

# **DRAFT ENVIRONMENTAL IMPACT STATEMENT**

*Deer Creek Station Energy Facility Project  
Brookings County, South Dakota*



**U.S. Department of Energy  
Western Area Power Administration  
Upper Great Plains Region  
Billings, Montana**

**DOE/EIS-0415  
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## COVER SHEET

**Lead Federal Agency:** U.S. Department of Energy, Western Area Power Administration

**Cooperating Agency:** U.S. Department of Agriculture, Rural Utilities Service

**Title:** Deer Creek Station Project, Brookings and Deuel Counties, South Dakota

**Please send comments or information requests on this Draft Environmental Impact Statement to:**

**For general information on the U.S. Department of Energy National Environmental Policy Act process, please contact:**

Mr. Matt Marsh  
Western Area Power Administration  
P. O. Box 35800  
Billings, MT 59107-5800  
Telephone: (406) 247-7385  
DeerCreekStationEIS@wapa.gov

Ms. Carol M. Borgstrom, Director  
Office of National Environmental Policy Act  
(NEPA) Policy and Compliance  
Environment, Safety and Health (GC-54)  
U.S. Department of Energy  
Washington, DC 20585  
Telephone: (202) 586-4600

**Abstract:** In response to a request from Basin Electric Power Cooperative (Basin Electric), Western Area Power Administration (Western) proposes to provide interconnection services, and Rural Utilities Service (RUS) proposes to provide financial assistance, for the Deer Creek Station Project, a proposed 300-megawatt (MW) natural gas-fired generation facility. The facility is being proposed to meet projected intermediate demands for electricity in the eastern portion of Basin Electric Power Cooperative's service territory, as determined from a power supply analysis. Basin Electric's alternatives analysis included alternative power generation technologies and alternative sites. Basin Electric proposes to construct a proposed natural gas-fired combined-cycle facility at one of two sites near White, South Dakota (SD). The alternative sites are convenient to a natural gas supply pipeline and to a transmission line owned by Western. If the proposed Project was not constructed, there would be no effects in the immediate vicinity; however, the underlying power demand would still need to be met and power supply infrastructure would likely be constructed somewhere. If the generation facility were to be constructed at White Site 1, a 13.2-mile natural gas pipeline, a 0.75-mile transmission line, two water wells, and a 1.25-mile water supply line would be constructed, and one mile of local roads would be improved. Most of the impacts associated with the facility site would be on cultivated cropland and pastureland; however, the natural gas pipeline would temporarily impact two small areas of native prairie and several areas of wetlands, and the water supply wells would require pumping from a Well Head Protection Area along Deer Creek. If the generation facility were to be constructed at White Site 2, a 10-mile natural gas pipeline, a one-mile rural water pipeline extension, a one-half mile transmission line, and an on-site substation would also be constructed. Most of the impacts would be on cultivated cropland and pastureland; however, some permanent wetland impacts could be expected. Adverse effects would be minimized by use of best management practices for erosion control and dust suppression, by pipeline construction in the fall, and by avoiding the breeding season for Dakota skipper in native prairie. Monitoring wells would be used to ensure that groundwater pumping does not adversely affect hydrological conditions in Deer Creek.

Comments on this Draft EIS should be sent only to Matt Marsh at Western Area Power Administration at the address above. Comments must be postmarked no later than **March 22, 2010**.

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## LIST OF ACRONYMS

### *A*

A.....	Agricultural zoning district
ADT .....	average daily traffic
AE & SSS .....	Alternatives Evaluation and Site Selection Study
AERMOD .....	AMS/EPA Regulatory Model

### *B*

Basin Electric .....	Electric Power Cooperative
BGEPA .....	Bald and Golden Eagle Protection Act
BMP .....	best management practice

### *C*

CAA .....	Clean Air Act
CadnaA .....	Computer Aided Design for Noise Abatement
CCCT .....	Combined-cycle combustion turbines
CCTV .....	closed-circuit television system
CEQ.....	Council on Environmental Quality
CFR.....	Code of Federal Regulations
CH <sub>4</sub> .....	methane
CI.....	commercial/industrial zoning district
CO.....	carbon monoxide
CO <sub>2</sub> .....	carbon dioxide
CREP.....	Conservation Reserve Enhancement Program
CRP.....	Conservation Reserve Program
CTG.....	Combustion Turbine Generator
CWA.....	Clean Water Act

### *D*

dB.....	decibel
dBA.....	A-weighted decibel
DEIS.....	Draft EIS
DOE .....	Department of Energy
DOT .....	Department of Transportation
DSM.....	demand side management

### *E*

EIA.....	Energy Information Administration
EIS.....	Environmental Impact Statement
EMF .....	Electromagnetic Fields
EO.....	Executive Order
EPA.....	Environmental Protection Agency
ESA.....	Endangered Species Act

**F**

FAA.....	Federal Aviation Administration
FEMA.....	Federal Emergency Management Agency
FERC.....	Federal Energy Regulatory Commission
FSA.....	Farm Service Agency
FWP.....	Farmable Wetlands Program

**G**

GHG.....	greenhouse gas
GPA.....	Game Production Area
GPS.....	Global Positioning System

**H**

HAP.....	hazardous air pollutants
HCM.....	Highway Capacity Manual
HP/IP.....	high pressure and intermediate pressure
HRSG.....	Heat Recovery Steam Generator
HUD.....	Housing and Urban Development
Hz.....	Hertz

**I**

IPCC.....	Intergovernmental Panel on Climate Change
IS.....	Integrated System

**L**

LGIA.....	Large Generator Interconnection Agreement
LGIP.....	Large Generator Interconnection Procedures
LOS.....	level of service
lp.....	low pressure
LP.....	Lake Park zoning district
L <sub>x</sub> .....	exceedance sound level

**M**

MAPP.....	Mid-Continent Area Power Pool
MBPP.....	Missouri Basin Power Project
MBTA.....	Migratory Bird Treaty Act
MEC.....	Mid-American Energy Company
MISO.....	Midwest Independent Transmission System Operator
msl.....	mean sea level
MW.....	megawatt

**N**

N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NBPL	Northern Border pipeline
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NLCD	National Land Cover Data
NO <sub>x</sub>	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPPD	Nebraska Public Power District
NR	Natural Resources zoning district
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit

**O**

O <sub>3</sub>	ozone
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration

**P**

Pb	lead
PEM	palustrine emergent
PFO	palustrine forested
PM	particulate matter
PSA	Power Supply Analysis
PSD	Prevention of Significant Deterioration
PSE	Power Systems Engineering
PSS	palustrine scrub-shrub
PUB	palustrine unconsolidated bottom

**R**

REG	Recovered Energy Generation
RFP	Request for Proposals
ROW	right-of-way
RUS	Rural Utilities Service

**S**

SCR	Selective Catalytic Reduction
SD	South Dakota
SDDA	South Dakota Department of Agriculture
SDDENR	South Dakota Department of Environment and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Department of Game, Fish and Parks

SDPUC..... South Dakota Public Utilities Commission  
 SGIA ..... Small Generator Interconnection Agreement  
 SGIP ..... Small Generator Interconnection Procedures  
 SHPO ..... State Historic Preservation Office  
 SO<sub>2</sub> ..... sulfur dioxide  
 SPCC..... Spill prevention, control, and countermeasure  
 SWPPP ..... Storm Water Pollution Prevention Plan

**T**

Tariff ..... Open Access Transmission Service Tariff  
 TCP ..... Traditional Cultural Properties  
 TD ..... Town zoning district  
 TMDL ..... Total Maximum Daily Limit  
 tpy ..... tons per year  
 TSI..... Trophic Scale Index

**U**

USACE ..... U.S. Army Corps of Engineers  
 USDA..... U.S. Department of Agriculture  
 USFWS ..... U.S. Fish and Wildlife Service

**V**

v/c..... volume to capacity ratio  
 VOC ..... volatile organic compounds

**W**

Western ..... Western Area Power Administration  
 WIA..... Walk-In Area  
 WPA..... Waterfowl Production Area  
 WRP ..... Wetlands Reserve Program

\* \* \* \* \*