

July 25, 2006

HAND DELIVERED

Ms. Elizabeth O'Donnell  
Executive Director  
Public Service Commission  
211 Sower Boulevard  
Frankfort, KY 40602

RECEIVED

JUL 25 2006

PUBLIC SERVICE  
COMMISSION

Re: PSC Case No. 2005-00053

Dear Ms. O'Donnell:

Please find enclosed for filing with the Commission in the above-referenced case an original and ten copies of the revised Site Assessment Report for the J.K. Smith Generating Station, Application Exhibit 14- Supplement, prepared for East Kentucky Power Cooperative, Inc., ("EKPC"), by Jason Associates Corporation. This new report is submitted as a replacement for the supplemental information filed in the case by EKPC on May 5, 2006, and is consistent with discussions among the Commission staff and parties to the case in the Informal Conference held on July 5, 2006.

Due to the urgency of the time schedules for this project, please advise us immediately if there are any problems with this filing or if there are any other matters in regard to this case that need further attention by EKPC.

Very truly yours,



Charles A. Lile  
Senior Corporate Counsel

Enclosures

Cc: Service List  
Dr. John A. Rogness III



**REVISED SITE ASSESSMENT REPORT  
FOR EAST KENTUCKY POWER COOPERATIVE, INC.  
PSC CASE NO. 2005-00053**

**THE CONSTRUCTION OF A 278 MW (nominal)  
CIRCULATING FLUIDIZED BED COAL FIRED UNIT  
IN CLARK COUNTY, KENTUCKY and THE  
ADDITION OF FIVE 90MW (nominal) COMBUSTION  
TURBINES**

**APPLICATION EXHIBIT 14- SUPPLEMENT- Revised**

**Report Date: July 25, 2006**

**Prepared for:**

East Kentucky Power Cooperative, Inc.  
4775 Lexington Road  
Winchester, Kentucky 40392  
For submission to the  
Kentucky Public Service Commission

**Prepared by:**

Joseph W. Rivers, President  
Jason Associates Corporation  
43 Headlands Drive  
Hilton Head, South Carolina 29926

EAST KENTUCKY POWER COOPERATIVE, INC.  
PSC CASE NO. 2005-00053  
APPLICATION EXHIBIT 14- SUPPLEMENT - **Revised**  
SITE ASSESSMENT REPORT FOR THE CONSTRUCTION OF A  
278 MW (nominal) CIRCULATING FLUIDIZED BED COAL FIRED  
UNIT IN CLARK COUNTY, KENTUCKY and THE ADDITION OF  
FIVE 90MW (nominal) COMBUSTION TURBINES

East Kentucky Power Cooperative, Inc., (EKPC) originally submitted separate environmental documents in this case for the Proposed Circulating Fluidized Bed (CFB) Generating Unit and Proposed Combustion Turbine (CT) Electric Generating Units 8, 9, 10, 11, & 12. Both of these proposals would be constructed and operated on the same 3,200-acre J.K. Smith Site in Trapp, Kentucky. For both of these proposals, EKPC submitted an Environmental Report and an initial Site Assessment Report (SAR) as Exhibit 14 and Supplement, respectively. After discussions with Kentucky Public Service Commission representatives, EKPC has decided to revise the previous supplement submittals and to combine them into one SAR to eliminate duplication. EKPC also hired a consultant to provide recommendations for improvements to the SAR and to prepare the revised SAR. This consultant, Joseph Rivers of Jason Associates Corporation, previously supported the Public Service Commission in the preparation of a *Review and Evaluation of: A Site Assessment Report for Kentucky Pioneer Energy Case Number 2002-00312*, which was a project proposed by Kentucky Pioneer Energy using the same EKPC property under a lease agreement. As part of his support to EKPC, Mr. Rivers participated in a follow-up site visit on July 14, 2006 to identify any changes in the affected environment since his previous evaluation in December 2002.

The following is a clarification and supplement to the information submitted in the CFB and CT Environmental Reports, to meet the applicable requirements of KRS §278.708 sections (3) and (4). This replaces the previous CFB and CT SARs in their entirety.

**KRS 278.708 (3) A completed site assessment report shall include:**

- a) **A description of the proposed facility that shall include a proposed site development plan that describes:**
  - 1) **Surrounding land uses for residential, commercial, agricultural, and recreational purposes**

As mentioned previously, EKPC prepared Environmental Reports in January 2005 to support the U.S. Department of Agriculture's Rural Utilities Service (RUS) in their obligations under the National Environmental Policy Act (NEPA). These Environmental Reports were both previously submitted as Exhibit 14 to the Public Service Commission. This information is referenced in numerous locations throughout this revised SAR in order to prevent duplication and confusion. The

RUS is responsible for issuing NEPA documentation for the CFB unit, the additional CT units, and the proposed additional transmission lines leaving the J.K. Smith site. For the CFB unit, the RUS will supplement the existing Final Environmental Impact Statement (FEIS) prepared by the U.S. Department of Energy for the Kentucky Pioneer project; for the additional CT units, an Environmental Assessment (EA) is being prepared; for the northernmost proposed transmission line (Smith to North Clark), an EA and Finding of No Significant Impact (FONSI) have been issued; and, for the southwesterly transmission line (Smith to West Garrard), RUS has begun the public scoping process.

The descriptions of the proposed facilities are provided in Section 2.0 of the CFB and CT Environmental Reports. The existing environment is covered under Section 6.0 of the CFB and CT Environmental Reports. Maps of the region and of the proposed site layout are provided as Attachments A and B to this document. The following is a description of the usage of the land surrounding the proposed site:

The land surrounding Smith Generating Station is involved primarily in agricultural production. Upland areas are generally used for pasture or hay for beef cattle. Bottomlands are in production of row crops such as tobacco and corn. Oak-hickory forests dominate slopes and marginal areas. Logging occurs periodically in areas surrounding the site. There are several rural residences in the area that do not appear to be involved in agricultural activities. Upper Howard's Creek and the Kentucky River bound remote wooded areas of the site.

Recreational activities occurring around the site include fishing and boating in the Kentucky River, fishing in Upper Howard's Creek, and hunting on the land adjacent to the site. The wilderness aspect of much of the site enhances all of these activities.

## **2) The legal boundaries of the proposed site**

The legal boundaries for the Smith Station site are provided in Attachment Number 2 to the CFB and CT Environmental Reports.

## **3) Proposed access control to the site**

EKPC has extensive experience with site access control for Smith Power Station. The original construction began in the early 1980's. As a part of this construction, a main gated entrance located off of KY State Route 89 was built. EKPC has managed several large combustion turbine projects at this location, involving the addition of CT's 1 through 7. The main gate is automated and will remain closed after the normal construction hours. Entry into the site will be assessed by a call box. The perimeter of the main plant is protected by fencing. Access into the main plant is guarded by a private security firm. The number of security guards will fluctuate with the size of the work force.

The construction workers will have a dedicated secured parking area outside of the fenced area. The construction companies will be required to set up a badging-in process to control the access into the site by the workers. All construction workers will enter the site through a separate gate. All material deliveries will be given directions or escorted on site by an EKPC representative or contractor.

EKPC will also conduct security assessments during the course of the construction to ensure that the facilities are secure. These assessments will evaluate the need for additional fencing, security guards, and surveillance cameras.

EKPC will work closely with the local Clark County Sheriff's department to ensure a close coordination with the Site Security.

#### **4) The location of facility buildings, transmission lines, and other structures**

Attachment B to this document, the Site Map, provides the location of facility buildings and structures, and Attachment A to this document, the J.K. Smith Power Plant Vicinity Map, provides the location of both existing and proposed transmission lines. The northernmost proposed line is the Smith to North Clark and the line that exits in the southwest direction is the Smith to West Garrard line.

#### **5) Location and use of access ways, internal roads, and railways**

The location of access ways and railways are provided on maps included on pages 3 and 4 of the CFB and CT Environmental Reports.

Internal roadways are indicated on Attachment B to this document.

The primary access into Smith Station is off of KY State Route 89. All personnel and material deliveries will enter through this gated access. The main plant entrance is via a two lane paved road approximately 1.5 miles long. This paved road leads to a main entry point into Smith Station. The main entry is guarded 24 hours a day by a private security firm. Local roads inside the main plant area are two lanes wide and are either paved or graveled. All material laydown areas will be maintained with an aggregate surface. A separate entrance for coal deliveries by truck will be set up in the future. This is an existing gravel road off of the main plant entrance. This road will be improved to a paved two-lane road, which will lead to the coal stockpile area. The private security firm will control access through this entry.

An existing railway system was constructed as part of the original Smith coal fired unit in the early 80's. The internal railways tie into the main line of the CSX railroad by way of two separate switches. This railway has been used in the past for large deliveries such as combustion turbines, generators and transformers. The contracts associated with the proposed projects will be given the option of shipping

materials by rail. The existing trackage will accommodate the rail cars from approximately three coal unit trains.

EKPC's Smith Station is bounded by the Kentucky River but no type of river transportation is possible.

**6) Existing or proposed utilities to service the facility**

Electric service to the site is provided by an internal station service distribution system. Clark Energy Cooperative, Inc. provides station service at the river intake. Station service for unit start-up is provided from other operating combustion turbines, as available. For emergency power or black starts, there are two 1.2 Mw diesel generators at the site.

Gas for combustion turbine generation is purchased from Texas El Paso or Texas Western, a subsidiary of Duke Power. Two distribution lines, each designed to meet the needs of the units at the station, deliver the gas from the respective pipelines. The station also is capable of generating power from diesel fuel provided by several local suppliers, Marathon Ashland, BP, and Kentucky Petroleum. Diesel is delivered by tractor-trailer load and stored on site in a 4.2 million gallon tank.

Water for the generation processes is withdrawn from the Kentucky River and treated on site by flocculation and demineralization. The East Clark Water District provides potable water at the site.

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

Pursuant to KRS §278.216 (2), compliance with setback requirements of KRS §278.704 (3) is not required for a site such as the Smith Station, which already contains facilities capable of generating more than 10 MW of electricity. That being said, however, all areas within 2,000 feet of the proposed stack location are owned by EKPC and therefore do not contain any residential neighborhoods, schools, hospitals, or nursing home facilities.

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

Noise levels expected at the proposed units are addressed in section (d), later in this report.

**b) An evaluation of the compatibility of the facility with scenic surroundings**

A description of the compatibility of the facility with the scenic surroundings is included in Section 7.10 of the CFB and CT Environmental Reports, Aesthetics.

Additionally, the Kentucky Pioneer Energy SAR and the FEIS prepared by the U.S. Department of Energy on the Kentucky Pioneer Project address the impacts of that previous project to the aesthetics at this site location.

The proposed CFB and CT units would not have any significant impacts on aesthetic and scenic resources. The proposed project site is virtually surrounded by rolling terrain. This eliminates direct visibility for the majority of landowners in the area surrounding the EKPC property.

The proposed new facility stack associated with the CFB unit would be approximately 550 feet tall. The stacks associated with the additional CT units will be similar to the first 7 units already in operation. The upper portion of the CFB stack could be visible from the city of Winchester located 8.3 miles from the site. In addition, the facility structures would be visible from the 730-foot high observation position on top of Pilot Knob State Nature Preserve located 8 miles east of the project site. The facility would also be visible from portions of the community of Trapp located approximately 2 miles east of the project site. The CFB stack will have a strobe light to meet the Federal Aviation Administration lighting requirements. The stack will flash white lights during the day and, in accordance with the preference stated by the Smith Community Advisory Group in their April 24, 2006 meeting minutes, will flash red lights at night. The facility will also have lighting as required for safety purposes to illuminate stairways and entrances. Lighting will be hooded for downward illumination, thus impacts from night lighting should be minimal.

As mentioned in the Kentucky Pioneer FEIS, the western view from Pilot Knob State Nature Preserve is very scenic and in the distance, approximately 8 miles away, an observer can make out the existing stacks of the J.K. Smith site. One can also see the Tennessee Gas Pipeline Compressor Station No. 106 along close to the same sight line, less than 2 miles away. The incremental impact of the proposed CFB and CT facilities to the viewshed from this location are not significant.

There could be visible plumes associated with the cooling towers. The visibility of the plumes would be dependent upon the weather and wind patterns and the location of the viewer within the general topography of the area. The plumes would most likely be visible from portions of the community of Trapp, the Pilot Knob State Nature Preserve, and up to 8 miles from the J.K. Smith Site. Visible plumes are not anticipated from the CFB stack.

Construction of the facility would produce dust that may affect visibility temporarily in the local construction areas. Dust control measures would be implemented to minimize impacts.

The topography and vegetation, coupled with the baseline setting of an existing power plant site renders the EKPC project site, including the stack, compatible with its scenic surroundings. Visual effects from the cooling tower plumes and stack

emissions are likely to be negligible. The color of the facilities and the stacks will be selected to fit with the surrounding view according to typical background conditions, which will minimize the incremental impact from the various viewsheds in the area.

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

EKPC believes that the construction of a CFB unit and additional CT units at the existing facility will have no adverse impact on the property values surrounding the plant site.

The Clark County PVA addressed members of the Smith Station Community Advisory Group on July 18, 2005 concerning property values. Below is a summary of their presentation:

- a. There is a 4.5 to 5% annual increase in Clark County property values. This increase has been consistent in the market for 5 years. The market is determined by tracking sales.
- b. Historically, 5 acres of undeveloped land will bring \$25,000 anywhere in Clark County.
- c. The PVA can't predict the increase, but projects that it will increase and maybe even spike with the construction of the new generation.
- d. The PVA showed examples of the Ford community in Clark County where EKPC's Dale Power Station has operated since the 50's. In Ford, property has been climbing consistently. Based on Ford, the PVA's best guess is that it will do the same in Trapp. **EXAMPLE OF FORD PROPERTY:** 1.6 miles from plant sold for \$100,000 in November of 1995 and \$135,000 in 2005 with a steady increase of 4% a year for 10 years.

The construction of the CFB unit will take approximately 36 months from the start of foundations. This construction is not expected to have any adverse impacts on surrounding property values. There are seven combustion turbines operating at Smith Station at this time. According to the local PVA office, property values around Smith Station have continued to increase.

The Kentucky Pioneer FEIS also evaluated the impact of that previous project on the socioeconomics of this region. While the manpower estimate during construction for the Kentucky Pioneer project was slightly greater than the current proposal (1000 versus 800 employees during peak construction), the FEIS concluded that there would not be any adverse socioeconomic impacts to the region from the project. The FEIS considered the impacts of construction and operations on employment, regional income, and housing availability. Since the FEIS was published, a new Clark County Fire Station has been completed and is in operation

near the J.K. Smith Site. In fact, EKPC donated land to Clark County for the fire station.

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

The projected noise impacts from the proposed facilities are presented in Section 7.9, Noise, in the CFB and CT Environmental Reports.

The proposed site is located well within a 3200-acre rural property. The remote location limits the volume of nuisance noise reaching the plant boundaries. Noise studies conducted by EKPC at other installations during construction suggest noise levels will be in the 50 to 65 decibel range at the property boundaries. Occasionally, during blasting, pile driving, or initial steam blow noise levels at the boundary could reach 70 decibels for short periods and only in the boundary areas closest to the construction site. During operation of the units levels will be in the 40 to 55 decibel range. EKPC monitors noise at the boundaries of the site on a monthly basis to insure the cooperative continues to be a good neighbor.

Additional data from the Kentucky Pioneer FEIS can also put these noise impacts into perspective. The FEIS reports that the noise levels expected at the EKPC site boundary from that project would have been 57 decibels, and was characterized by the Department of Energy as, "compatible with rural residential land uses."

**e) 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.**

Primary highway access to Smith Station is via KY State Route 89, a two-lane non-divided highway. It is accessed in Winchester from State Route 627 or US Route 60. From Irvine it is accessed from State Route 89. A new by-pass in Winchester provides convenient access from Interstate 64 via State Route 627.

Highway 89 currently carries approximately 2600 vehicles daily. If each worker drove their own vehicle, construction of the CFB would add approximately 800 vehicles per day during its peak to transport construction workers to the site and an additional four to six tractor-trailers and four to five concrete trucks on average per day. During the period of "mass concrete pours," which would occur over two 24-hour periods, there could be as many as 300 trucks per day. EKPC and local officials will work together to notify the public and coordinate traffic flow during these two events. At this point in the design process, EKPC is planning a potential concrete batch plant in the southwest corner of the development area, which would mitigate the majority of the concrete trucks during the mass pours. Raw materials could be staged over longer periods of time thereby spreading the amount of truck traffic.

The increased traffic on KY 89 would be less than 35 percent and does not represent a significant impact to traffic on Highway 89. In the past, during similar construction at the site, no impacts were noted. If the proposed CTs and CFB and are constructed simultaneously the traffic estimates would be slightly higher. EKPC plans to mitigate the worst-case traffic impacts by providing a staggered work schedule during the construction period. This will redistribute the increased traffic over a longer period both before and after work shifts.

Due to the Division of Air Quality requirements, all roads will be either paved or watered to mitigate the fugitive dust. EKPC expects no degradation of the roads or lands as a result of the construction. The Kentucky Department of Highways is actively working on an improvement plan for KY 89. In fact, the meeting minutes for the April 24, 2006 Community Advisory Committee meeting document that \$28 million has been added to the State's budget for the 6-year road plan to improve KY 89.

The project site is located approximately 0.5 mile west of a 123-mile freight rail line segment that runs between Winchester and Typo, Kentucky. The line segment, identified as number C-273, is owned and operated by CSX Transportation, Inc., of Jacksonville, Florida, and has been operating in the region for an extended period of time. Existing rail traffic data for the line as reported in the Proposed Conrail Acquisition Final Environmental Impact Statement averages 13.1 freight trains per day. An approximately 3.1-mile long rail loop extends from the main freight line into the J.K. Smith Site. The project site also contains extensive rail yard capacity that is linked to the rail loop at several locations.

The expected distribution of truck and rail shipments of coal and other raw materials required for operation of the CFB is anticipated to be 30/70 percent, respectively. This will require an estimated 2 unit trains per week to supply the facility. This results in an increase of rail traffic of less than 5 percent, which would not impact either the rail line infrastructure or the local population.

**KRS §278.708 (4)**

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

Mitigation measures planned by EKPC are as follows:

EKPC is committed to developing Smith Station as a model of environmental stewardship. The plant will implement lighting strategies to lessen its impact on the natural environment and Clark County residents living in the vicinity.

A comprehensive forest management plan is already being developed by EKPC personnel for the site. The plan includes measures such as wildlife enhancement, tree plantings for noise mitigation, and timber salvage operations. These activities will all enhance Smith Station's position as a good neighbor to the community surrounding the site.

Noise will also be mitigated by controls installed on the plant systems, such as mufflers, silencers, and noise barriers. These measures have been successful in greatly reducing noise levels at other EKPC facilities.

The heavily traveled roads at the site have already been paved in an effort to mitigate runoff and fugitive dust. During construction activities at the site gravel roads will be watered for dust suppression. Work schedules for construction workers will also be staggered to mitigate traffic congestion at the intersection of KY 89 and the site access road.

EKPC will continue to participate in the Trapp Community Advisory Committee, which was established to facilitate good communication between EKPC and residents of the area surrounding the J.K. Smith Site. The committee meets every 2-3 months to discuss issues of concern to local residents.