Vickery, Jon P.
Winchester, KY
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Mr. Roy Spears
NEPA Document Manager
U.S. Department of Energy
Morgantown, WV 26507-0880
FAX: 304-285-4403

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Comments on Kentucky Pioneer
Environmental Impact Statement

Page S-4, ¶1 "If enough data is generated . . ."
The word data is plural and requires the plural verb are. See Page 5-29, Section 5.10.1, line 1 for an example of correct usage.

Page 2-2, ¶4 "If enough data is generated . . ."
The word data is plural and requires the plural verb are. See Page 5-29, Section 5.10.1, line 1 for an example of correct usage.

Page 3-17, ¶3 and ¶4 Discussion of the frit produced in the gasification process states the metals present in the feed material become metal in the frit. If the frit is found to be hazardous, one must conclude that the incoming feed materials, especially the RDF, must contain these hazardous metals. The on-site storage addresses the possibility of leaching from RDF, but what safeguards are in place during the transport of the that material to the site? In particular, regardless of the direction the material arrives by rail car, there are streams and rivers to cross, communities to pass through, etc., etc. How will leakage, spillage, derailments, etc. be handled? Will Kentucky Pioneer be responsible for cleanup or is the rail carrier CSX responsible? Are there firms/agencies knowledgeable and prepared for RDF cleanups?

Page 3-17, ¶5 "Steam is produced . . ., enters the cooling tower, and is cooled . . ."
Flow charts on pages S-6 and 3-14 do not show a cooling tower in the usual understanding of a tower producing volumes of hot water/water vapor, the latter being then carried away by the local atmospheric movements. Is this somehow combined with the stack carrying away the combustion products/exhaust gases?

Page 3-22, Section 3.2.2.3 "The facility would require about 2,500 TPD of RDF, which equates to approximately 25 rail cars per day." Figures from earlier discussions of the bulk properties of RDF, most recently Page 3-21, Section 3.2.2. predict 31 or 32 cars is required to carry that tonnage. This is assuming that CSX open hopper cars are indeed carrying their maximum of 100 tons of coal. I live along the CSX line just south of the proposed site and watching coal cars go by on an hourly basis, I can't see that these cars could carry an additional 20% by volume. If the RDF must be shipped in closed container cars, I feel that closed hopper cars have even less capacity. This results in three unit trains per week and 150 units trains for the one-year demonstration period.
This same argument must be applied to the figures quoted for the impact if the RDF must be trucked to the site. See page 5-32, Section 5.11.1, paragraph 4

1/23

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3/12

4/16

5/10

5/10 (cont.)

Comment No. 1 **Issue Code: 23**
According to the Merriam Webster Dictionary, verb usage with the word "data" is acceptable in either the singular or plural form.

Comment No. 2 **Issue Code: 10**
Comment noted. An Emergency Response Plan, which documents procedures for providing emergency response and cleanup for any project related spills during materials transport, has not yet been developed by KPE. The plan will be developed during the engineering and construction phase of the project and would adhere to local, state, and federal regulations. Section 5.11, Traffic and Transportation, has been modified to discuss the Emergency Response Plan.

Comment No. 3 **Issue Code: 12**
Chapter 3, Section 3.1.2.1, describes the handling and storage of raw materials, including RDF. Emergency Response Plans would be developed by KPE to address accidental spills, leaks, and derailments. KPE would be responsible for cleanup of all leaks and spills.

Comment No. 4 **Issue Code: 16**
The exact physical location of the cooling tower and the decision of whether or not it would be combined with facility stacks will be made during final design for the project. Detailed design is not conducted at this stage of planning as the NEPA process has not been completed. The entire facility footprint is only 4.8 hectares (12 acres), so the area in which it can actually be located is small.

Comment No. 5 **Issue Code: 10**
Comment noted. Calculations have been refigured using volume as a limiting factor for transportation.

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Page 4-3, ¶1 "The ROI is a **three-county area in Kentucky comprised of Clark, Fayette, and Madison counties** . . ." The site is much closer by road to Estill, Powell, and Montgomery counties than Madison and Fayette Watching and driving in work traffic along KY highway 89 suggests these other counties will be impacted more than Madison and Fayette. Factory workers from these counties must travel to Clark, Fayette. Madison, and Scott counties already to find employment. This site would be more desirable to them simply from a lessening of commute time if nothing else.

Changing the ROI to Clark, Estill, Powell, and Montgomery counties with minor influences in Madison and Fayette makes the presentations in Sections 4.3.1, 4.3.2, and 4.3.3 sadly misstated. 6/02

Page 4-30, Section 4.8.2, ¶3, line 5 "More recent **data** . . . area **is** not available.
¶8, line 4: "Water quality **data** . . . **is** available for . . . "
The word **data** is plural and requires the plural verb **are**. See Page 5-29, Section 5.10.1, line 1 for an example of correct usage. 1/23

Page 4-38, Section 4.11.1 ¶2 "All **data was** obtained from the Kentucky . . ."
"The actual count **data** presented . . . **is** the average . . ."
"**Data is** only presented to MP 9.7 for . . . "
"**Data** for Kentucky Highway 52 **is** presented . . . "
"Capacity **data** for Kentucky Highways **is** unavailable . . . "
The word **data** is plural and requires the plural verb **were**. See Page 5-29, Section 5.10.1, line 1 for an example of correct usage. (cont.)

Page 4-38, Section 4.11.2 "**The** line segment . . . has been operating in the region for an extended period of time." Of greater concern should be the bridges the this segment pass over. Both steel bridges were built in 1912 and local residents recall few if any structural repairs/improvements to the framework. True, CSX periodically replaces rails and timbers (cross ties), but is not seen working on the framework. Since both bridges cross tributaries of the Kentucky River, upstream of both Lexington and Winchester water intakes, concern over the increased traffic leading to derailment and carloads of RDF falling into the waterways is a concern. 7/10

Plans call for the RDF to be stored on concrete at the site to eliminate the possibility of leaching suggesting there is concern over RDF components. If hazardous materials can leach out from rain on stockpiled RDF, what will happen if the material is spilled into a creek or river? Are there government agencies or private contractors who can get to an accident site under these bridges and clean up the RDF materials before contamination of the watershed and/or waterway occur? Who's responsible for clean up - CSX or Kentucky Pioneer? 8/07 3/12 (cont.)

Page 4-41, Section 4.13 Although Estill and Montgomery Counties are not considered in the ROI, they have the closest landfills to accept wastes generated during construction and operation. Since they will be affected by the traffic to and from those landfills, aren't they part of the ROI of this project? 9/10

Page 5-5, Section 5.3.3.1 "support structures are assumed to be constructed at the site, which is approximately **3.2 kilometers (2 miles) west of Trapp**, Kentucky.
Where is the site really? Earlier in the EIS (page S-4), the site is located **1.6 kilometers (1 mile) west of the community of Trapp**, Kentucky. 10/16

Page 5-6, Section 5.3.4.1, ¶1, line 4 ". . . cost $432 million and would take 30 **month** to . . ."
Common usage would expect ". . .months to construct. . ." 11/23

(2)

Comment No. 6 **Issue Code: 02**

The three-county ROI was established based on population and employment patterns determined from the U.S. Census Bureau's County Business Patterns. Based on the large population of Fayette and, to a lesser degree, Madison Counties (with respect to other counties in the area) and the large number of individuals employed in these counties in the construction field, these counties were selected for the ROI. Other counties in the area (Estill, Powell, and Montgomery) were not included because the smaller populations and county employment figures indicated that few workers would come from these counties. It is likely that several workers from these counties may find employment at the project site, but that number is expected to be minimal in comparison to the number employed from within the ROI. Section 5.3 of the EIS, Socioeconomics, addresses impacts to the ROI from any employees coming from outside the ROI for employment at the site.

Comment No. 7 **Issue Code: 10**

Comment noted. An Emergency Response Plan, which documents procedures for providing emergency response and cleanup for any project related spills during materials transport, has not yet been developed by KPE. The plan will be developed during the engineering and construction phase of the project and would adhere to local, state, and federal regulations. Section 5.11, Traffic and Transportation, has been modified to discuss the Emergency Response Plan.

Comment No. 8 **Issue Code: 07**

All materials transported on land would be enclosed in vehicles and would not be released to the environment under normal circumstances. In the event of an accident, some materials could be released to the environment. KPE would develop an Emergency Response Plan and an SPCC Plan during the project engineering and construction phase.

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Page 5-6, Section 5.3.4.1. Entire section relates to impacts on the ROI, but the ROI used is grossly inaccurate, especially during construction phases. The jobs will draw more workers from Estill, Powell, Bell, Montgomery moreso than from Fayette and Madison. Unemployment and underemployment for those counties needs to be addressed. Those workers would most likely commute daily and have little impact on housing, schools, hospitals, etc., but a great effect on traffic. 6/02 (cont.)

Page 5-7, Section 5.3.4.1, ¶7 "The project location, **3.2 kilometers (2 miles) west of Trapp**. . ." Same question as Page 5-5, Section 5.3.3.1 above. 10/16 (cont.)

Page 5-12, Section 5.5.4, ¶3. "There would be visible plumes associated with the **cooling towers**." Same question as earlier: Where are the cooling towers in the diagrams of Page S-6 and 3-14? What is the content of the plumes? Is it just condensed water vapor or is it mixed with the exhaust combustion products? 4/16 12/06

Page 5-17, Section 5.7.4, ¶6, last line: "A **cooling tower** unit would be associated with the heat exchanger facility." Same question as above: Where are these towers in the diagrams? 4/16 (cont.)

Page 5-18, Section 5.7.4, 3rd paragraph on page: Cooling tower function finally described and identified in text and Table 5.7-1 as the major source of particulate matter pollution. Still not located on diagrams.

Page 5-22, Table 5.7-4: Nickel is listed as being the largest hazardous component downwind of the facility. The table lists only cancer risks from the exposure, but nickel is also a known producer of skin allergies/rashes. Where is mention made of that risk and data on the expected severity? 13/11

Page 5-24, Section 5.8-4, ¶2 "The Kentucky Pioneer . . . withdraw a total of **15.1 (4MGD)** . ." The statement is missing the units **MLD**. 14/23

Page 5-25, Section 5.8-4, ¶6: "The storage and handling of . . . RDF could present potential new groundwater contamination sources . . ." If the RDF can contaminate water when stored on site, there then exists the possibility of contamination of water during **transportation** to the site. What precautions and procedures will be in place in case of spill due to accidents, derailments, etc.? See page 4-39, Section 4.11.2 above. 8/07 (cont.)

Page 5-29, Section 5.10.1 " . . . and the community of Trapp is **about 3.2 kilometers (2 miles)** from the main facility site." Which is it: 1 mile (page S-4) or 2 miles? 10/16 (cont.)

Page 5-30, Section 5.10.4, ¶7 "The facility would require . . . **25 rail cars per day each of RDF pellets** and coal." Earlier in the EIS, the densities of coal and RDF were compared and to get equal weight of RDF will require 56/44 greater volume or number of rail cars per day. See Page 3-22, Section 3.2.2.3 above. 5/10 (cont.)

Page 5-32, Section 5.11.1, ¶1 "The commuting periods are established as **7:30 a.m. to 9:30 a.m** for the morning commute, and **4:30 p.m. to 6:30 p.m.** for the evening commute. In reality, the morning commute period for Highway 89 between the Trapp site and Winchester is pretty much over by 7:30 a.m. as the majority of that traffic is factory workers coming up from Estill and Lee counties to work in factories in Georgetown, Lexington, and Winchester. Since most factory shifts begin in the 6 to 7 a.m. range, workers will be traveling much earlier than that. The same is true for evening commute; the majority of the factory traffic will be thru Trapp by 4:30 p.m.
What this means is that construction worker traffic will be added to the 15/10

(3)

Comment No. 8 (cont.) **Issue Code: 07**

These plans would detail KPE's planned response and clean-up methods for any spills or emergencies that occur on the J.K. Smith Site. In addition, the Kentucky Division of Water's Emergency Response Team should be called ([502] 564-2380 or 1-800-928-2380) in event of an "environmental emergency." The spill or unexpected discharge of a hazardous material that threatens the life, health, or safety of citizens or the environment is considered an environmental emergency. More information on the Emergency Response Team can be found on the Internet at http://water.nr.state.ky.us/dow/dwert.htm.

Comment No. 9 **Issue Code: 10**

The three-county ROI was established based on population and employment patterns determined from the U.S. Census Bureau's County Business Patterns. Based on the large population of Fayette and, to a lesser degree, Madison Counties (with respect to other counties in the area) and the large number of individuals employed in these counties in the construction field, these counties were selected for the ROI. The ROI is established for the analysis of social and economic impacts resulting from the project and is referenced in the traffic and transportation analysis. It is not meant as a limiting region for traffic impacts. Section 5.11, Traffic and Transportation, has been revised to include the method of waste transport offsite.

Comment No. 10 **Issue Code: 16**

The distance presented in the Summary of the EIS, on page S-4, refers to the distance from Trapp to the boundary line of the J.K. Smith site. The distance presented in Section 5.10.1, page 5-29, refers to the distance from Trapp to the main facility, which is a mile within the J.K. Smith Site boundary.

Comment No. 11 **Issue Code: 23**

Comment noted. The change has been made to the document.

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existing traffic along Highway 89. In addition, Clark County school buses begin using that route before 7 a.m. and after 3 p.m. Granted, some of the construction traffic may be in the opposing lane both times, but this limits the speeder's ability to pass and will ultimately lead to increased accidents.

Page 5-32, Section 5.11.1, ¶3 "Based on established traffic data . . . it is assumed that each vehicle is occupied by **1.2 individuals.**" That number may be valid when all traffic during a week is counted, i.e., commuters, school buses, family trips to shop or attend church, etc. are included **but** if only commuter traffic is counted, that occupancy drops to just slightly over 1.0. My informal counts of recent construction worker traffic toward this site yielded about 1 vehicle in 20 having more than 1 individual or a 1.05 occupancy. Thus unless the contractor provides mass transport or an incentive to truck pool, this figure (1.05) should be used to calculate the traffic volume changes produced by construction at the site.

Page 5-32, Section 5.11.1, ¶4 "For delivery purposes, a truck is assumed to haul **18 metric tons (20 tons)** of cargo per load and a rail car is assumed to haul **91 metric tons (100 tons)** of cargo per load." Again, referring to the bulk density of RDF compared to coal, a container can hold only about 78% the weight of coal when filled with RDF. Since usage is measured in weight, not volume, additional truck and rail car loads of RDF will be required over those quoted in this paragraph. This leads to additional daily/hourly truck traffic in and out of the site. The arithmetic needs to be redone for both truck and rail traffic.

Page 5-33, Section 5.11.4, ¶1 "During periods of average construction worker staffing, an additional **1000 vehicle trips** . . . **500** at the beginning . . . and **500** at the end . . . . This number would increase to **1,666** vehicle trips per day . . .,**833** at the beginning of the shift and **833** at the end of the shift." These numbers were computed based on a 1.2 vehicle occupancy. As pointed out in Section 5.11.1, the correct number for commuter, construction worker traffic is probably closer to **1.05**. Recomputing with this occupancy rate raises the average construction time to **570** vehicle trips morning and afternoon and during peak construction to **950** vehicle trips morning and afternoon.

Page 5-33, Section 5.11.4, ¶2 "Another reason that traffic generated . . . should not impact existing traffic flows is that the typical construction shift . . . **around 7:00 a.m. and 3:00 p.m.**" This is true, but the existing traffic flow on Highway 89 peaks during those same time periods as the **commuters** are factory workers traveling to Winchester and beyond for shifts in that same time period. Thus both lanes, toward and away from Winchester, will be full. See similar discussion under Page 5-32, Section 5.11.1, ¶1 above.

Page 5-34, Section 5.11.4, ¶4 "The trucks disposing of construction wastes . . . located in Montgomery County. . . . New truck traffic . . . should have little or no impact on existing traffic." Earlier this paragraph states truck traffic will be **one every 7.5 minutes during the work day.**" Since Montgomery County is affected, shouldn't they be included in the ROI? Have they been made aware of their role in construction and operation? Were they even invited to the scoping sessions? Were they provided with copies of this EIS?

Page 5-34, Section 5.11.4, ¶7 "As stated earlier, the facility would require 51.4 rail cars of material supplies per day to operate, **25 cars of RDF pellets**, 25 cars of coal, and 1.4 cars of limestone." Previous sections pointed out the lower bulk density of RDF pellets compared to coal, 44/56 the fraction quoted. Thus identical rail rars, one carrying 100 tons of coal will only hold about **78 tons of RDF pellets**. Thus to achieve 2500 tons of RDF pellets will require about **32 carloads of RDF** per day increasing daily rail traffic to about 58.4 rail cars per day.

(4)

15/10 (cont.)

16/10

5/10 (cont.)

16/10 (cont.)

15/10 (cont.)

9/10 (cont.)
17/21

5/10 (cont.)

Comment No. 12 **Issue Code: 06**

The plume will be visible on occasion because of condensed water vapor. All of the emissions associated with operation of the gas turbines also will be present in the plume.

Comment No. 13 **Issue Code: 11**

No reference to noncancer endpoints for nickel were evaluated in the EIS. Some nickel compounds (e.g., nickel chloride) can penetrate skin, especially if the skin has been damaged. Skin exposures to the general public are predominantly to nickel metal found in jewelry, coins, buttons, zippers, and cooking utensils. Allergies and rashes due to nickel exposure are due to sensitization from frequent or prolonged contact with nickel-containing or nickel-plated consumer products. In persons not sensitive to nickel, normal, long-term oral, inhalation, and skin exposure to low levels of this element have not been associated with adverse health effects. Nickel metal does not readily penetrate the skin and, thus, the likelihood of developing skin allergies and rashes would be extremely low.

Comment No. 14 **Issue Code: 23**

Comment noted. The change has been made to the document.

Comment No. 15 **Issue Code: 10**

The construction commute times are based on estimates of shift times provided by KPE and those determined from other construction work performed throughout the region. Commuting patterns and times used in the analysis are statistically derived from standard traffic commute patterns throughout the region. As discussed in Section 5.11 of the EIS, Traffic and Transportation, the construction shift typically starts very early in the morning, approximately 7 a.m., and ends early in the afternoon, approximately 3 p.m. This would require workers to be onsite before this time, thus limiting interference with morning commutes, and leave the site early in the afternoon, which limits interference with evening commutes.

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Page 5-35, Section 5.11.4, ¶8 "As stated earlier, the equivalent number of trucks required is . . .257." Again, as stated earlier, the **lesser bulk density of RDF** will permit the same size truck to carry **15.6 tons of RDF** compared to 20 tons of coal. Thus to provide 2500 tons per day of RDF will require **158** truck loads per day, raising the toal to **290** per day or one truck trip every **2 1/2 minutes** during a 24-hour period. | 5/10 (cont.)

Page 5-37, Section 5.12.3, ¶4 "Since EMF **attenuates** with distance . . ." Your own glossary, page viii, defines EMF as electric and magnetic **fields**, the plural form. Thus the statement above should be "Since EMF **attenuate** with distance . . ." | 18/23

Page 5-37, Section 5.12.3,¶4 "Because there is still **scientific uncertainty about EMF**, . . ." The uncertainty is not about EMF, but about their long term effects on plants and animals. I feel this could be stated: "**Because there is still scientific uncertainty about the long term effects of EMF on plants and animals, the human effects of EMF from the proposed facility cannot be fully evaluated at this time.**" | 19/23

Page 5-38, Section 5.12.4, ¶3 "Although there is some potential for **fire or ignitability from coal storage**, . . . " This suggests there is **no potential for fire from RDF storage**. Really? Aren't the pellets going into the same reactor as the coal? Don't paper and plastic (a major fraction of RDF) have lower kindling temperatures than coal? | 20/12

Page 5-49, Section 5.17, ¶3 "The gasifier requires feeds of 2,268(2.500 tons) per day . . . " The quantity mentioned has no primary units; the alternative quantity specified suggests the intent was 2,268 **metric tons** (2,500 tons) | 21/23

Submitted by:
Jon P. Vickery
13544 Irvine Road
Winchester, KY 40391-8020

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Comment No. 15 (cont.) **Issue Code: 10**
The Transportation Division of the Clark County School Board indicates that schoolbuses utilize Kentucky Highway 89 when construction workers would be leaving the site. Section 5.11, Traffic and Transportation, has been modified to reflect the impacts of added vehicles on schoolbus usage.

Comment No. 16 **Issue Code: 10**
The vehicle occupancy rates utilized in the analysis were statistically derived from regional and national traffic and passenger count data. The section has been modified to reflect sampling error in the statistics used. The vehicle occupancy rate of 1.2 passengers per vehicle is now used as a low-end estimate for impacts. See Section 5.11 of the EIS, Traffic and Transportation, for a revised impact estimate.

Comment No. 17 **Issue Code: 21**
The public hearing dates, times, and locations were announced in the *Federal Register*, in local newspapers *The Winchester Sun* and *The Lexington Herald-Leader*, and in public service announcements. The Final EIS will be distributed to elected officials and any interested parties in neighboring counties.

Comment No. 18 **Issue Code: 23**
Comment noted. The change has been made to the document.

Comment No. 19 **Issue Code: 23**
Comment noted. The change has been made to the document.

Comment No. 20 **Issue Code: 12**
Comment noted. The probability of spontaneous combustion of RDF pellets in storage is low. Adequate fire safety prevention measures would be implemented to reduce the likelihood of spontaneous combustion of RDF pellets.

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Comment No. 21 **Issue Code: 23**
Comment noted. The change has been made to the document.