UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY
40 CFR 49.151

Application for New Construction

(Form NEW)

Please check all that apply to show how you are using this form:

- ☒ **Proposed Construction of a New Source**
- ☐ **Proposed Construction of New Equipment at an Existing Source**
- ☐ **Proposed Modification of an Existing Source**
- ☐ **Other – Please Explain**

Use of this information request form is voluntary and not approved by the Office of Management and Budget. The following is a check list of the type of information that Region 8 will use to process information on your proposed project. While submittal of this form is not required, it does offer details on the information we will use to complete your requested approval and providing the information requested may help expedite the process. An application form approved by the Office of Management and Budget can be found online at https://www.epa.gov/sites/production/files/2015-12/documents/new_source_general_application_rev2017.pdf.

Please submit information to following two entities:

Federal Minor NSR Permit Coordinator
Air and Radiation Division
U.S. EPA, Region 8
1595 Wynkoop Street, 8ARD-PM
Denver, CO 80202-1129
R8airpermitting@epa.gov and
Smith.Claudia@epa.gov

The Tribal Environmental Contact:
Martina Wilson, Environmental Director
Assiniboine and Sioux Tribes
PO Box 1027
Poplar, MT 59255-1027
martinawilson@fortpecktribes.net

For more information, visit: http://www.epa.gov/caa-permitting/tribal-nsr-permitting-region-8

A. GENERAL SOURCE INFORMATION

1. (a) **Company Name** (Who owns this facility?) ***Montana Dakota Utilities Co.*** (b) **Operator Name** (Is the company that operates this facility different than the company that owns this facility? What is the name of the company?) ***Not applicable***		2. **Facility Name** ***Poplar Oil Field Substation (with Emergency Backup Generator)***	
3. Type of Operation ***Electrical Substation (with emergency backup generator)***		4. Portable Source?* ☐ Yes **X** No 5. Temporary Source? ☐ Yes **X** No	
6. NAICS Code ***221112 – Gas and Electric Utility***		7. SIC Code ***49119901 – Distribution, electric power***	
8. Physical Address (Or, home base for portable sources) ***5301 EPU 1 Drive, Poplar, MT 59255***			
9. Reservation* ***Fort Peck Indian Reservation***	10. County* ***Roosevelt County***	11a. Latitude (decimal format)* ***48.230230N***	11b. Longitude (decimal format)* ***-105.126829W***
12a. Quarter Quarter Section* ***SE ¼ of SE ¼***	12b. Section* ***30***	12c. Township* ***29 North***	12d. Range* ***51 East***

*The backup emergency generator is technically a portable source (contained in a trailer) but is planned to be permanently placed at this site for more than twelve months.

B. PREVIOUS PERMIT ACTIONS (Provide information in this format for each permit that has been issued to this source. Provide as an attachment if additional space is necessary)

Facility Name on the Permit ***Not applicable – The current facility (substation) has no emissions units and therefore, has no current permits.***
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit ***Not applicable***
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit ***Not applicable***
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit ***Not applicable***
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

C. CONTACT INFORMATION

Company Contact (Who is the primary contact for the company that owns this facility?**)** ***Jay Skabo***	Title ***V.P. of Electric Supply***
Mailing Address ***400 North Fourth Street, Bismarck, ND 58501-4092***	
Email Address ***Jay.Skabo@mdu.com***	
Telephone Number ***(701)222-7722***	Facsimile Number ***(701)222-7845***
Operator Contact (Is the company that operates this facility different than the company that owns this facility? Who is the primary contact for the company that operates this facility?) ***Not applicable***	Title
Mailing Address	
Email Address	
Telephone Number	Facsimile Number
Permitting Contact (Who is the person primarily responsible for Clean Air Act permitting for the company? We are seeking one main contact for the company. Please do not list consultants.) ***Mark Dihle***	Title ***Sr. Environmental Specialist***
Mailing Address ***400 North Fourth Street, Bismarck, ND 58501-4092***	
Email Address ***Mark.Dihle@mdu.com***	
Telephone Number ***(701)222-7865***	Facsimile Number ***(701)222-7845***
Compliance Contact (Is the person responsible for Clean Air Act compliance for this company different than the person responsible for Clean Air Act permitting? Who is the person primarily responsible for Clean Air Act compliance for the company? We are seeking one main contact for the company. Please do not list consultants.) ***Mark Dihle***	Title ***Sr. Environmental Specialist***
Mailing Address ***400 North Fourth Street, Bismarck, ND 58501-4092***	
Email Address ***Mark.Dihle@mdu.com***	
Telephone Number ***(701)222-7865***	Facsimile Number ***(701)222-7845***

D. ATTACHMENTS

Include all of the following information (see the attached instructions)

*Please do not send Part 71 Operating Permit Application Forms in lieu of the check list below.

☐ **FORM SYNMIN -** New Source Review Synthetic Minor Limit Request Form, if synthetic minor limits are being requested***. – Not Applicable***

☒ Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

☒ Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

☒ A list and descriptions of all proposed emission units and air pollution-generating activities.

☒ Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

☒ Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

☒ Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

☒ A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

☒ **Criteria Pollutant Emissions -** Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

These estimates are to be made for each emission unit, emission generating activity, and the project/source in total. Note, there are no insignificant emission units or activities in this permitting program, only exempted units and activities. Please see the regulation for a list of exempted units and activities.

☒ **Air Quality Review**

☒ **ESA (Endangered Species Act)**

☒ **NHPA (National Historic Preservation Act)**

E. TABLE OF ESTIMATED EMISSIONS

The following tables provide the total emissions in tons/year for all pollutants from the calculations required in Section D of this form, as appropriate for the use specified at the top of the form.

E(i) – Proposed New Source

Pollutant	Potential Emissions (tpy)	Proposed Allowable Emissions (tpy)	
PM	0.40	0.40	PM - Particulate Matter PM_{10} - Particulate Matter less than 10 microns in size $PM_{2.5}$ - Particulate Matter less than 2.5 microns in size SO_2 - Sulfur Dioxide NOx - Nitrogen Oxides CO - Carbon Monoxide VOC - Volatile Organic Compound Pb - Lead and lead compounds Fluorides - Gaseous and particulates H_2SO_4 - Sulfuric Acid Mist H_2S - Hydrogen Sulfide TRS - Total Reduced Sulfur RSC - Reduced Sulfur Compounds
PM_{10}	0.33	0.33	
$PM_{2.5}$	0.32	0.32	
SO_2	0.01	0.01	
NO_x	16.47	16.47	
CO	2.33	2.33	
VOC	0.09	0.09	
Pb	-	-	
Fluorides	7.36E-05	7.36E-05	
H_2SO_4	-	-	
H_2S	-	-	
TRS	-	-	
RSC	-	-	

Emissions calculations must include fugitive emissions if the source is one the following listed sources, pursuant to CAA Section 302(j):

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;
(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;
(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(q) Fuel conversion plants;
(r) Sintering plants;
(s) Secondary metal production plants;
(t) Chemical process plants
(u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
(v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(w) Taconite ore processing plants;
(x) Glass fiber processing plants;
(y) Charcoal production plants;
(z) Fossil fuel-fired steam electric plants of more that 250 million British thermal units per hour heat input, and
(aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

E(ii) – Proposed New Construction at an Existing Source or Modification of an Existing Source

Pollutant	Current Actual Emissions (tpy)	Current Allowable Emissions (tpy)	Post-Change Potential Emissions (tpy)	Post-Change Allowable Emissions (tpy)
PM	N/A			
PM_{10}				
$PM_{2.5}$				
SO_2				
NO_x				
CO				
VOC				
Pb				
Fluorides				
H_2SO_4				
H_2S				
TRS				
RSC				

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SO_2 – Sulfur Dioxide
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

[Disclaimers] The public reporting and recordkeeping burden for this collection of information is estimated to average 20 hours per response, unless a modeling analysis is required. If a modeling analysis is required, the public reporting and recordkeeping burden for this collection of information is estimated to average 60 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

ATTACHMENTS

☒ Narrative description of the proposed production processes.

Montana Dakota Utilities Co. (Montana-Dakota) is proposing to install a CAT Model 3561B, 3,285 horsepower (hp) diesel-fired engine/generator at the existing Poplar Oil Field Substation to provide emergency backup power. The potential emissions are based on 500 hours of operation per year pursuant to the EPA September 1995 Calculating Potential to Emit for Emergency Generators Memorandum. This estimate is likely overly conservative, as estimated use is projected at less than 100 hours per year including maintenance and testing. In addition to the emergency backup generator, Montana-Dakota is also proposing to add a diesel fuel tank storage not to exceed 2,000 gallons in the future. No emission units currently exist at the substation site, so no air quality permits for this site are currently held.

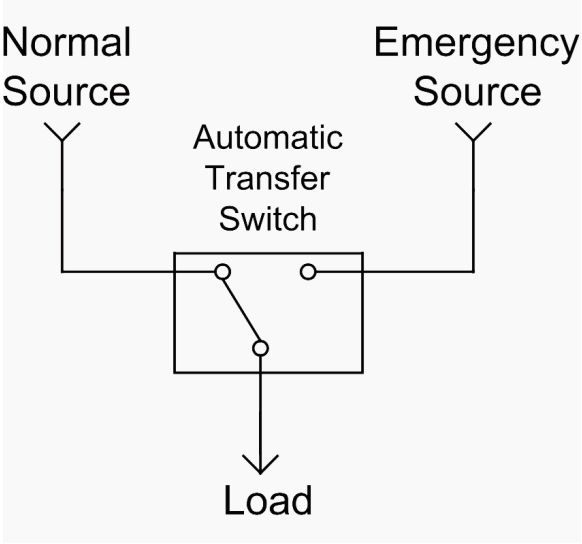
The emergency backup generator would combust ultra-low sulfur diesel (maximum sulfur content of 15 parts per million) to provide electrical power to the site. Diesel fuel is the only "fuel/raw material" in this process. Diesel generators convert fuel energy (diesel) into mechanical energy by means of an internal combustion engine and then into electric energy by means of an electric generator. The emergency backup generator process does not include the heating, drying, application of chemicals, etc. Montana-Dakota would use the emergency backup generator to provide emergency power to the substation in the event of power loss or interruption, ensuring safe power distribution to the nearby communities during those events.

As previously mentioned, the potential emissions are based on 500 hours per year[1]. Beyond the expected brief monthly operation (1-2 hours) to ensure the unit is functioning properly, the unit's anticipated operating hours remain unpredictable because they are tied to power loss or interruption, which are generally not planned. The emergency backup generator would only combust diesel fuel. The density of the diesel is assumed to by 7.05 pounds per gallon per US EPA's AP-42, Appendix A. The diesel heating value is assumed to by 19,300 British thermal units (Btu) per pound per AP-42, Section 3.3. For the 3,285 hp generator, the diesel fuel consumption is calculated to be 169 gallons per hour.

☒ A process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment. This flow chart should illustrate the detailed narrative description requested above.

The Emergency Source depicted in the process flow chart below represents the emergency backup engine/generator proposed in this application. The Load is the power produced to support the substation. Included with the Emergency Source is the proposed maximum capacity (not to exceed) 2,000-gallon diesel fuel storage tank. The emission control equipment is intrinsic to the engine/generator as a four-stroke, rich burn internal combustion engine.

[1] However, if a future emergency occurs there is no time limit on the use of the emergency stationary ICE in emergency situations (as in 40 CFR 60, Subpart IIII).



☒ List and describe all proposed units, emission units and air pollution-generating activities. At a minimum, provide the following (only the relevant source categories are included below):

The two proposed emissions units are the 3,285-hp emergency backup generator and the not to exceed maximum capacity 2,000-gallon horizontal diesel storage tank.

1. **The hourly, daily and annual maximum firing rates for each fuel and combustion equipment.**

   The 3,285-hp emergency backup generator would only fire on diesel fuel. The hourly, daily, and annual maximum firing rate would be: 23 million Btus per hour (MMBtu/hr), 552 MMBtu/hr daily, and 11,500 MMBtu/hr on an annual basis (based on 500 hours per year operation).

2. **Tank designs, tank storage capacities, hourly, daily and annual maximum throughput of material and product**.

   The not to exceed 2,000-gallon horizontal diesel tank would have an hourly diesel throughput of 169 gallons per hour, 4,056 gallons daily with continuous generator operation, and 84,500 gallons per year (based on 500 hours per year operation of the generator).

☒ Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

For the 3,285-hp emergency backup generator, the maximum diesel fuel consumption is calculated to be 169 gallons per hour while operating. As previously mentioned, the potential emissions are based on 500 hours per year. Beyond the expected brief monthly operation (1-2 hours) to ensure the unit is functioning properly, the unit's anticipated operating hours remain unpredictable because they are tied to power loss or interruption, which are generally not planned. At 500 hours per year, the maximum annual diesel fuel combustion would be 84,500 gallons. The diesel fuel combusted would be ultra-low sulfur diesel with a maximum sulfur content of 15 parts per million.

☒ Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

Beyond fuel, no raw materials would be used (see fuel description above). The final product would be power generation, which would vary depending on length of normal power interruption.

☒ Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

As previously mentioned, the potential emissions are based on 500 hours per year. Beyond the expected brief monthly operation (1-2 hours) to ensure the unit is functioning properly, the unit's anticipated operating hours remain unpredictable because they are tied to power loss or interruption, which are generally not planned.

☒ A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

Backup Emergency Generator: The emission control equipment is intrinsic to the engine/generator as a four-stroke, rich burn internal combustion engine. The unit is subject to the requirements in 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The engine/generator was certified to the applicable 40 CFR 60, Subpart IIII emission standards. The engine has been previously and will be installed, configured, operated and maintained according to the manufacturer's emission-related specifications. Montana-Dakota has owned the units previously and they have been maintained under multi-year CAT-dealer service contracts. Therefore, no additional requirements under 40 CFR 60, Subpart IIII apply. Hours of operation will also be monitored and recorded. The unit is also subject to 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. 40 CFR 63, Subpart ZZZZ for this unit, however, invokes 40 CFR 60, Subpart IIII, so no further requirements are applied by that Subpart.

The not to exceed 2,000-gallon Diesel Tank: The diesel tank is anticipated to be a horizontal tank. As emissions from diesel tanks are negligible, no additional controls would be applied. Throughput of the tank would be monitored and recorded.

☒ **Criteria Pollutant Emissions Estimates:** Estimates of Potential/Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SO_2), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, ammonia (NH_3), fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

See table below for emissions estimates for the backup emergency generator. The TANKS 4.09d emissions summary follows for the 2,000-gallon diesel tank. The emissions associated with the diesel tank are 1.04 pounds of VOCs on an annual basis.

Table 1. Emission Factors and Calculations for the Emergency Backup Generator.

Poplar, MT Emergency Backup Generator/Engine						
Assumptions:			**Notes:**			
Operating Hours	8,760	hr/yr	Assuming continuous operation			
Limited Operating Hours	500	hr/yr	Limited operation - Emergency status			
Horsepower Rating	3,285	hp	Facility Estimate			
Diesel Brake Specific Fuel Consumption (BSFC)	7,000	btu/hp-hr	AP-42 Section 3.3			
Diesel Heating Value (HV)	19,300	btu/lb	AP-42 Section 3.3			
Density of Diesel	7.05	lb/gal	AP-42 Appendix A			
Diesel Throughput	169.00	gal/hr	Generator HI / Diesel HV / Density of Diesel * 10^6			
Generator Heat Input (HI)	23.00	MMbtu/hr	Horsepower Rating * BSFC / 10^6			
Sulfur Content	0.0015	%	Assuming use of ULSD			

Emissions						
Pollutant	**Emission Factor**	**Emission Factor Unit**	**Emisson Factor Source**	**Potential Emissions (lb/hr)**	**Unrestricted Potential to Emit (tpy)**	**Limited Potential to Emit (tpy)**
PM (Filterable)	0.062	lb/MMBtu	AP-42 Table 3.4-2	1.43	6.24	0.36
PM (Condensable)	0.0077	lb/MMBtu	AP-42 Table 3.4-2	0.18	0.78	0.04
PM (Total)	0.0697	lb/MMBtu	AP-42 Table 3.4-2 and Sum of filterable + Condensable	1.60	7.02	0.40
PM_{10} (Filterable)	0.0496	lb/MMBtu	AP-42 Table 3.4-2	1.14	5.00	0.29
PM_{10} (Condensable)[1]	0.0077	lb/MMBtu	Equal to PM Condensable	0.18	0.78	0.04
PM_{10} (Total)	0.0573	lb/MMBtu	Sum of Filterable + Condensable	1.32	5.77	0.33
$PM_{2.5}$ (Filterable)[2]	0.0479	lb/MMBtu	AP-42 Table 3.4-2	1.10	4.82	0.28
$PM_{2.5}$ (Condensable)[1]	0.0077	lb/MMBtu	Equal to PM Condensable	0.18	0.78	0.04
$PM_{2.5}$ (Total)	0.0556	lb/MMBtu	Sum of Filterable + Condensable	1.28	5.60	0.32
SO_x	8.09E-03 S_1	lb/hp-hr	AP-42 Table 3.4-1	0.04	0.17	0.01
NO_x	65.88	lb/hr	Manufacturer's Emission Data	65.88	288.55	16.47
CO	9.33	lb/hr	Manufacturer's Emission Data	9.33	40.87	2.33
VOC[3]	0.37	lb/hr	Manufacturer's Emission Data	0.37	1.62	0.09
CO_2	163.05	lb/MMBtu	40 CFR Part 98[4]	3749.42	16422.48	937.36
CH_4	0.01	lb/MMBtu	41 CFR Part 98[4]	0.15	0.67	0.04
N_2O	0.001	lb/MMBtu	42 CFR Part 98[4]	0.03	0.13	0.01
CO_2e	-	-	43 CFR Part 98[4]	3762.29	16478.83	940.57
Pb - Lead and lead compounds	NA	lb/MMBtu	NA	-	-	-
Fluorides - Gaseous and particulates[5]	1.28E-05	lb/MMBtu	AP-42 Table 3.4-4	2.94E-04	1.29E-03	7.36E-05
H_2SO_4 - Sulfuric Acid Mist	NA	NA	NA	-	-	-
H_2S - Hydrogen Sulfide	NA	NA	NA	-	-	-
TRS - Total Reduced Sulfur	NA	NA	NA	-	-	-
RSC - Reduced Sulfur Compounds	NA	NA	NA	-	-	-

EMISSIONS DATA [PBR00630]

(PBR00630)-ENGINE (G6C00190)-GENERATOR

DECEMBER 27, 2011

For Help Desk Phone Numbers Click here

Engine Emissions Data

For Emissions feedback and questions contact: engine_certification@cat.com

This link is case sensitive.

Emissions Definitions

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	PBR00630
Sales Model	3516B
Build Date	2008-11-20
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	2683679
Certification Arrangement	
Test Spec Number	0K8123
Certification	Stationary
Labeled Model Year	
Family Code	
Flash File	3165299
Flash File Progression	3489838
CORR FL Power at RPM	3,353 HP (2,500.0 KW) at 1800 rpms
Advertised Power	3,285hp 1,800RPM
Total Displacement	

This is not an official emission certificate. This is for emission data information only.

Caterpillar Confidential: **Green**
Content Owner: Shane Gilles
Web Master(s): PSG Web Based Systems Support
Current Date: Tuesday, December 27, 2011 2:46:13 PM

EMISSIONS DATA

EPA STAT >3000HP 2007 - 2010 ********** P3
This Engine meets EPA New Source Performance Standard Emission Level Requirements (40 CFR Part 60, Subpart IIII) for Stationary Certification over 3000hp from 2007 through 2010 (EPA nonroad Tier 1 equivalent)

Gaseous emissions data measurements are consistent with those described in EPA 40 CFR PART 89 SUBPART D and ISO 8178 for measuring HC, CO, PM, and NOx.

Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance with the following nonroad regulations:

LOCALITY	AGENCY/LEVEL	MAX LIMITS - g/kW-hr
U. S. (incl Calif)	EPA/STAT>3000hp	CO:11.4 HC:1.3 NOx:9.2 PM:0.5

REFERENCE EXHAUST STACK DIAMETER	12 IN
WET EXHAUST MASS	29,850.6 LB/HR
WET EXHAUST FLOW (915.80 F STACK TEMP)	17,463.12 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	6,260.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	5,735.11 STD CFM
FUEL FLOW RATE	156 GAL/HR

RATED SPEED "Not to exceed data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
2,250	100	3286	65.8800	9.3300	.3700	.5400	9.7000	2.3000	1.2800
1,687.5	75	2505	45.3800	3.1300	.8200	.3100	11.1000	1.5000	1.2800
1,125	50	1730	26.8900	2.0500	.9800	.2600	11.8000	2.0000	1.2800
562.5	25	964	13.2800	2.0000	.7500	.2600	12.7000	2.8000	1.2800
225	10	487	9.1400	2.6900	.7200	.2400	14.7000	2.9000	1.2800

RATED SPEED "Nominal Data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	TOTAL CO2 LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
2,250	100	3286	54.9000	5.1800	.2800	3,425.8	.3900	9.7000	2.3000	1.2800
1,687.5	75	2505	37.8200	1.7400	.6200	2,546	.2200	11.1000	1.5000	1.2800
1,125	50	1730	22.4100	1.1400	.7400	1,769.8	.1800	11.8000	2.0000	1.2800
562.5	25	964	11.0600	1.1100	.5600	1,054.2	.1800	12.7000	2.8000	1.2800
225	10	487	7.6100	1.4900	.5400	606.9	.1700	14.7000	2.9000	1.2800

Table 2. TANKS 4.09d Emissions Report for the 2,000-gallon Diesel Tank

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification		
User Identification:	Montana-Dakota Poplar Tank	
City:	Poplar	
State:	Montana	
Company:	Montana-Dakota Utilities	
Type of Tank:	Horizontal Tank	
Description:	Horizontal tank for diesel storage	
Tank Dimensions		
Shell Length (ft):		12.00
Diameter (ft):		5.33
Volume (gallons):		2,000.00
Turnovers:		42.25
Net Throughput(gal/yr):		84,500.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	
Paint Characteristics		
Shell Color/Shade:	White/White	
Shell Condition	Good	
Breather Vent Settings		
Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meterological Data used in Emissions Calculations: Williston, North Dakota (Avg Atmospheric Pressure = 13.82 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Montana-Dakota Poplar Tank -
Horizontal Tank Poplar, Montana

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	43.08	37.17	48.98	41.45	0.0035	0.0031	0.0044	130.0000			188.00	Option 1: VP40 = .0031 VP50 = .0045

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Montana-Dakota Poplar Tank -
Horizontal Tank Poplar, Montana

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	0.81	0.23	1.04

☒ Air Quality Review - Qualitative Air Quality Assessment

The proposed Montana-Dakota backup emergency generator would be constructed/installed on the existing Poplar Oil Field Substation property located in the SE ¼ of the SE ¼ of Section 30, in Township 29 North, Range 51 East in Roosevelt County, Montana. The existing substation is approximately 8.5 miles north, northeast of the town of Poplar and is located at approximately 2005 feet of elevation. Poplar and Roosevelt County are classified as having a semi-arid climate according to the Koppen Climate Classification system. The area around the existing substation is rolling agricultural land with oil field services support facilities (tanks, piping, etc.) as a nearby industrial activity. That facility is not owned or operated by Montana-Dakota. The property is deeded land, deeded to Poplar Resources, LLC and the approximate distance to the property line (and presumably, ambient air) is roughly 200 feet. While the property is privately deeded, the property boundary is not specifically marked or designated to restrict entry.

The air quality of this area is classified as either "better than national standards" or "unclassifiable/attainment" with respect to the NAAQS for all criteria pollutants. Nearby PM_{10}/$PM_{2.5}$, ozone, NO_x, and SO_2 ambient background levels are measured at the Montana Department of Environmental Quality (MDEQ) Sidney air monitoring site (site identification number 30-083-0001). The Sidney monitoring site is approximately 16 miles northwest of the town of Sidney, roughly 40 miles to the southeast of the Poplar Oil Field Station site. The Sidney regional monitoring site was established by MDEQ to describe background concentrations in the area of NO_2, ozone, SO_2, PM_{10} and $PM_{2.5}$ with respect to oil field development. The background concentrations and design values for 2018 can be viewed in the May 2019 State of Montana Air Quality Monitoring Network Plan[2]. The Sidney site shows generally low background values, typical of rural areas. It is assumed the air quality in the Poplar area is similar with minimal air quality impacts.

The backup emergency generator will have the following approximate stack parameters: stack height above ground level – 14 feet, stack diameter – 1 foot, stack temperature – 915 degrees Fahrenheit, gas discharged – 17,448 standard cubic feet per minute, and gas velocity – 964 feet per second. The proposed backup emergency generator's emissions were calculated at 500 hours per year pursuant to the EPA September 1995 Calculating Potential to Emit for Emergency Generators Memorandum. As shown in the emissions inventory Section E(i) of the attached form, only NO_x and CO emissions exceed more than a ton of potential emissions with NO_x at 16.47 tons per year (tpy) and CO at 2.33 tpy.

With respect to NO_x, EPA has provided guidance relevant to this demonstration in the June 2010 Guidance Concerning the Implementation of the 1-hour NO_2 NAAQS for the Prevention of Significant Deterioration Program. This guidance was issued, in part, because of EPA's recognition of the potential difficulty of demonstrating compliance via modeling with the 1-hour standard for a variety of emitting units, for both major and minor sources of NO_x. In that guidance, EPA states,

> "Under existing regulations, the applicable significant emissions rate for nitrogen oxides is 40 tons per year. 40 CFR 52.21(b)(23); 40 CFR 51.166(b)(23). The significant emissions rates defined in those regulations are specific to individual pollutants but are not differentiated by the averaging times of the air quality standards applicable to some of the listed pollutants. Although EPA has not previously promulgated a NO_2 standard using an averaging time of less than one year, the NAAQS for SO_2 have included standards with 3-hour and 24-hour averaging times for many years. EPA has applied the 40 tons per year significant emissions rate for SO_2 across all of these averaging times. Until the evaluation described above and any associated rulemaking is completed, EPA does not believe it has cause to apply the NO_2 significant emissions rate any differently than EPA has historically applied the SO_2 significant emissions rate and others that apply to standards with averaging times less than 1 year.

[2] http://deq.mt.gov/Portals/112/Air/AirMonitoring/Documents/2019_ANMP.pdf

> Under existing regulations, an ambient air quality impact analysis is required for "each pollutant that [a source] would have the potential to emit in significant amounts." 40 CFR 52.21 (m)(1)(i)(a); 40 CFR 51.166(m)(1)(i)(a). For modifications, these regulations require this analysis for "each pollutant for which [the modification] would result in a significant net emissions increase." 40 CFR.52.21 (m)(1)(i)(b); 40 CFR 51.166(m)(l)(i)(b). ***EPA construes this regulation to mean that an ambient impact analysis is not necessary for pollutants with emissions rates below the significant emissions rates in paragraph (b)(23) of the regulations. No additional action by EPA or permitting authorities is necessary at this time to apply the 40 tpy significant emissions rate in existing regulations to the hourly NO_2 standard [emphasis added]***."

Given that the total emissions from this proposed minor source are significantly below this guidance threshold in a rural setting with no residences nearby, no further analysis is needed to demonstrate compliance with the NOx standard.

With respect to CO, the CO emissions from this proposed facility are negligible and are far below the significant emissions rate defined in 40 CFR 52.21(b)(23)(i) – 100 tpy. For a minor source in a remote area with respect to a standard driven by mobile source emissions, no further analysis is warranted. This qualitative analysis demonstrates compliance with the ambient CO standards in the Poplar area.

As a backup emergency generator, the proposed project is a minor and intermittent source. Given the nature of the source, the high and hot characteristics of the stack gas in rolling (non-complex) terrain, the emissions far below major source and/or significance thresholds, the unclassified or attainment status of ambient standards in the area (and its remoteness), and relevant guidance documents from EPA, this qualitative analysis provides sufficient evidence of compliance with the NAAQS.

☒ ESA

As suggested, Montana-Dakota used the Fish and Wildlife Service website for Endangered Species Act information (http://www.fws.gov/endangered/) in addition to requesting a location-specific analysis/consultation. The consultation request response follows. The proposed emergency backup generator and diesel tank would be located on an existing substation site, on already disturbed ground. In addition, both emissions units would be in a trailer, closed off from the outdoors. With intermittent operation and low emissions, no impacts are anticipated to any endangered species.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
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In Reply Refer To:
Consultation Code: 06E11000-2020-SLI-0348
Event Code: 06E11000-2020-E-00599
Project Name: Poplar Oil Field Substation

April 16, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

Project Summary

Consultation Code: 06E11000-2020-SLI-0348

Event Code: 06E11000-2020-E-00599

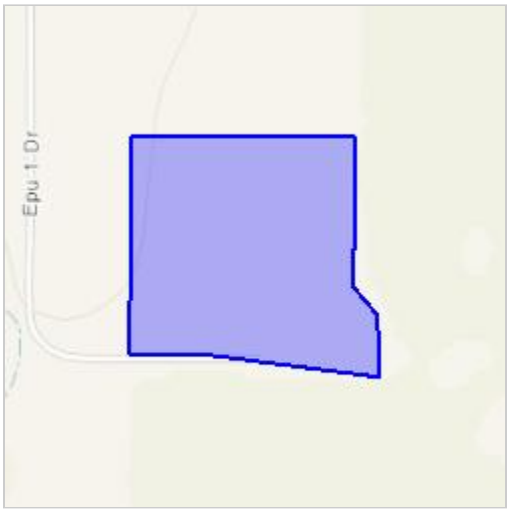
Project Name: Poplar Oil Field Substation

Project Type: POWER GENERATION

Project Description: Electrical Substation

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/48.2319377067848N105.12932957992885W



Counties: Roosevelt, MT

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

.☒ National Historic Preservation Act (NHPA)

As suggested, Montana-Dakota utilized the National Park Service website for the National Register of Historic Places (https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466) to identify any nearby cultural resources. The backup emergency engine/generator would be located at an existing, previously disturbed substation site owned by Poplar Resources, LLC. As shown in Figure 1 below, the closest cultural resource to that site is the Fort Peck Agency, Reference Number 70000365, also referred to as a Camp Poplar. That site is approximately 8.25 miles from the substation site, where the backup emergency engine/generator would be located. Montana-Dakota anticipates no impact on that historic site from this proposed unit.

The historic function of the Fort Peck Agency was as a military facility; the current function is a museum. The site was listed on the National Register of Historic Places on May 19, 1970. That documentation can be found here: https://catalog.archives.gov/id/71976539 . The Fort Peck Agency site is the orange-colored square in the town of Poplar.

Figure 1. National Register of Historic Places map including the Fort Peck Agency Historic Site.