KOP shows approximately 160 feet of the stack will be visible from this location. The vegetation in this area, where present, will significantly reduce observation of the proposed facility.



**Photograph 9 - Point Near KOP DD,  
Jackson Energy Electric Transmission Line**  
*Photograph taken by Brighton A & E Inc.  
Dated June 29, 2004.*



**Photograph 10- Estill County High School  
Looking at Site Key Observation Point E-E**  
*Photograph taken by Brighton A & E Inc.  
Dated June 29, 2004*

The view from the Estill County High School is KOP E-E. The existing hill located around the school blocks any visual observation of the facility. The Estill County Middle School is located adjacent to the property.

Upon Brighton's request, ECEP added an additional KOP on KY 499 bridge crossing over the Kentucky River. This location was selected because this is the vantage point from which most of the population in the local community will be able to observe the proposed power plant. Approximately 14,800 vehicles per day will cross over KY 499. This location is designated as KOP F-F.

This vantage point clearly demonstrates on the profile that the proposed facility will be seen in its entirety, except where vegetation provides visual obstructions.

The applicant has stated that the exhaust stack and buildings will be painted in neutral colors<sup>59</sup>. A rendering of the proposed site provided by the applicant shows the exhaust setback and buildings in neutral colors of various shades of tan and light brown.

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<sup>59</sup> ECEP application, Section 12.f, page 34.

The exhaust stack will not require lighting by the FAA<sup>60</sup>. Lighting within the facility will be to industry standards to minimize off-site glare<sup>61</sup>.



**Photograph 11 - KY 499 @ Kentucky River Looking at Site, Key Observation Point F-F**  
*Photograph taken by Brighton, Dated June 29, 2004*

### *Conclusions*

The removal of the existing facilities will improve the appearance of the site because the existing buildings have been poorly maintained for the last several years.

The scenic viewshed analysis demonstrates that the proposed facility is not observable to most of the community observation points, such as Estill County Courthouse (KOP B-B), Estill County High School and Estill County Middle School (KOP E-E). One major transportation corridor, KY 499 (KOP F-F) and residences and agricultural lands located between Sand Hill Road and the Kentucky River will be able to observe most of the power plant facility.

Brighton recommends that the proposed facility utilize neutral colors to minimize the impact on the scenic surroundings. To reduce unwanted light pollution Brighton also recommends that off-site glare from lighting be minimized to industry standards.

Brighton concludes the proposed facility will not severely impact the scenic viewshed of the area if the proposed recommendations are incorporated into the design of the facility.

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<sup>60</sup> Gerald Mack, Telephone Conversation. July 13, 2004.

<sup>61</sup> ECEP application, Section 12.f, page 34.

### **3. Potential Changes in Property Values for Adjacent Property Owners**

#### *Criteria*

Brighton has reviewed the Real Property Value Impact Study (Study) submitted by Estill County Energy Partners in their application. This study was reviewed for compliance with the Uniform Standards of Professional Appraisal Practice (USPAP). The Appraisal Foundation and the Appraisal Standards Board requires all certified appraisers to adhere to these standards.

#### *Summary of SAR*

The SAR states that the proposed siting, construction, or operation of the ECEP facility is expected to have no detrimental effect for the property owners adjacent to the facility. The document section in the SAR refers to an Exhibit I, Real Property Values Impact Study prepared by Commonwealth Guaranty, Inc. The report concludes there is a possibility that real property values would increase due to employment opportunities directly and indirectly resulting from the Facility.

The appraiser became familiar with the project in preparation of the report by performing the following items:

1. Inspected the power plant and existing improvements.
2. Inspected the market area bordering the site.
3. Gathered information on recent land sales, and recent improved sales.
4. Gathered market information.
5. Gathered income information.
6. Gathered information concerning noise assessment, air quality, blasting, drainage and groundwater issues, hazardous waste, damage to the landscape, odors emitted, pollution in general, traffic patterns, and power lines.
7. Gathered information concerning rail traffic.
8. Gathered information concerning the operational process for the proposed power plant and the materials that will be burned.
9. Confirmed and analyzed the data.

A limited appraisal for the adjacent properties was performed. The Sales Comparison Approach was utilized in the report because the appraiser decided this was the best approach to value for this report.

The appraiser described the Irvine / Estill County Market as showing strong residential growth in the last 5 years. Household income and population are expected to continue to grow. This community is adjacent to the Lexington Metropolitan Area.

The report examined detrimental conditions utilizing the following tools:

1. The Detrimental Condition Matrix.
2. The Bell Chart.
3. Three Detrimental Condition Approaches to Value utilizing the Sales Comparison Approach.

The report identifies each classification of a detrimental condition. Only issues that are specific to the proposed project are described in this summary.

Class V – Imposed Conditions – Adverse external factors by another entity that affects the value of a property. Common neighborhood nuisances such as a jail, airport, or power plant could affect adjacent property owner values. Noise is considered one the biggest nuisances for property owners.

The appraiser makes noise comparisons with the former coal processing plant and the proposed power plant. The report states the neighbors have been exposed to noise levels from the previous coal washing facility. The proposed power plant noise levels will be equal or less than the proposed facility even though the previous activities were not monitored for noise.

Class VIII – Environmental Conditions - man-made environmental conditions that may be economically and physically repaired. Common environmental conditions are contamination in the soil, asbestos, radon, or air emissions.

ECEP states it will employ clean coal technology for this generation facility. The power plant will use minor amounts of hazardous substances and will not dispose of any onsite. Neighbors will not experience deleterious effects from the plant emissions.

The appraiser performed a Sales Comparison Approach. One set of properties within sight and sound of the former coal washing facility, was compared to a second set of similar properties outside the sight and sound of the proposed site.

The appraiser noted several important factors that affect the value of property. They are the following:

1. Adjacent to the municipal sewerage treatment system
2. Natural gas supply
3. Electric supply
4. Local schools
5. Employment
6. Retirement
7. Location

The appraiser notes the recently constructed KY 499 was designed and built with industrial development in mind.



The appraisal report concludes that the preparation, construction, and operation of a power plant on the proposed site will have little or no impact upon real property values in the market area. The report even suggests that real property values might increase in value as a result of increased employment opportunities directly and indirectly resulting from the power plant and its related services. Therefore, the proposed power plant impact on adjacent property values is Class I No Detrimental Conditions or Benign Condition.

### *Review*

The appraisal report appears to have considered and applied all relevant approaches to value. The value impact conclusion seems to be supported by the analysis, with the following clarifications.

Class V – Imposed Conditions – The applicant recognizes that a power plant is often considered a detrimental condition on the value of adjacent properties. One of the primary causes of this type of detrimental condition is the noise level emitted from a power plant. The conclusion drawn in the appraisal report, that the proposed power plant will generate equal or less noise than the former coal wash facility, is not a valid comparison because the coal washing facility has not been in operation since the early 1990's.

A detailed discussion on proposed noise levels from the power plant is described in Section 4 - Evaluation of Anticipated Peak and Average Noise Levels Associated with the Facility's Construction and Operation at the Property Boundary.

An appraisal would typically include a legal description (deed book), map reference, a copy of survey, property sketch, or map, and property photographs identifying the property being appraised. A highest and best use analysis is often included as well. These items are omitted in the appraisal report as stated in the beginning of the report.

Nevertheless, Brighton believes that the applicant has fulfilled this requirement for two reasons. First, other sections of the ECEP application have provided the omitted information in the appraisal report. Second, the Kentucky statutes require only an examination of adjacent property owner values, not the site property.

### *Conclusions*

Based on the review and analysis of the materials presented in appraisal report, the reported conclusions appear to be realistic and adequately supported.

#### **4. Evaluation of Anticipated Peak and Average Noise Levels Associated with the Facility's Construction and Operation at the Property Boundary**

##### *Criteria*

This section evaluates the SAR study and conclusions concerning peak and average noise levels at the proposed ECEP power plant, in accordance with KRS 278.708(3)(a)(8), Evaluation of the noise levels expected to be produced by the facility and KRS 278.708(3)(d), Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary.

Noise is generally defined as unwanted or annoying sound. Sound levels are usually measured and expressed in decibels (dB). The decibel scale is logarithmic and expresses the ratio of the sound pressure unit being measured to a standard reference level. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound according to a weighting system, which reflects that human hearing is less sensitive at low frequencies and at extremely high frequencies than at the mid-range frequencies. This is called "A" weighting, and the decibel level measured is called the A-weighted sound level (dBA). "A" weighting most closely represents the response of the human ear to sound<sup>62</sup>.

Because no criteria currently exists within KRS 278.708, Brighton recommends a 65 dBA, 24-hour Day Night Average Sound Level (DNL) criteria be used to determine potential impacts to noise sensitive receivers from operational noise levels emitted from the proposed plant. However, this criteria should not be applied to construction noise because it is temporary, and Brighton is not aware of any precedent related to thresholds for construction noise. The 65 dBA DNL level is recognized by federal agencies as a threshold where human annoyance increases. A more detailed discussion of DNL is included in the Review section below.

To determine noise levels generated from a proposed project, noise studies typically include the following main steps:

1. Identify noise sensitive receivers.
2. Determine existing ambient noise levels.
3. Estimate construction and operational noise levels at property boundaries and noise sensitive receivers.
4. Compare predicted noise levels with applicable standards or thresholds.
5. Estimate the cumulative effect of the proposed project combined with existing noise levels.
6. Consider noise mitigation measures.

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<sup>62</sup> FHWA Policy Memorandum – Office of Environment and Planning, Highway Traffic Noise Guidance and Policies and Written Noise Policies.



For this project, the following equipment and activities were evaluated:

1. Construction noise levels (air compressor, crane, pneumatic tools) and
2. Operational noise levels (boiler feed water pumps, steam turbine and generator, condensate pumps, and set-up transformer).

One of the primary noise concerns that typically arises for this type of project is “steam blows,” which occur at plant start up, due to unforeseeable boiler upset, or during unplanned shutdowns.

*Summary of SAR*

The applicant provides a brief description of the property. The applicant then provides information about construction and operational noise levels, which includes common sound levels for various types of equipment. The noise levels were calculated for property boundaries (400 feet) and nearest noise sensitive receiver (2100 feet). This information was derived from an EPA study entitled, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 31, 1971* and based on data from a similar existing power plant (Burbank Magnolia located in Burbank, CA). Calculated noise levels from the SAR are shown in the table below. Supplemental information was also provided by the applicant, which included information regarding steam blows and operation and construction noise levels.

Table 5.1  
**Equivalent Hourly Sound Levels (Leq(h)) Presented in SAR**

<b>Construction Activity</b>	<b>Average Sound Level at 50 feet (dBA)</b>	<b>Property Boundary at 400 feet (dBA)</b>	<b>Nearest Residence at 2100 feet (dBA)</b>
Air Compressor	81	63	48
Crane	88	70	56
Pneumatic Toll	85	67	53
<b>Operational Equipment</b>			
Boiler Feed Water Pumps	Not provided	48	33
Steam Turbine & Generator	Not provided	65	51
Condensate Pumps	Not provided	48	33
Step-up Transformer	Not provided	33	19

The applicant also states no local, state, or federal noise ordinances exist to establish any standards for construction and operation of the proposed facility.

In the conclusion, the applicant states noise has been estimated at the property boundary and the nearest residence, and that noise levels are not projected to cause interference with normal activities. Additionally, the noise report includes a map showing dBA levels for a standard circulating fluidized bed (CFB) boiler power plant manufactured by Alstom Power, Inc. This

example is similar to the proposed project. Also included is an appendix showing dBA levels at varying distances for different types of equipment to be used at the plant. Supplemental information provided by the applicant clarifies average and peak noise levels and provides cumulative noise levels for all equipment sources combined.

### *Review*

The review presented below includes information from both the SAR and supplemental information provided by the applicant.

### Methodology

The applicant's noise study examines the estimated noise levels for construction and operation of the proposed plant in relationship to the property boundary (400 feet) and nearest noise sensitive receiver (residence 2100 feet). Specific pieces of equipment used to construct and operate the proposed plant were used to calculate noise levels. The equipment examined for the noise study is shown in the table above. The applicant uses information derived from the EPA study, data from the Burbank Magnolia power plant located in Burbank, California<sup>63</sup>, and data from the Alstom Plant to estimate noise levels for the proposed project. The findings were then presented in separate tables for construction and operational noise levels. The noise levels were derived from the EPA study mentioned in the construction noise section. The applicant also states that operational noise levels were estimated based on test data from the Burbank Plant and studies conducted by the EPA. A typical noise iso-somediagram for the Alstom 100-150 MW CFB plant was provided. This diagram shows dBA contours out to various distances from the plant. The noise from this plant is representative of the noise levels expected from the proposed plant. Noise levels are provided from individual pieces of equipment, as well as cumulative levels from all sources.

Additionally, supplemental information indicated that the information sources used to determine noise levels assume full power operation of equipment continuously for a one-hour period. Therefore, in this situation, the hourly level equivalent sound level ( $L_{eq}(h)$ ) also accurately represents the Maximum A-weighted Sound Level ( $L_{max}$ ). These noise levels are conservatively high (i.e., they are likely slightly higher than would actually be experienced), given the methods used for estimation.

As mentioned in the Criteria section, DNL is recommended as the metric to predict noise levels at the property boundaries and nearest noise sensitive receiver. The reasons for this recommendation are described below.

Extensive research has found that the day-night average sound level correlates very well with community annoyance from most environmental noise sources. Annoyance is a summary measure of the general, adverse reactions of people to noises that disrupt their daily activities telephone conversations, TV/radio listening, sleep, or simple tranquility. Currently, the best measure of this reaction is the percentage of people who characterize themselves as "highly

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<sup>63</sup> ECEP Response to Request No. 3.

annoyed" by long-term exposure to their noise environments. A DNL of 65 dB is generally identified as the threshold level of aviation noise and other sources of community noise, which are "significant". Using this research, federal agencies have adopted certain guidelines for compatible land uses and environmental sound levels. Land use is normally determined by property zoning, such as residential, industrial, or commercial. Noise levels that are unacceptable for homes may be quite acceptable for stores or factories.<sup>64</sup>

The emergence of DNL as a valuable measure of community noise is due chiefly to the efforts of the U.S. Environmental Protection Agency (EPA). In the spring of 1973, in an effort to comply with the Noise Control Act of 1972, EPA convened a task group with the function to "consider the characterization of the impact of airport community noise and to develop a community noise exposure measure." To accomplish this, the Task Group had to determine the merits and shortcomings of methods to characterize the impact of the noise of present or proposed airport operations on the public health and welfare and determine the implications of issuing federal regulations establishing permissible levels for public health and welfare.

Other recent studies continue to indicate that DNL is the descriptor of choice in representing community reaction to noises of all kinds. A recent study to assess the nighttime weighting factor used in DNL concluded that there is no credible evidence to use anything other than the accepted DNL ("Cumulative Airport Noise Exposure Metrics: An Assessment of the Evidence for Time-of-Day Weightings, " DOT/FAA/EE-86/10). Another study concluded that DNL satisfactorily represented surveyed community annoyance from helicopter noise for flyovers as infrequent as one operation per day ("A Community Survey of Helicopter Noise Annoyance Conducted under Controlled Noise Exposure Conditions," NASA Tech. Memo 86400). Given that annoyance is a phenomenon for which there is no perfect descriptor, all known research illustrates that DNL provides an excellent portrayal of noise exposure for the purposes of assessing land use compatibility and controlling noise.<sup>65</sup>

Although originally developed in relation to airports, DNL is applicable to other situations also, and power plant noise would be characterized well by this metric.

### Findings

The SAR concluded that the proposed plant would not interfere with normal activities at nearby receivers. The applicant also concluded that noise levels at the proposed plant would be the same or less than the previous coal processing plant located at the site. The applicant has proposed the placement of silencers to mitigate steam blows. Restricting steam blows to waking hours of 7:00 a.m. to 9:00 p.m could further mitigate the steam blows. The applicant has stated that cumulative noise levels would not be significantly greater than the level produced if the operations were performed individually and sequentially over a longer time period. The noise study also made the following findings:

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<sup>64</sup> FAA Noise Division (AEE-100), Aircraft Noise: *How We Measure It and Assess its Impact*.

<sup>65</sup> FAA Noise Division (AEE-100) Day Night Average Sound Level (DNL): The Descriptor of Choice For Airport Noise Assessment.

1. During construction, the maximum expected noise level at the closest noise sensitive receiver would be approximately 53 dBA from a single source.
2. During construction, the average expected noise level at the closest noise sensitive receiver would be approximately 36 dBA Leq(h) from all sources combined.
3. During operations, the maximum expected noise level at the closest noise sensitive receiver would be approximately 39 dBA from a single source.
4. During operations, the average expected noise level at the closest noise sensitive receiver would be approximately 38 dBA Leq(h) from all sources combined.

The SAR noted that no local, state, or federal noise ordinances exist to effectively establish any fixed standards for construction and operation of the proposed ECEP facility. Some standards exist for workers at construction and operation work sites for this type project. However, employee standards do not address the issues raised in KRS 278.708.

### *Conclusions*

Brighton finds that the SAR and supplemental information adequately identify the following information:

- Methods used to determine noise levels
- Sources of noise expected from construction and operation of the proposed plant
- The property boundary and nearest noise sensitive receiver
- For construction and operation, average and peak noise levels (at the property boundary and nearest noise sensitive receiver) that would be generated by each individual piece of equipment as well as cumulative average levels from multiple sources

Noise within the proposed plant was not estimated as it is regulated by Kentucky Occupation Safety and Health Administration (KOSHA) and therefore is beyond the scope of this review.

Although DNL levels are not provided, it is likely that the 24 hour DNL at the nearest sensitive receiver would not exceed 65 DNL given the Leq(h) and peak levels provided.

The data presented fully meets the KRS criteria for the reasons described above (KRS 278.708(3)(a)(8) and KRS 278.708(3)(d)).

## 5.1 Roadway Analysis

### *Criteria*

To evaluate the potential issues that could arise as a result of the power plant construction and operation, the following criteria were developed to review the SAR prepared by the applicant.

1. Obtain existing traffic counts and perform capacity analysis, using Highway Capacity Software, to determine the existing level of service on the existing road network.
2. Estimate traffic volumes generated during construction and operation of the power plant and distribute the same in the existing road network.
3. Estimate truck trips based on weight restrictions on the existing road network.
4. Identify future improvements to the existing road network.
5. Perform capacity analysis on the traffic volumes during the construction and operation of the power plant.
6. Compare the level of service of the existing road network using existing conditions during construction conditions and operation of the power plant conditions to study the impacts of the proposed power plant on the existing traffic flow.
7. Identify any potential safety concerns on the road network as a result of the increased traffic (especially truck traffic) due to the construction of the power plant.

### *Summary of SAR*

ECEP has addressed KRS 278.708(3)(a)(3), KRS 278.708(3)(a)(5) and KRS 278.708(3)(e) in sections 12(a) 3, 12(a) 5, and 12(e) respectively:

- Section 12(a) 3 addresses the proposed access control to the site.
- Section 12(a) 5 addresses the location and use of access way, internal roads and railways.
- Section 12(e) addresses 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.

Exhibit J of the application provides information on the potential impacts on Road and Rail Traffic.

KY 89 is located east of the project site. The traffic volume on the roadway is 1,570 vehicles per hour and 7,000 vehicles per day. KY 89 has a capacity of approximately 12,700 vehicles per day<sup>66</sup>.

The primary access road to the project site is via KY 499. KY 499 is a bypass, north of Irvine, connecting KY 52 and 89. ECEP states that the primary reason behind this bypass is to serve the Estill County Industrial Development (ECID)<sup>67</sup>. According to KYTC the hourly design volume

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<sup>66</sup> ECEP Application – Page 3.

<sup>67</sup> ECEP Application – Page 1.

on KY 499 is 924 vehicles per hour and 4,000 to 5,000 vehicles per day. Current traffic is well within limits of the capacity of KY 89 and KY 499.

The Kentucky Transportation Cabinet (KYTC) has plans for an access road from Highway 499 to the ECID site (See map 1 for location of proposed access road). The proposed facility will utilize the access road to enter and leave the project site in lieu of Coal Wash Road.

The proposed power plant will employ 400 workers during construction and 46 during operation<sup>68</sup>. The peak construction shift will have a maximum of 150 employees.

The proposed power plant will consume 700,000 to 1.2 million tons per year of reclaimed coal from the site. Approximately 120,000 tons of coal per year will be delivered to the site to assure a consistent blend of fuel to the proposed power plant<sup>69</sup>. This amount of coal can be hauled in by trucks or delivered by rail. Truck deliveries to the site would average about 15 trucks per day<sup>70</sup>. These deliveries will occur throughout the day.

The proposed facility will also require 100,000 tons of limestone and 20,000 tons of lime per year<sup>71</sup>. Limestone and lime will be transported to the site via truck or rail. It is expected that 20 trucks per day would be required to haul in the materials if trucks are used. All truck deliveries will adhere to the weight restrictions of the roads to minimize degradation of the roads.

The traffic study prepared by the applicant states the proposed facility will generate less traffic than the previous coal processing plant. However, the applicant has not produced the traffic volumes to confirm this conclusion.

Fugitive dust will occur during the construction of the proposed power plant. The applicant states that dust will be controlled using gravel roads, with water and dust palliatives as needed to reduce dust. The operation of the power plant will produce minimal dust, as all roads leading to and in the facility will be paved. Coal processing operations at the site will be enclosed in the buildings such as the Refuse Storage Building and Crusher Building<sup>72</sup>.

The recovery of coal from onsite locations will generate fugitive dust that will be controlled using gravel roads, water, and dust palliatives. The Kentucky Department of Surface Mining Reclamation and Enforcement (DSMRE) will regulate dust from mining operations<sup>73</sup>.

### *Review*

Review of the SAR showed that the applicant has not included a capacity analysis to demonstrate the existing and future level of service of KY 499, KY 82, KY 52, and Coal Wash Road. It is a

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<sup>68</sup> ECEP Application – Page 2.

<sup>69</sup> ECEP Application – Page 2.

<sup>70</sup> ECEP Application – Page 2.

<sup>71</sup> ECEP Application – Page 2.

<sup>72</sup> ECEP Application, Appendix G.

<sup>73</sup> ECEP Application – Page 3.

standard practice recommended by the Division of Traffic Operations, Kentucky Transportation Cabinet (KTC) as well as the Institute of Transportation Engineers (ITE) to perform an existing capacity analysis to evaluate the current conditions as well as perform a future capacity analysis to evaluate the impacts of the proposed developments on the existing traffic flow.

Upon a thorough review of the SAR, a list of questions<sup>74</sup> was prepared, for a more detailed traffic analysis, to clarify the information provided by the applicant. The applicant has responded to the questions related to traffic in a letter dated July 7, 2004<sup>75</sup>. However, the applicant has not performed any capacity analysis using Highway Capacity Software to demonstrate the existing and future level of service. The applicant refers to KTC memo dated July 31, 1997 for capacity analysis. This memo addresses the existing and projected traffic volumes at certain critical locations. The traffic volume data should be adjusted with traffic growth factors for the current year (2004) traffic estimates. ECEP's response does not specifically address the traffic volumes that would exist during the construction period and operation of the power plant.

In concept, Brighton agrees with the applicant's claims that there would be no significant increase in the traffic volume numbers as compared to the existing numbers. However, it is advised that to reach a definite conclusion, the traffic volume numbers for existing year (2004) as well as during construction and operation of the power plant in 2008 should be compared and a capacity analysis be performed to validate any conclusions reached by the applicant.

To mitigate these deficiencies in the SAR, as submitted by the applicant, Brighton has obtained the traffic volumes on the existing road network from KYTC and projected the traffic volumes, to represent the traffic volumes during construction and operation of the power plant, using ITE trip generation rates. Truck volumes were calculated based on the information provided by the applicant in the SAR. These projected traffic numbers were then distributed in the existing road network.

The applicant, at this time, plans to dispose of the ash from the power plant on-site. ECEP has alluded to some ash disposal offsite if economically feasible. Any truck traffic generated as a result of off-site hauling of ash could not be estimated. Therefore, this scenario has not been included as part of this review.

An existing capacity analysis is critical for evaluation of traffic impacts so that it may serve as a baseline for comparison with proposed future conditions. ITE trip generation rates were used to calculate the projected traffic and a comparative analysis was performed to determine the impacts of the proposed development on the existing road network.

Brighton performed a capacity analysis<sup>76</sup> for three different scenarios on three critical segments of the existing road network. A two lane capacity analysis was performed on these critical

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<sup>74</sup> Information Request No. 2.

<sup>75</sup> ECEP Response to Brighton A&E, Inc. Information to Request No. 2.

<sup>76</sup> Capacity Analysis prepared by Brighton A & E, Inc.

segments using Highway Capacity Software. However, no intersection capacity analysis was performed, due to insufficient data.

The three scenarios considered are existing conditions, during construction, and during operation of the power plant. The three critical segments are identified based on the highest existing traffic volumes that could be severely impacted by the proposed development. These segments are KY 499 between KY 89 and KY 52, KY 89 between County Road 2459 and KY 52 bridge over Kentucky River, and KY 52 between KY 499 and KY 89 bridge over Kentucky River (See Map 1).



**Photograph 12**  
**KY 499 Looking East from the Planned Industrial Access Road Entrance**  
*Photograph taken by Brighton A&E, Inc., June 29, 2004*

KY 499 is a two-lane rural minor arterial road with 24-foot wide pavement and 10-foot wide shoulders on each side of the pavement (See Photograph 12). This segment of KY 499 crosses the Kentucky River and connects KY 52 with KY 89. KY 499 was constructed primarily to relieve congestion on KY 52 in downtown Irvine. It is assumed this segment of KY 499 would be heavily traveled during construction and operation of the power plant site.



KY 89 between County Road 2459 and KY 52 that crosses over the Kentucky River and is a busy four-lane minor urban arterial road (see Photograph 13). The right-most lane in the southbound direction is used for parking and the third lane from the right is used as a turning lane. The remaining two lanes are used by thru traffic. Some projected traffic during construction and the operation of the power plant would use this busy segment of KY 89.



**Photograph 13**  
**KY 89 From County**  
**Courthouse Yard Looking**  
**at North along KY 89**  
*Photograph taken by Brighton*

*A&E, Inc., June 29, 2004*

KY 52 between KY 499 and KY 52 that crosses over the Kentucky River and is a busy minor urban arterial road. This segment of the road is three lanes wide with the center lane being a continuous left turn lane. It is expected that this segment of KY 52 would be impacted with increased traffic by the development of the power plant.

In its six-year highway plan, KYTC has listed several sections of KY 89 for improvements and the construction of a new proposed Industrial Access Road off of KY 499. To confirm the proposed improvements to KY 89 and proposed Industrial Access Road, Brighton contacted the KYTC, District 10 office. In its investigations, it was found that neither of these projects is scheduled for construction in the near future<sup>77</sup>. As a result of these findings, the analysis omits the Industrial Park Access Road as well as KY 89 improvements from the capacity analysis. Therefore, the traffic analysis will be performed on the existing road network assuming that traffic would be accessing the proposed site from KY 89 via Coal Wash Road.

Based on ITE trip generation manual, the construction of the power plant is estimated to generate approximately 77 additional vehicle trips during the peak hour. During the operation of the proposed facility, an additional 31 vehicle trips during the peak hour are estimated.

Table 5.1 shows the level of service of the three scenarios considered for analysis. The Level of Service is measured in “percent time-spent following.” Highway Capacity Manual – 2000 Edition defines “Percent time-spent following” as the percentage of total time spent following

<sup>77</sup> Charles Allen. Telephone Conversation. June 30, 2004.

other vehicles<sup>78</sup>. A high percentage time-spent following another vehicle results in a low level of service, while a low percentage time-spent following another vehicle results in a higher level of service.

According to HCM, Level of service C occurs when 55% to 70% of the total time is spent following another vehicle<sup>79</sup>. A Level of Service D occurs when 70% to 85% of the total time is spent following another vehicle.

**Table 5.2**  
**Summary of Capacity Analysis**

<b>Scenarios</b>	<b>LEVEL OF SERVICE</b>		
	<b>KY 499</b>	<b>KY 89</b>	<b>KY 52</b>
<b>Existing Conditions</b>	C (55.5%)	D (74.1%)	D (76.6%)
<b>During Construction</b>	C (57.1%)	D (74.8%)	D (77.1%)
<b>During Operation</b>	C (56.2%)	D (74.4%)	D (76.8%)

Results of the analyses indicate that the traffic impacts on the existing road network are insignificant. Level of service D or better was found on these three critical segments of the existing road network.

On KY 499 the analysis indicated that the level of service for all three different scenarios considered is C. The analysis indicated that 55.5% of the total time is spent following another vehicle in “Existing Conditions” scenario. The analysis indicated that 57.1% of the total time is spent following another vehicle in “During Construction” scenario. The analysis also indicated that 56.2% of the total time is spent following another vehicle in “During Operation” scenario. As is evident from the results, there is a very minor change in the percentage time-spent following another vehicle on KY 499 for the three different scenarios considered for analysis.

On KY 89 the analysis indicated that the level of service for the three different scenarios considered is D. The analysis indicated that 74.1% of the total time is spent following another vehicle in “Existing Conditions” scenario. The analysis indicated that 74.8% of the total time is spent following another vehicle in “During Construction” scenario. The analysis also indicated

<sup>78</sup> Highway Capacity Manual – 2000 Edition Page 12-16.

<sup>79</sup> Highway Capacity Manual – 2000 Edition Page 20-4.

that 74.4% of the total time is spent following another vehicle in “During Operation” scenario. As is evident from the results, there is a very minor change in the percentage time-spent following another vehicle on KY 89 for the three different scenarios considered for analysis.

On KY 52 the analysis indicated that the level of service for the three different scenarios considered is D. The analysis indicated that 76.6% of the total time is spent following another vehicle in “Existing Conditions” scenario. The analysis indicated that 77.1% of the total time is spent following another vehicle in “During Construction” scenario. The analysis also indicated that 76.8% of the total time is spent following another vehicle in “During Operation” scenario. As is evident from the results, there is a very minor change in the percentage time-spent following another vehicle on KY 52 for the three different scenarios considered for analysis.

As Table 5.1 demonstrates, the level of service during and after the construction of the power plant is not significantly different from existing conditions. Brighton concludes the traffic impacts from the proposed construction and operation of the power plant are not significant enough to cause a concern.

Other concerns of this development such as fugitive dust control are sufficiently addressed by the applicant during the construction and operation of the power plant.

The applicant acknowledges that limited sight distance is a concern and expects that KY 89 improvements would mitigate this problem<sup>80</sup>. However, Brighton in its investigations has found that KY 89 improvements are not scheduled for the near future<sup>81</sup>. With this information in mind, it is advised that precautionary measures be taken to mitigate this concern. Measures proposed by the applicant such as maintaining legal loads and obeying speed limits during construction and operation of the power plant would help in improving the safety on this section of the road.

### *Conclusions*

The proposed facility will have minimal impact on the existing road network as shown in the two lane highway analysis. Even though an intersection analysis has not been performed to determine if the intersections in the area will have a satisfactory level of service, Brighton believes the proposed facility will have a minimal impact on intersections in the area. To further reduce traffic impacts, ECEP should avoid truck deliveries to the proposed power plant during peak traffic hours (a.m. and p.m.).

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<sup>80</sup> ECEP Response to Brighton A&E, Inc. Information Request No. 2, July 7, 2004.

<sup>81</sup> District 10 has confirmed this information.

## 5.2 Rail Transportation

### *Criteria*

The proposed facility use of the railways will be evaluated based on KRS 278.708(3)(a)(5) and KRS 278.708(3)(e).

### *Summary of SAR*

In section 12.5 the applicant states no additional rail facilities will be constructed to service the proposed facility. The applicant states the rail traffic will be less than the operation of the former coal washing facility plant and will not impact traffic levels on the railroad.

In Appendix J, Traffic Study, the applicant has stated that rail is the preferred method of delivering approximately 120,000 tons of coal per year to the proposed facility.<sup>82</sup>

### *Review*

Exhibit G of the applicant's application shows the proposed layout of the facility. The proposed building layout utilizes the existing rails and sidetracks located on the site and within the CSX right of way<sup>83</sup>.

In review of the applicant's coal requirements, Brighton has estimated that one train of approximately 100 coal cars will serve the proposed power plant for one month. The coal can be stored at the coal storage facility within the secured perimeter or in rail cars on sidetracks on site, but located outside the secured fencing<sup>84</sup>.

Rail car unloading will occur in the existing rail unloading shed<sup>85</sup>. The use of water and dust palliatives will be used to control dust during coal processing operations.

As addressed in the controlled access portion in this report, the use of rail for delivery of coal may present a lapse of security, but this item was not addressed in the SAR.

### *Conclusion*

The impact of the proposed facility to the existing rail system is minimal. Therefore, the delivery of coal to the site by rail is preferred over truck delivery.

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<sup>82</sup> ECEP application, Exhibit J, page 2.

<sup>83</sup> ECEP application, Exhibit G.

<sup>84</sup> Brighton calculations.

<sup>85</sup> ECEP application, Exhibit G.

## Section D – Recommendations for Mitigation

This section utilizes the conclusions reached in the previous section, to make recommendations for mitigations to reduce the negative impacts caused by the proposed development and/or to address any deficiencies in the applicant's SAR. The recommendations are listed in the order of the KRS 278.708.

Recommendation Number 1: A condition be placed on the Certificate:

Estill County Energy Partners, LLC should provide annual reports to the Siting Board regarding the implementation and monitoring of recommendations as required by the Board.

The SAR review has concluded that the applicant has met the KRS with the following exceptions as noted below. It is recommended to the Siting Board that conditions be added to the certificate to construct a power generating facility to address the exceptions as noted.

### **Section 1.1 Surrounding land uses for residential, commercial, agricultural, and recreational purposes.**

To provide less impact on the residential areas of Coal Wash Road, the truck use of the proposed Industrial Access Road is highly encouraged. This will increase the safety of the local residents and drivers.

Recommendation Number 2: A condition be placed on the Certificate:

Upon the construction of the proposed Industrial Access Road, truck traffic should be required to directly access KY 499 via Industrial Access Road, in lieu of Coal Wash Road.

### **Section 1.2 The legal boundaries of the proposed site.**

ECEP shall clearly demonstrate the legal authority to operate a merchant power plant on the proposed site.

Recommendation Number 3: A condition be placed on the Certificate:

A boundary survey should be obtained and recorded in the Estill County Courthouse for the proposed site of 620 acres.

### **Section 1.3 Proposed access control to the site.**

The applicant describes in limited detail the security plans for the proposed power plant. As previous SAR reviews detail in their recommendations, additional security measures should be provided to attain industry standards for power plant generation.

Recommendation Number 4: A condition be placed on the Certificate:

Secure the facility premise with the additional security measures:

- A. Twenty four hour, seven day a week security monitoring of the site to be performed by trained personnel or a third party security provider;
- B. Approved parking areas for employees (inside or outside the secured area);
- C. The secured area should be lighted along the perimeter and directed away from offsite locations;
- D. Storage buildings with hazardous chemicals should be secured with a lock;
- E. All workers on site should attend a mandatory safety course;
- F. All employees and subcontractors should be required to carry security passes at all times;
- G. All commercial drivers should register with security personnel;
- H. All drivers shall be subject to examination (for type of vehicle or equipment they may operate on premises);
- I. Post a vehicle speed limit of 15 mph throughout the proposed facility;
- J. For a facility of this size and location, only two (2) controlled access points are suitable for vehicle traffic:
  1. Main Entrance,
  2. Secondary Entrance for use of delivering refuse coal from site to the facility;
- K. Develop security procedures for the delivery of coal to the facility by rail.

### **Section 1.4 The location of facility buildings, transmission lines, and other structures**

Recommendation Number 5: A condition be placed on the Certificate:

The two homes located on the 620 acre site should not be utilized as residences while the power plant is in active use.

### **Section 1.5 Location and use of access ways, internal road and railways**

No Recommendation

**Section 1.6 Existing or proposed utilities to service the facility.**

The Jackson Energy Electric Cooperative electric line will be relocated due to the proposed facility. To reduce security concerns and to allow easier maintenance by the utility company, the relocated line should be located outside of the secured area.

Recommendation Number 6: A condition be placed on the Certificate:

The relocated Jackson Energy Electric Line should be located outside the secured area of the facility.

**Section 1.7 Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), or (5).**

No Recommendation

**Section 1.8 Evaluation of the noise levels expected to be produced by the facility.**

Recommendations are deferred to Section 4 - Evaluation of Anticipated Peak and Average Noise Levels Associated with the Facility's Construction and Operation at the Property Boundary.

**Section 2 Compatibility with Scenic Views**

The applicant proposes the following two mitigation recommendations to reduce impacts of the proposed facility on the scenic surroundings.

Recommendation Number 7: A condition be placed on the Certificate:

The proposed facility should utilize neutral colors for structures within industry standards.

Recommendation Number 8: A condition be placed on the Certificate:

The proposed facility should be lighted to industry standards to minimize off-site glare.

**Section 3. Potential Changes in Property Values for Adjacent Property Owners**

No Recommendation

**Section 4. Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary**

Recommendation Number 9: A condition be placed on the Certificate:

The proposed facility should be equipped with silencers to reduce noise levels associated with "steam blows."

Recommendation Number 10: A condition be placed on the Certificate:

Steam blows during construction and operation of the facility should occur between 7:00 a.m. to 9:00 p.m., except under emergency conditions.

Recommendation Number 11:

The Board should retain jurisdiction to review annual reports on steam blows and further restrict steams blows, if necessary. A report detailing the events of a steam blow(s) during the operation of the plant shall be presented to the Siting Board in the annual report. Additional operating or maintenance procedures may be required if deemed necessary by the Siting Board.

Recommendation Number 12:

The Board should retain jurisdiction to require noise monitoring and further restrict noise levels from the proposed facility. Noise monitoring should be undertaken if adjacent property owners register complaints with the Board, and the staff concurs that the noise complaints are legitimate. The monitoring should be conducted at the locations in question as well as adjacent relevant locations. The noise monitoring would document average and peak noise levels to support an evaluation of practical noise mitigation measures if the DNL for operation of the plant exceeds 65 dBA.

**Section 5.1 Road Transportation**

Based on our review of the SAR portion of roadway traffic impacts, it is highly recommended that the following measures be implemented to reduce the impacts of the proposed facility on the existing traffic flow.

Recommendation Number 13: A condition be placed on the Certificate:

The proposed facility should restrict truck delivers to the power plant to non-peak hours (a.m. and p.m.).



Recommendation Number 13: A condition be placed on the Certificate:

If ash is disposed of offsite, it is recommended that a capacity analysis be performed to determine the following:

- A. 2 lane highway analysis of Coal Wash Road
- B. 2 lane highway analysis of KY 89
- C. Intersection Analysis of Coal Wash Road and KY 89.

Recommendation Number 14: A condition be placed on the Certificate:

The new entrance road from Coal Wash Road to the secured perimeter of the proposed facility should be paved to reduce fugitive dust.

Recommendation Number 15: A condition be placed on the Certificate:

Fugitive dust should be minimized with the use of gravel roads, water, and dust palliatives as coal is reclaimed from the site.

## **5.2 Rail Transportation**

The SAR review strongly encourages the applicant to use rail as the preferred means to deliver coal to the proposed site to minimize roadway traffic impacts on the surrounding community.

Recommendation Number 15: A condition be placed on the Certificate:

To the extent that it is financially feasible Estill County Energy Partners, LLC should utilize rail delivery of coal, lime, and limestone.