

Traffic and Transportation

Under No Action Alternative 2, approximately 100 to 200 vehicle trips, depending on the level of construction activity, would be made per shift change during facility construction. An additional 40 to 60 heavy-duty truck trips per day would be made to and from the project site and rail cars would move heavy equipment to and from the site as needed. Approximately 48 vehicle trips per day would be made during facility operation, all utilizing Kentucky Highway 89. Since the existing traffic near the project site is light, this would result in little impact to local traffic. No rail cars are expected to be required for facility operation under No Action Alternative 2.

Under the Proposed Action, approximately 500 to 1,000 vehicle trips, depending on the level of construction activity, would be made per shift change during facility construction. An additional 40 to 60 heavy-duty truck trips per day would be made to and from the project site and rail cars would move heavy equipment to and from the site as needed. Traffic congestion may be heavy during afternoons when school buses operate along Kentucky Highway 89. Approximately 160 to 240 vehicle trips per day would be made during facility operation, all utilizing Kentucky Highway 89. This would have a greater impact on local traffic than No Action Alternative 2 and mitigation measures, discussed below, will be implemented to ease the impact. KPE will be responsible for repairing any damage to local roads due to excessive use or overweight vehicles. Approximately one unit train (100 rail cars) would move in or out of the site each day during operation. Existing rail infrastructure onsite is sufficient to accommodate a full unit train, thus removing it from the mainline track. KPE will design and implement an Emergency Response Plan and a Spill Prevention, Control, and Countermeasure Plan that would detail response and clean up measures for any accidents resulting from fuel or waste transportation.

The addition of turning lanes and a traffic signal will assist in regulating traffic flows at the intersection of the site access road and Kentucky Highway 89. Any changes to Kentucky Highway 89 will be made in conjunction with the 7th District of the Kentucky Transportation Cabinet. To facilitate traffic in and out of the project site, the access road would be widened to four lanes, or directional controls would be implemented. Directional controls refer to having both lanes travel in the same

direction during peak usage of the road. Appropriate warning signs will be put in place if this method is adopted. Aside from scheduling rail deliveries in coordination with other main rail line traffic, no mitigation is required for rail transportation.

Occupational and Public Health and Safety

Typical worker impacts present in the construction industry would be associated with facility construction under both No Action Alternative 2 and the Proposed Action. All noise and health impacts would be mitigated using standard industry safety measures. The Proposed Action would present a small increase in cancer risks to workers and the public due to hazardous air pollutant emissions associated with operation of the combustion turbines of the power island component. The estimated cumulative lifetime cancer risk, assuming continuous exposure for a 70-year period at the location of maximum annual average exposure which is within the J.K. Smith Site, is $5E-05$ (*i.e.*, 50 per one million individuals) or a 0.005 percent increase in cancer risk per person. However, this cumulative lifetime cancer risk is a very conservative estimate due to assumptions and extrapolation procedures used in the analysis.

Waste Management

Facility construction and operation would generate small quantities of hazardous and non-hazardous wastes and wastewater under No Action Alternative 2. The construction of the Proposed Action would generate proportionately more wastes than No Action Alternative 2, as it would take four times as long to build. Operation of the Proposed Action would generate more wastewater and hazardous wastes than No Action Alternative 2. All wastewater will be treated before release into the Kentucky River. The gasifiers would generate vitrified frit and elemental sulfur, which DOE expects would be marketed. KPE will conduct appropriate tests to confirm the expectations that the frit is not hazardous. Ultimately, if the frit is found to be hazardous, KPE could decide to use a 100 percent coal feed, the impacts from which would be essentially the same as the impacts examined under the Proposed Action. Standard industry practices will be used to minimize the wastes produced during construction and operation of either facility. Hazardous wastes will be disposed of in approved hazardous waste landfills.

Environmentally Preferred Alternative

No Action Alternative 1 is environmentally preferable because it would result in no impacts on any of the resource areas in the vicinity of the project site. Under No Action Alternative 1, however, the need for expanded electric power capacity in the region would not be met and beneficial socioeconomic impacts (jobs and revenue) would not be created, nor would the goals of the CCT Program concerning the demonstration of this co-fired BGL technology be achieved. The primary impacts from No Action Alternative 2 and the Proposed Action would be to land use, socioeconomics, visual and aesthetic resources, air resources, and traffic and transportation. The impacts from the Proposed Action generally would be small, and would be relatively greater to socioeconomics (beneficial), visual and aesthetic resources, air resources, and traffic and transportation in comparison to No Action Alternative 2. Unavoidable adverse impacts from No Action Alternative 2 and the Proposed Action would occur to aesthetic and scenic resources (the presence of a new facility and additional transmission line), water resources (withdrawals from the Kentucky River), ecological resources (habitat removal), and traffic and transportation (increase in local vehicle trips taken). No environmental justice impacts are expected under any of the alternatives.

Comments on the Final EIS

The only comments that DOE received on the Final EIS were from the U.S. Environmental Protection Agency (EPA). EPA stated that, in the Final EIS, DOE had resolved in a satisfactory manner EPA's comments on the Draft EIS regarding wetlands, transmission lines and towers, cooling tower discharge, air permitting, wind direction data, and other regulatory matters. However EPA expressed continued concerns about some potential impacts, including water, waste, ecological, and noise components of the project. DOE believes that mitigation measures for the proposed action adequately address EPA's concerns. For example, KPE has agreed to work with the State of Kentucky during extremely low river flow conditions and cease operations if requested. KPE also will test the vitrified frit to determine whether it is a hazardous waste, and will ensure that noise levels are acceptable. DOE will ask RUS to share their NEPA document(s) regarding the electric transmission line with EPA. Further, DOE will prepare a Mitigation Action