

## Sierra Club Cumberland Chapter

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DPO-National Energy Technology Laboratory  
Attn.: Roy Spears  
Kentucky Pioneer IGCC Demonstration Project EIS Document Manager  
P.O. Box 880  
Morgantown, WV 26507-0880

Re: Kentucky Pioneer IGCC Demonstration Project draft Environmental Impact Study

Dear Mr. Spears:

I am writing on behalf of the 3800 members of the Cumberland (Kentucky) Chapter of the Sierra Club. Approximately a third of our members live within 30 miles from the proposed power plant in Trapp, Kentucky. We are extremely concerned about this experimental facility. We feel that the draft Environmental Impact Study (EIS) generated by the Department of Energy is seriously lacking in specifics and underestimates or ignores potentially significant negative impacts of the proposed facility. We also feel that not enough attention has been paid to the monitoring of this facility and the evaluation of this demonstration/experiment. In the following paragraphs, we discuss our concerns in detail.

### Vitrified Frit

Vitrified frit will be the major solid byproduct of the British Gas Lurgi gasification process that will be used in this plant<sup>1</sup>. Concerning this waste product, the draft EIS states the following:

The vitrified frit would undergo leach testing to determine if it is considered hazardous material. Should the leach testing indicate that the frit is not hazardous, KPE (Kentucky Pioneer Energy) would market the product for use in road paving and construction. If the frit is determined to be hazardous, KPE would have 90 days to manage the material (page 3-17)<sup>2</sup>

In other words, it is unclear as to whether this frit will be inert or hazardous. We feel that the absence of specific information about the nature of this waste makes the draft EIS incomplete; it is impossible to judge the environmental impact of this project without this information.

<sup>1</sup> *Kentucky Pioneer integrated gasification combined cycle demonstration project draft environmental impact statement*. U. S. Department of Energy (DOE/EIS-0318). Page 3-17.

<sup>2</sup> *Ibid.* Page 3-17.

The draft EIS further states that if the frit is found to be hazardous, KPE, the owner of this plant, will have 90 days to manage this material<sup>3</sup>. However, no information is provided about the environmental impacts of managing this material (storage for a number of months, transportation of this hazardous material across the countryside to a waste facility, and the disposal of this material). Once again, we feel that the lack of specific and complete information about the management of the frit makes the EIS incomplete.

Further gaps in the EIS concern the mechanics of the testing of the frit. When will the frit be tested? Who will conduct the tests? How often should these tests be conducted and under what conditions? Answers to questions of this nature are missing from the draft EIS.

#### Refuse Derived Fuel

KPE proposes to gasify fuel pellets derived from municipal waste (RDF) in this facility. RDF will be obtained from one or more manufacturers from out of state. The draft EIS does not specify the nature of this RDF. It does not specify whether there is any kind of quality control involved in the manufacture of these pellets. It appears to rely solely upon KPE's assertion that these pellets are suitable for gasification.<sup>4</sup>

Moreover, the draft EIS assumes that variability in the composition of the RDF will not have an impact on the resulting syngas and byproducts, even though there is no independent evidence provided to support this assumption.<sup>5</sup> This lack of information about the nature of RDF is especially troubling because KPE has indicated that even waste from *industrial facilities* might be included in the manufacture of these pellets.<sup>6</sup>

Another major gap in the draft EIS concerns the ratio of high-sulfur coal to RDF used as raw material. During the 1-year demonstration period of the project, it is assumed that the ratio of coal to RDF will be 1:1 and the draft EIS bases its analyses on this assumption. However, KPE has indicated that proportionally more RDF might be used in the future. Will this change the nature of the waste produced by this plant? If so, what are the environmental consequences?

#### Transmission Line

A 27-kilometer transmission line, with a 40 to 45 meter wide right of way, will be built in conjunction with this plant. Although this line is integral to the whole project, the draft EIS fails to indicate its proposed route or its environmental impacts. The draft EIS alludes to the possibility that this transmission line might impact a designated wild river in this area and therefore might be required to obtain a permit from the Kentucky Division of Water.<sup>7</sup> However, not enough information is provided to assess the exact nature of this impact.

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<sup>3</sup> Ibid. Page 5-41.

<sup>4</sup> Ibid., Page 3-21.

<sup>5</sup> Ibid., Page 3-22.

<sup>6</sup> Kentucky Pioneer Energy's written responses to questions raised at the Subpart Eb Siting Analysis public meeting on June 28, 2001. Page 8.

<sup>7</sup> Kentucky Pioneer integrated gasification combined cycle demonstration project draft environmental impact statement. U. S. Department of Energy (DOE/EIS-0318). Page 6-4.

### Visual Pollution

The gasification facility stacks and plumes will be visible from the city of Winchester and from the Pilot Knob State Nature Preserve.<sup>8</sup> The view from Pilot Knob is of special significance not only in the present day context, but also because Daniel Boone is thought to have gazed at the bluegrass region for the first time ever from its heights. Thus, from both recreational and historical perspectives, the visual pollution by the gasification stacks will be of great significance. Yet, the draft EIS dismisses this impact as insignificant.

### Air Pollution

The draft EIS concludes that the increase in air pollution caused by the proposed plant is insignificant and well within "applicable standards."<sup>9</sup> However, the 1100 tons/year of No<sub>x</sub>, 800 tons/year of CO, 500 tons/year of So<sub>x</sub>, and 9.07 tons/year of hazardous waste pollution generated by this plant will lead to increases in acid rain and adverse human health effects. Moreover, it will displace the ability of less polluting and more economically beneficial industries from locating in the region because of its use of pollution credits.

### Water Use and Pollution

The proposed plant will withdraw 15.1 million liters/day from the Kentucky river.<sup>10</sup> In recent years, Kentucky has experienced recurring droughts. Consequently, water supply for the residents of this region, including those in Lexington, has been affected by the low flow in the Kentucky river. The withdrawal of additional water from the system will significantly intensify the problems when the flow is low in the river. Although the draft EIS indicates that the water intake by this plant will amount to 4% of the water flow during the 7-day low flow *average* measure, the draft EIS fails to address the impact of water withdrawal when the water flow is at its *lowest*.

Also, measures of average flow in this area of the river used by the draft EIS are based on a study from 20 years ago<sup>11</sup> and it is unclear as to whether there has been a significant change in the quantity of water in the river at this point.

Moreover, according to the draft EIS, withdrawal of water from the Kentucky river for thermoelectric production constitutes over 60% of all water withdrawn from the river (133 of the 203 million gallons withdrawn from the river/day).<sup>12</sup> The proposal to withdraw even more water from the river and to discharge treated warm water back into the river will have significant cumulative impacts, especially given that there are many mussel beds downstream of the proposed project.<sup>13</sup>

### Monitoring

Most importantly, the draft EIS fails to address issues concerning the monitoring of the operations of the proposed plant. Ostensibly, this project will be a demonstration project for a year. What will be the nature of monitoring during this period? What are the criteria that will be used to judge

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<sup>8</sup> Ibid. Page 3-27.

<sup>9</sup> Ibid. Page 5-18.

<sup>10</sup> Ibid. Page 5-24.

<sup>11</sup> Ibid. Page 4-27.

<sup>12</sup> Ibid. Page 4-31.

<sup>13</sup> Letter from Lee Barkley, Field Supervisor, Fish and Wildlife Service, U.S. Department of the Interior, regarding the EIS. *Kentucky Pioneer integrated gasification combined cycle demonstration project draft environmental impact statement*. U. S. Department of Energy (DOE/EIS-0318). Page A-3.

whether this project is a success? What input will the public have on the evaluation of this project? How long will it take to evaluate the project? If the evaluation takes some time, will the plant be shut down during this period of evaluation?

#### Conclusion

According to a recent study, Kentucky leads the nation in per capita premature deaths due to air pollution.<sup>14</sup> This study indicates that the mortality rate is 44.1 per 100,000 adults in Kentucky, which is over 30 times the rate in California. In this context, we are extremely concerned about a new experimental facility that is classified as a Municipal Waste Combuster facility<sup>15</sup>, which will be located within a mile from a school,<sup>16</sup> and which proposes to utilize municipal (and possibly industrial) waste as fuel.

As residents of this area, we will be the guinea pigs in this experiment. Too many questions remain to be answered before this project can go forward. We need more specific, complete, and unbiased information.

Sincerely,

Ramesh Bhatt, Ph.D.  
Sierra Club

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<sup>14</sup> Clear the Air Organization. *Death, disease, and dirty power: Mortality and health damage due to air pollution from power plants*. November, 2000.

<sup>15</sup> *Kentucky Pioneer integrated gasification combined cycle demonstration project draft environmental impact statement*. U. S. Department of Energy (DOE/EIS-0318). Page 3-21.

<sup>16</sup> *Ibid.* Page S-10.