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WK ACT/Doc Code CP / SC  
Project # / Permit # 07-602 / \_\_\_\_\_

11/29/07

# Federal Land Managers

**Pre-Public Comment Correspondence  
with Federal Land Managers**

## **Roling, Chris [DNR]**

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**From:** Arnold, Alan [AlanArnold@alliantenergy.com]  
**Sent:** Thursday, November 29, 2007 3:26 PM  
**To:** Roling, Chris [DNR]; Hanson, Lori [DNR]  
**Cc:** Daniel, Chad; Byers, Andrew C. (Andy); Hillman, Timothy M.  
**Subject:** FW: Unit 4 project at Sutherland Generating Station

Chris and Lori- FYI and awareness.

Alan J. Arnold  
Environmental Lead- IPL Baseload Project Alliant Energy Corporate Services P.O. Box 351  
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-----Original Message-----

**From:** Trent R Wickman [mailto:twickman@fs.fed.us]  
**Sent:** Thursday, November 29, 2007 11:16 AM  
**To:** Arnold, Alan  
**Cc:** Don\_Shepherd@nps.gov; Meredith\_Bond@fws.gov; john\_bunyak@nps.gov; Charles E Sams  
**Subject:** Unit 4 project at Sutherland Generating Station

Mr. Arnold:

Your letter dated November 5, 2007, concerning the addition of a new 649 MW SCPC unit at the Sutherland Generating Station in Marshalltown, Iowa has been reviewed. Due the emissions from the facility, in relation to its distance from the Forest Service Class I areas, we are not requesting that any Class I modeling be done for this project. We would like to review a copy of the BACT analysis for the new unit.

Please note that the above statement is only applicable for the Forest Service Class I areas involved. Please contact the other federal land managers regarding their requirements for their Class I areas.

Thank you for your proactive approach in notifying us early in the permitting process.

Trent Wickman, P.E.  
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November 5, 2007

Mr. Chuck Sams  
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Mr. Trent Wickman  
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Ms. Meredith Bond  
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Mr. John Bunyak  
Branch Chief  
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Mr. Don Shepherd  
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Denver, CO 80225-0287  
Phone: 303-969-2075

**RECEIVED**

NOV 07 2007

**SUBJ: Sutherland Station Unit 4, Interstate Power and Light Company**  
**RE: PSD Air Permit Application**

Dear Federal Land Managers:

This letter is to inform you that Interstate Power and Light Company (IPL) filed a New Source Review Prevention of Significant Deterioration (PSD) permit application with the Iowa Department of Natural Resources Air Quality Bureau on Thursday, November 1, 2007. IPL is proposing to construct and operate a new 649 megawatt (MW net) supercritical pulverized coal (SCPC) fired boiler (Unit 4) and ancillary equipment at its existing Sutherland Generating Station (SGS) located in Marshalltown, Iowa. Unit 4 will have a maximum design heat input of 6,326 MBtu/hr.

SGS Unit 4 will be designed to burn a wide range of fuel supplies including Powder River Basin (PRB) sub-bituminous and Eastern and Western bituminous coals and blends thereof, as well as potential inclusion of biomass fuel. A summary of the proposed emission control equipment and BACT emission limits submitted as part of the PSD permit application is provided in Table 1. In addition to the BACT limits presented below, IPL is proposing to utilize activated carbon injection for control of mercury emissions.

Annual emissions, assuming continuous operation at maximum design heat input for 8,760 hours is approximately 2,217 tons per year for sulfur dioxide (SO<sub>2</sub>), 1,385 tons per year for nitrogen oxides (NO<sub>x</sub>), and 499 tons per year of total particulate matter (PM). Estimated 24-hour emission rates for SO<sub>2</sub>, NO<sub>x</sub>, and PM are estimated at 6.07 tons, 3.79 tons, and 1.37 tons.

As noted above, Unit 4 will be located at the existing SGS facility located in Marshalltown, Iowa, which is located at approximately 42.04 degrees north latitude, and 92.86 degrees west longitude (NAD27). The nearest Class I area is the Hercules Glades Wilderness Area located approximately 590 km south of the Sutherland facility. A listing of surrounding Class I areas and distance from the project location is provided in Table 2 and illustrated in Figure 1.

**Table 1: SGS4 Primary Boiler Proposed BACT Summary<sup>1</sup>**

Pollutant	Emission Control Approach	Proposed BACT Limit
SO <sub>2</sub>	Wet FGD	0.06 lb/MBtu or 98 percent removal (whichever occurs first) with 0.08 lb/MBtu upper limit.
NO <sub>x</sub>	LNB / OFA and SCR	0.05 lb/MBtu
PM/PM <sub>10</sub>	Fabric Filter	0.012 lb/MBtu (filterable) 0.018 lb/MBtu (total) <sup>2</sup>
Opacity	Fabric Filter	10%
CO	Good Combustion Controls	0.12 lb/MBtu
VOC	Good Combustion Controls	0.0034 lb/MBtu
H <sub>2</sub> SO <sub>4</sub>	Sorbent Injection / Fabric Filter	0.004 lb/MBtu
Flourides	Wet FGD	0.0002 lb/MBtu

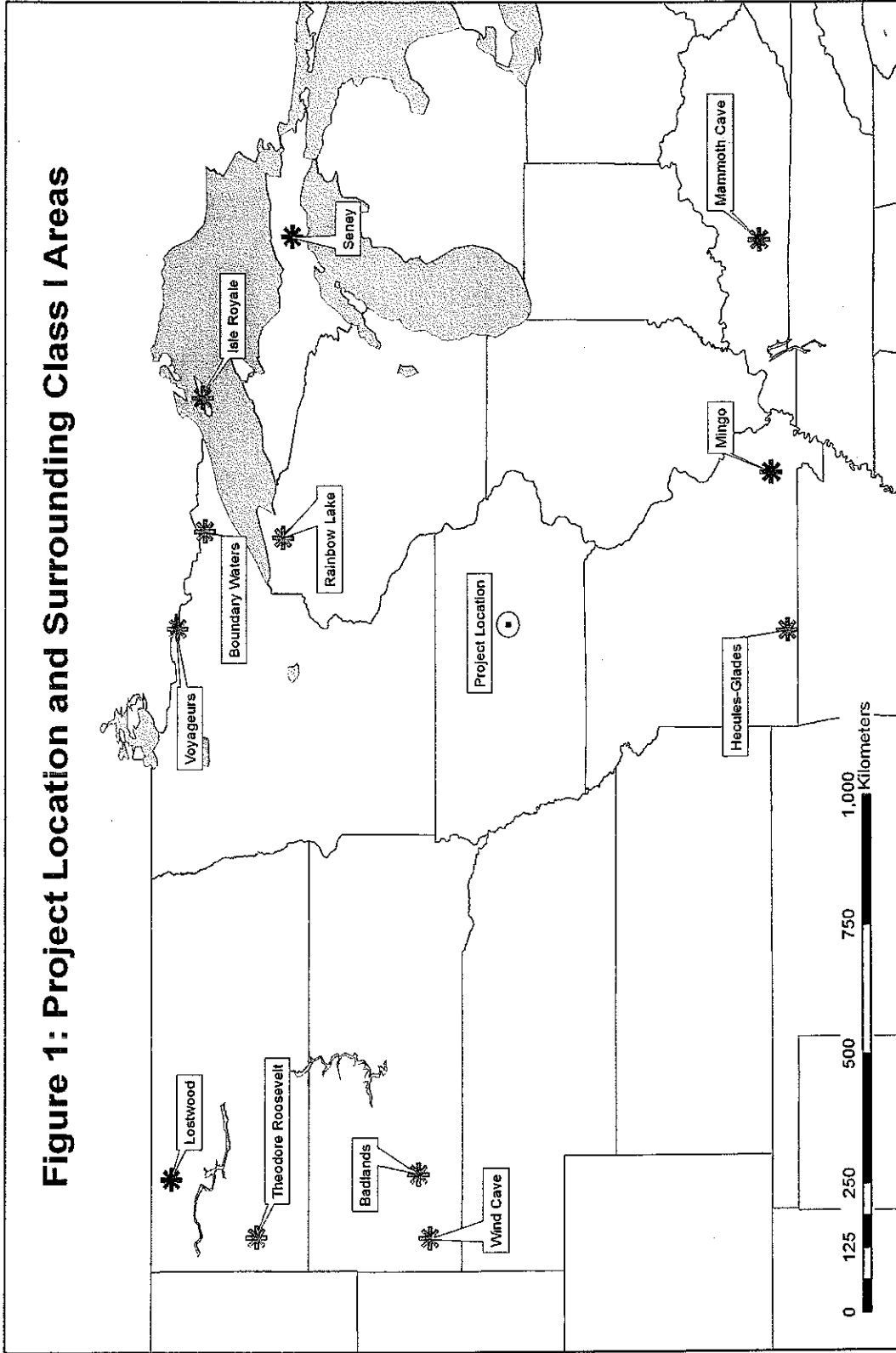
<sup>1</sup>As presented in November 1, 2007 air permit application

<sup>2</sup>Based on USEPA Method 5B + 202 with condensable artifact modification.

**Table 2: Surrounding Class I Areas and Distance from Project Location**

Class I Area	Federal Land Manager	Distance from Project
Voyagers	DOI – NPS	700 km
Boundary Waters Canoe Area	USDA – FS	670 km
Isle Royale	DOI – NPS	720 km
Seney	DOI – FWS	710 km
Rainbow Lake <sup>1</sup>	USDA – FS	510 km
Mammoth Cave	DOI - NPS	780 km
Mingo	DOI – FWS	600 km
Hercules Glades	USDA – FS	590 km
Wind Cave	DOI – NPS	880 km
Badlands	DOI – NPS	790 km
Theodore Roosevelt	DOI – NPS	1,000 km
Lostwood	DOI – FWS	1,050 km

Rainbow Lake, WI, is noted as a Class I Area where visibility is not an important air quality related value.



IPL understands that this project is located at a distance greater than 300 kilometers from any Class I area. It is our intent through this letter to identify potential data needs or concerns from the Federal Land Manager agencies with regard to this project early in the permitting process. This is being done in order to continue our proactive approach at involving regulatory agencies and stakeholders throughout the project.

Please direct any correspondence regarding this project to:

Alan J. Arnold  
Environmental Lead – IPL Baseload Project  
Alliant Energy Corporate Services  
P.O. Box 351  
200 First Street S.E., GO-13<sup>th</sup> Floor  
Cedar Rapids, IA 52406 (52401)

Phone: 319-786-4476  
Fax: 319-786-4747  
E-Mail: [alanarnold@alliantenergy.com](mailto:alanarnold@alliantenergy.com)

I look forward to your response regarding this notification.

Sincerely,



Alan J. Arnold  
Environmental Lead – IPL Baseload Project

CC: Jeff Beer, IPL Project Director  
✓ Chris Roling, Senior Engineer, Iowa Department of Natural Resources  
Lori Hanson, Lead Worker, Air Dispersion Modeling Group, Iowa Department of Natural Resources  
Tim Hillman, Air Permitting Manager, Black & Veatch  
Chad Daniel, Senior Environmental Scientist, Stanley Consultants