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DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

July 12, 2010

Steven M. Pirner, P.E., Department Secretary
South Dakota Environment & Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, SD 57501

Re: Hyperion Energy Center – Union County, South Dakota

Dear Mr. Pirner:

The Iowa Department of Natural Resources (Department) recommends an Environmental Impact Statement (EIS) be developed to fully assess specific impacts the proposed Hyperion Energy Center (HEC) in South Dakota (Union County) will have on air quality, water quality and quantity and other natural resources. The Department is responsible for maintaining state parks and forests, protecting air quality, protecting water quality and sustainability of water quantity, and managing fish, wildlife, land, and water resources in Iowa.

As planned, HEC will include a 400,000 barrel per day refinery and a 200 MW integrated gasification combined cycle power plant. If constructed, this facility will be located approximately 30 miles north of Sioux City, Iowa, just east of Interstate 29 approximately 10 miles due west of Akron, Iowa, and will be the largest refinery and electric generating facility ever constructed in South Dakota. It is always prudent to complete due diligence on a major project of this scale and significance, including conducting a thorough assessment of its environmental impacts. While the effects of HEC on Iowa may or may not be significant, verification by both Iowa and the federal government is important. We recommend, at a minimum, addressing the matters highlighted below.

Air Quality

The state of South Dakota has issued the air quality construction permits for the facility. The Department has concerns with the actual permits as they are written and the overall impact of the increased air emissions:

- Hyperion Energy Center's proposal for emission controls and emission limits are inconsistent with current Best Available Control Technology (BACT) standards and do not meet industry standards for new construction. Emissions of sulfur dioxide, particulate matter, and other priority pollutants will likely effect Iowa's air pollutant levels, perhaps pushing levels over federal public health limits. The

Sioux City area is already near federal air quality standards, and those standards are likely tightening in the near future.

- Increased emissions from neighboring states could limit commercial growth in the Sioux City, Iowa region. The increased emissions from neighbors will be required to be included when evaluating future air quality permitted projects in the Sioux City area.

- HEC will be producing 19 million tons of carbon dioxide per year of operation, more than doubling South Dakota's current carbon emissions. If the facility were to apply BACT to its carbon dioxide emissions, it would be able to capture a majority of its carbon dioxide emissions.

- HEC did not perform an adequate soils and vegetation analysis as required by air quality construction permitting. The facility's impact on soils and vegetation in natural areas along nearby rivers and parks needs adequate evaluation. Note: there are 17 public parks in nearby Plymouth County, Iowa.

- HEC did not perform an assessment of visibility as required by air quality permitting on areas impacted in the state of Iowa. Visibility is critical to the many public nature areas in Plymouth County and along the Loess Hills Scenic Byway and Missouri River valley.

- Both the National Park Service and the U.S. Environmental Protection Agency have questioned the company's modeling of the health threats and environmental damage that could come from the development.

Water Quality and Quantity

- Very little is known about the water quality impact HEC will have on the surrounding area. It can be anticipated that a facility the size of the proposed Hyperion Energy Center will have an impact on the water quality of South Dakota and surrounding states. Any discharge from the facility will likely degrade Iowa's water quality as it is discharged to Iowa's rivers.

- The Department has not been informed of the facility's water source, since HEC's request to draw from the rural water association was denied. At this time, the Department anticipates that the facility will use 10-12 million gallons of water per day. The Department is concerned with the possible large water withdrawals (10-12 million gallons per day) and their impact on downstream water uses such as power plant cooling waters, drinking water supplies, agricultural irrigation and recreation.

- Withdrawing 10-12 million gallons per day will likely have an impact on ground water. Missouri River bed degradation in this area is already estimated to be approximately 12 ft lower than historic levels and this has already impacted the water table. Further degradation could be expected.

Wildlife, Fisheries and Natural Areas

It is unknown where the water will come from and where wastewater will be discharged. If water is discharged, More needs to be known about potential water and wastewater discharges, including water temperature, possible contaminants, and discharge location.

- Bioaccumulation of heavy metals is a major concern. In addition to human health concerns, contaminant advisories are known deterrents for many anglers (i.e., if advisories need to be issued, angler use of these fisheries will likely decline). This concern is well documented in Minnesota (methyl-mercury) and the primary cause is industrial air emissions. Increased industrial emissions must be taken into consideration.

- There are several federal and state threatened and endangered fish species in the area including Pallid Sturgeon, Topeka Shiners, Lake Sturgeon and Pirate Perch, plus several other species of greatest conservation need.

- Eighteen mussel species are found in the Big Sioux River - seven are listed in Iowa as species of greatest conservation need. These include the threatened: cylindrical papershell (Anodontoides ferussacianus), creek heelsplitter (Lasmigona compressa), and creeper (Strophitus undulatus); and the endangered yellow sandshell (Lampsilis teres). Water quality and habitat quality are believed to be the major influences on mussel populations in Iowa and both would likely be affected by a large industrial plant such as HEC.

- The Big Sioux River is the only Missouri River tributary in Iowa that has not been extensively channelized. The lower section has several deep holes (20'-40' deep) that are important over-wintering areas for adult catfish, sturgeon and other aquatic life. Concentrations of quality fish for four or five months during periods of low winter discharge just downstream of the refinery is a concern. This tributary is thought to be an important area for Pallid Sturgeon spawning and it's likely an important piece in the Pallid Sturgeon recovery effort.

- The lower section of the Big Sioux River is a well known trophy catfish fishery and there is a quality smallmouth bass fishery in the Missouri River around Sioux City. These fisheries could be impacted by HEC thus impacting the local businesses that cater to anglers.

- Nebraska's 1993 recreation survey estimated that total outdoor recreation for the Missouri River from Sioux City to Omaha was almost 4 million hours for May 1992 - April 1993. That's 40,355 hrs/river mile per year. A South Dakota survey estimated that at least 4,300 river users visited the lower Big Sioux River (Brandon, SD to Sioux City, IA) in 1995 for a variety of reasons including fishing, picnicking, exercising, relaxing, camping, and sightseeing. The quality of these recreational experiences is directly related to the ecological health of these systems.

- The Big Sioux River is part of an important migration flyway, especially for hawks. A raptor counting station, (at Hitchcock Nature Area) located further downstream in the Loess Hills along the Missouri River, has tallied migrant raptors each fall since 1998 and counted tens of thousands of raptors (of at least 20 species) using this migration corridor. It is an especially important corridor for Swainson's Hawk, Bald Eagle, Red-tailed Hawk, and Sharp-shinned Hawk but also appears to be an important flight corridor for Golden Eagle, Peregrine Falcon, and Merlin.

- Broken Kettle Grassland is The Nature Conservancy's largest preserve in Iowa and contains the largest remaining natural prairie in Iowa. At 3,000 acres, this area is located north of Sioux City, Iowa in Plymouth County. The area is home to five state listed species including Annual Skeletonweed, Silver Buffalo Berry, Scarlet Globe Mallow, Plains Pocket Mouse, and the Prairie Rattlesnake.

- The State of Iowa, local county conservation boards, and other non-governmental organizations own and operate dozens of parks and natural areas that could be affected by HEC.

The Department appreciates HEC's efforts to incorporate sustainable practices into the facility. As HEC's down wind and downstream neighbor, the Department wants to ensure that the facility, which will be in operation for decades, minimizes the impacts felt by Iowans for generations to come. Please feel free to contact me with any questions or concerns at Richard.Leopold@dnr.iowa.gov or (515) 281-5384.

Sincerely,

Richard A. Leopold
Director

Cc: Brian Gustafson, Administrator of the Air Quality Program - Joe Foss Building - 523 E. Capitol Pierre, SD 57501
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Administrator Lisa P. Jackson, US EPA National Headquarters – 1200 Pennsylvania Ave NW, Washington, DC 20460
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