

September 29, 2009

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**VIA OVERNIGHT EXPRESS MAIL**

Judy Feddersen  
Hughes County Clerk of the Court  
Sixth Circuit Court  
Box 1238  
Pierre, SD 57501

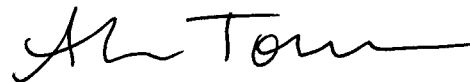
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**Re: In the Matter of the Prevention of Significant Deterioration (PSD)**

Dear Ms. Feddersen:

Enclosed for filing please find the original and one copy of Citizens Opposed to Oil Pollution, Save Union County, and Sierra Club's Statement of Issues. Please file the Statement of Issues and return one file-stamped copy to me in the enclosed self-addressed stamped envelope. By copy of this letter, the Statement of Issues has been served on all other parties.

Sincerely,



Allison A. Torrence

Enclosures

cc: John Davidson  
Sam Khorroosi  
Charles McGuigan  
Roxanne Giedd  
Frederick W. Addison, III  
Todd Meierhenry



prevention of significant deterioration (“PSD”) permit under the federal Clean Air Act (“CAA”) and South Dakota law.

In order for Hyperion to be granted a PSD permit, Hyperion and the South Dakota Department of Environment and Natural Resources (“DENR”) must show, among other things, that (1) best available control technology (“BACT”) will be applied to all emission sources of certain air pollutants that the HEC will emit in significant quantities; (2) air emissions from the HEC will not cause or contribute to a violation of the National Ambient Air Quality Standards (“NAAQS”) or PSD increments, which are the air pollutant concentration standards set by EPA to protect the public health; and (3) public participation requirements contained in South Dakota law have been fulfilled. In addition, DENR and the Board of Minerals and Environment (“the Board”) must establish that they have not abused their discretion by not requiring that an environmental impact statement (“EIS”) for the proposed HEC be issued prior to granting the permit.

On August 20, 2009, after a ten-day contested case hearing before the Board, including extensive testimony from eight witnesses and the admission of over 325 exhibits, the Board granted Hyperion a PSD permit (“the PSD Permit”). Citizens now appeal that decision.<sup>1</sup> In this appeal, Citizens challenge whether Hyperion and DENR satisfied their burden of proof to show that the HEC meets the requirements that must be complied with to obtain a PSD permit, and whether Hyperion and DENR fully analyzed all environmental impacts from the HEC. Citizens

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<sup>1</sup> Citizens are appealing all of the Findings of Fact and Conclusions of Law entered by the Board other than 4-9, 11, 13-14, 16, 24, 27-28, 30-31, 54-57, 59-60, 62-64, 70-72, 74-81, 84-87, 88-89, 94, 105, 107, 110-113, 117, 122, 125, 127, 129, 131, 133-135, 137, 139, 141, 156-164, 166, 168-169, 172, 174, 177, 179-184, 186-188, 190, 192, 233, 240-242, 247, 251-254, 266-272, 274, 281-282, 284, 294, 295, 316, 320, 324, 334-335, 343, 357 and 357A. In addition, Citizens are appealing the decision of the Board to decline to adopt Citizens’ Proposed Findings of Fact and Conclusions of Law, submitted to the Board on August 12, 2009.

further challenge whether the Board properly placed the burden on Citizens, as intervening parties, to prove, among other things, that (i) Hyperion could have prepared a startup, shutdown and malfunction (“SSM”) plan prior to the public comment period; (ii) enclosed ground flares would be capable of handling the volume of gases produced during a malfunction at the HEC; and (iii) 105° Fahrenheit is not the correct design temperature for the HEC. Accordingly, as set forth in Part II below, Citizens seek to raise the following specific issues in this appeal.

## **II. Identification Of Specific Issues Raised In This Appeal**

### **A. Issues Pertaining to Best Available Control Technology**

1. Whether the Board properly concluded that Hyperion and DENR met their burden of proof to establish that BACT is applied for all pollutants that will be emitted from the HEC in significant quantities, as required under ARSD 74:36:09:02; 40 CFR § 52.21(j)(2), including but not limited to:
  - a. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for VOCs and H<sub>2</sub>S emitted from equipment leaks at the HEC when, among other things, Hyperion proposed and DENR approved a leak detection and repair (“LDAR”) monitoring system, which allows for equipment leaks, as BACT for VOC and H<sub>2</sub>S emissions from equipment leaks at the HEC, even though leakless components, with a leak rate of zero, are commonly used at refineries and are BACT for equipment leaks in other air districts;
  - b. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for NO<sub>x</sub> emissions from the ten small process heaters (process heaters with a heat input capacity of less than 67 million Btu per hour) when, among other things,
    1. Using Selective Catalytic Reduction (“SCR”), a methodology used to reduce NO<sub>x</sub> emissions which is technically feasible and available for use on the small process heaters, in conjunction with low-NO<sub>x</sub> burners on the ten small process heaters, would result in 76% less NO<sub>x</sub> emissions than would be emitted under the BACT limit set in the PSD Permit; and
    2. Neither Hyperion nor DENR established that SCR is not cost-effective for use on the small process heaters;
  - c. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for VOC, H<sub>2</sub>S, NO<sub>x</sub> and CO emissions from flares at the HEC, when,
    1. Hyperion and DENR failed to prove that the HEC refinery will only flare during emergencies;

2. Hyperion proposed and DENR approved elevated flares, with work practice emission limits and a flare minimization plan, as BACT for flares at the HEC without evaluating whether any other type of flares constitute BACT;
  3. Neither Hyperion nor DENR established that annual numerical limits are not feasible emissions limits for flares; and
  4. Hyperion did not submit, and DENR did not require Hyperion to submit, a flare minimization plan, even though that plan is part of BACT;
- d. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for VOC and PM emissions from cooling processes at the HEC, when,
1. Hyperion proposed and DENR approved wet cooling towers, which produce VOC and PM emissions, as BACT for cooling processes at the HEC even though dry cooling technologies produce no air pollutant emissions; and
  2. Neither Hyperion nor DENR established that dry cooling is technically infeasible for cooling liquids down to the maximum allowable temperature at the HEC refinery and IGCC facility;
- e. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for PM and VOC emissions from the coker drum overhead steam vents at the HEC, when DENR provided inadequate support for its conclusion that the requirements contained in the New Source Performance Standard Subpart Ja (codified at 40 CFR Part 60, Subpart Ja), constitute BACT;
- f. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for PM<sub>2.5</sub> emissions, when the permit contains neither PM<sub>2.5</sub> BACT limits nor limits on PM<sub>2.5</sub> precursors based on a PM<sub>2.5</sub> BACT limit;
- g. Whether the Board properly concluded that Hyperion and DENR established that BACT will be applied for CO<sub>2</sub> emissions from the CO<sub>2</sub> vent of the HEC's IGCC facility, when,
1. CO<sub>2</sub> is an air pollutant regulated under many provisions of the CAA, and is "subject to regulation" under the CAA because EPA has the authority to regulate CO<sub>2</sub>, even if that authority is not yet exercised;
  2. Hyperion failed to include a BACT evaluation for CO<sub>2</sub> emissions from the HEC in its Application or make any such evaluation available prior to or during the public comment period, and DENR failed to include a BACT requirement for CO<sub>2</sub> emissions from the HEC in the PSD Permit; and
  3. In its March 2009 CO<sub>2</sub> BACT analysis, Hyperion improperly concluded that BACT for CO<sub>2</sub> emissions from the CO<sub>2</sub> vent was no controls; and
- h. Whether the Board properly concluded that Hyperion and DENR established that air emissions from the HEC will not cause or contribute to a violation of the NAAQS, when

1. The PSD Permit allows Hyperion to exclude emissions during SSM periods from many short-term BACT limits, creating a situation where there are, *de facto*, no short-term emissions limits during SSM periods; and
  2. The PSD Permit contains no SSM plan, even though that plan is part of BACT for numerous air pollutants.
2. Whether the Board properly concluded that DENR met its burden of proof to establish continuous compliance with BACT limits, when DENR (i) failed to impose ongoing BACT compliance demonstration requirements for numerous pollutants and emission units; (ii) failed to require the correct method for demonstrating compliance with visible emissions limits for flares, and (iii) failed to impose operating restrictions which Hyperion included as parameters of its air modeling of fugitive emissions as permit provisions.

### **B. Issues Relating To Air Quality**

3. Whether the Board properly concluded that Hyperion met its burden of proof to establish that the HEC will not cause or contribute to a violation of the NAAQS or PSD increments, as required under ARSD 74:36:09:02; 40 C.F.R. § 52.21(k), including:
  - a. Whether the Board properly concluded, as required, that Hyperion used representative meteorological data in its air quality modeling, when Hyperion used meteorological data from Sioux Falls, South Dakota even though significantly more representative meteorological data is available from a monitoring station in Sioux City, Iowa;
  - b. Whether the Board properly concluded, as required, that Hyperion used proper input data in its air quality model, when Hyperion's modeling inputs for certain sources included extremely high stack exit velocities that were out of the normal range for stack exit velocities;
  - c. Whether the Board properly concluded, as required, that Hyperion used representative background concentrations in its PM<sub>2.5</sub> analysis, when, among other things, Hyperion used non-representative PM<sub>2.5</sub> background data from Sioux Falls, South Dakota and Hyperion used only one year of PM<sub>2.5</sub> background data to compare the HEC emissions to the NAAQS, even though a three-year average background should be used to compare PM<sub>2.5</sub> emissions to the NAAQS;
  - d. Whether the Board properly concluded that Hyperion properly used PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub>, when it could have performed a full and complete PM<sub>2.5</sub> analysis without any surrogates.

### **C. Issues Relating To Public Participation**

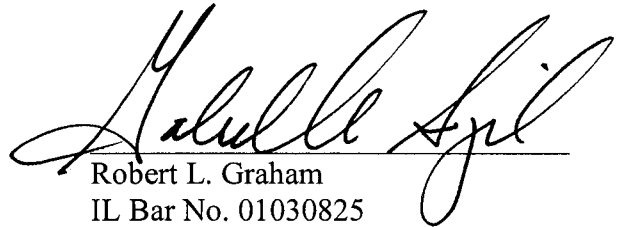
4. Whether the Board properly concluded that DENR met its burden of proof to establish that it provided a full and complete opportunity for public review and comment on the HEC PSD Permit, as required under ARSD 74:36:09:03, 40 C.F.R. § 51.166(q), including:

- a. Whether the Board properly concluded that all of the essential elements of the PSD Permit were provided by DENR and Hyperion to the public for review and comment, when,
1. The PSD permit does not include, and the public was never given the opportunity to review or comment on key aspects of the permit, including but not limited to (i) estimates of uncontrolled emissions from the HEC and information supporting those estimates; (ii) the composition of the heavy Canadian crude oil to be refined at the HEC, (iii) the composition of the petcoke to be used at the IGCC, (iv) the identification and quantification of all air emissions during construction of the HEC and of certain air emissions during operation of the HEC, (v) a BACT analysis for PM<sub>2.5</sub>, and (vi) a BACT analysis for CO<sub>2</sub> or other greenhouse gases;
  2. Hyperion was not required to develop essential and required parts of the PSD Permit, including but not limited to (i) a dust suppression/dust prevention plan, (ii) a traffic study, (iii) a flare minimization plan, and (iv) an SSM plan; thus, these parts were not available for public review and comment;
  3. Hyperion and DENR failed to provide material information showing the technical feasibility of certain control technologies that DENR required as BACT;
  4. Hyperion and DENR failed to provide material information showing the technical infeasibility of certain available top control technologies that were not selected as BACT for certain emissions units and pollutants;
  5. Hyperion and DENR failed to provide material information regarding the effectiveness of different available control technologies at controlling emissions;
  6. Hyperion and DENR failed to provide the cost basis or sources of cost information underlying Hyperion's claims that it properly identified BACT at the HEC; and
  7. Hyperion and DENR failed to provide information evaluating the environmental or energy impacts of available top control technologies for different emissions units and pollutants;
- b. Whether the Board properly concluded that DENR established that Hyperion properly evaluated, and reported to the public for review and comment, the visibility impacts of the HEC, as required by ARSD 74:36:09:02, 40 C.F.R. § 51.21(o), when Hyperion's visibility modeling indicated that there would be significant visibility impairment to observers located within 13 kilometers of the HEC, and Hyperion and DENR made inaccurate statements that there will be no visibility impacts to the nearest Class II National Park or to nearby residents.

**D. Issues Relating To The Need For An Environmental Impact Statement**

5. Whether the Board properly granted summary judgment, before any evidence was heard at the contested case hearing, ruling that an EIS, as authorized by the South Dakota Environmental Policy Act, SDCL § 34A-9-4, should not be required for the HEC when,
- a. The HEC is one of if not the largest energy facilities ever planned to be constructed in South Dakota and will indisputably have material environmental impacts on the people and habitat of South Dakota, resulting from the construction and subsequent operation of the HEC – a facility that will refine up to 400,000 barrels of heavy, carbon-intensive tar sands crude oil that will be brought by pipeline from Alberta, Canada to South Dakota;
  - b. Several individuals and entities, including Citizens and the National Park Service, requested DENR and/or the Board to require an EIS for the HEC;
  - c. Both DENR and the Board have authority and discretion under the South Dakota Environmental Policy Act, SDCL § 34A-9-4, to require an EIS;
  - d. Without an EIS, there will be no comprehensive evaluation of the total environmental impacts of the construction and operation of the HEC; and
  - e. The undisputed facts established in the contested case hearing demonstrate that an EIS would consider numerous significant environmental issues not addressed in the PSD permit or any other permit.

Dated this 29th day of September, 2009.



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## CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies that a true and correct copy of the foregoing STATEMENT OF ISSUES in the above captioned matter was served upon the following via U.S. Mail, first class postage prepaid:

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Dated this 29th day of September, 2009.

  
Allison A. Torrence