RED CEDAR GATHERING COMPANY
NATURAL GAS GATHERING AND TREATING

January 8, 2021

Claudia Smith
Environmental Scientist
US EPA Region 8 Air Program
1595 Wynkoop Street
Mail Code 8P-AR
Denver, CO 80202

Via email: smith.claudia@epa.gov

Re: Antler Power Station
Synthetic Minor New Source Review Permit Application
Red Cedar Gathering Company

Red Cedar Gathering is requesting synthetic minor operating limits for a new facility, the Antler Power Station. The operating limits will reduce NOx emissions to below the major PSD threshold.

Project Overview
Red Cedar is proposing to construct a power generating station. The location was previously a gas treating plant, owned by Red Cedar, which has been shutdown for many years. All equipment from the old facility will be removed. The power will be generated utilizing 4 GE LM2500 natural gas fired turbine generating units. The units will be fired on natural gas from Red Cedar's medium pressure system. The fuel gas will be pipeline quality in all respects, with the exception of CO2.

Requested Limits
Red Cedar is requesting operating limits on the hours of operation for these units to subsequently limit the NOx emissions. Overall, the request is for a 50% reduction in the hours of operation for 4 units. This will not necessarily be divided evenly between each unit but rather Red Cedar is requesting that the combined run hours for the 4 units be limited to 17,520 hours. This reduction in operating hours will reduce the NOx emission to less than 250 tpy. Red Cedar requests an annual NOx limit of 230 tpy for the facility, and a limit of 25.4 lb/hr for each turbine, to make the PSD synthetic minor limits federally enforceable. These units will not need any add-on emission controls (catalysts, water/steam injection, etc.) to meet these emission limits.

The units will be subject to 40 CFR part 60 subpart KKKK, Standards of performance for Stationary Combustion Turbines. These regulations require annual testing for NOx, which Red Cedar also proposes for demonstrating compliance with the SMNSR permit requirements.

Certification of truth, accuracy, and completeness:

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate, and complete.

Name (signed): _____ (signed digitally via email approval)

Name (typed): Coy Bryant Date: 01/ 08 /2021

President/COO

Should you have any questions or need any additional information, please do not hesitate to contact me at (970)764-6495.

Sincerely,
RED CEDAR GATHERING COMPANY

Ethan W. Hinkley
Air Quality Compliance Manager

Cc: SUIT AQP, via email: airquality@southernute-nsn.gov

Hinkley, Ethan

From: Bryant, Coy
Sent: Tuesday, January 19, 2021 7:45 AM
To: Hinkley, Ethan
Cc: Weinheimer, Tom; Askey, Randal; Ammerman, Matt; Mallett, Jake
Subject: RE: Antler Permit Application
Attachments: Antler_SMNSR_complete application_2021.01.13.pdf

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached document (Antler_SMNSR_complete application_2021.01.13) are true, accurate and complete.

Coy Bryant
President & COO
Red Cedar Gathering Company/Aka Energy Group
125 Mercado St., Suite 201
Durango, CO, 81301
Office: 970-764-6664
Cell: 832-584-9456

From: Hinkley, Ethan <Ehinkley@redcedargathering.com>
Sent: Wednesday, January 13, 2021 3:17 PM
To: Bryant, Coy <cbryant@redcedargathering.com>
Cc: Weinheimer, Tom <tweinheimer@redcedargathering.com>; Askey, Randal <raskey@akaenergy.com>; Ammerman, Matt <mammerman@sugf.com>; Mallett, Jake <JMallett@redcedargathering.com>
Subject: RE: Antler Permit Application

Coy,

Attached for your review and approval is the Antler Power Station Synthetic Minor NSR permit application, with the corrections and changes we discussed.

If you approve this notification please send me an email with the following (or similar) language:

- I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached document (Antler_SMNSR_complete application_2021.01.13) are true, accurate and complete.

Let me know if you have any questions.

Thanks,

Ethan Hinkley
Air Quality Compliance Manager
RED CEDAR GATHERING COMPANY
NATURAL GAS GATHERING AND TREATING
125 MERCADO STREET · SUITE 201 · DURANGO, CO 81301
Office: (970) 764-6495
Cell: (970) 759-9891

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

The Tribal Environmental Contact for the specific reservation:

If you need assistance in identifying the appropriate Tribal Environmental Contact and address, please contact:
R8airpermitting@epa.gov

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?) **Red Cedar Gathering** (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?) **Red Cedar Gathering**			2. **Facility Name** **Antler Power Station**
3. Type of Operation Power Generation			4. Portable Source? ☐ Yes ☒ No 5. Temporary Source? ☐ Yes ☒ No
6. NAICS Code 221112			7. SIC Code 4911
8. Physical Address (Or, home base for portable sources) 125 Mercado St., Suite 201 Durango, CO 81301			
9. Reservation* Southern Ute	10. County* La Plata	11a. Latitude (decimal format)* 37.017969	11b. Longitude (decimal format)* -108.027573

12a. Quarter Quarter Section*	12b. Section*	12c. Township*	12d. Range*
SW/4NE/4 & NW/4SE/4	15	32	11West

*Provide all proposed locations of operation for portable sources

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
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Facility Name on the Permit

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?**)** Coy Bryant		Title President/COO
Mailing Address 125 Mercado St., Suite 201; Durango, CO 81301		
Email Address cbryant@redcedargathering.com		
Telephone Number (970) 764-6900	Facsimile Number	
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?)		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.) Ethan W. Hinkley		Title Air Quality Compliance Manager
Mailing Address 125 Mercado St., Suite 201; Durango, CO 81301		
Email Address ehinkley@redcedargathering.com		
Telephone Number (970) 764-6495	Facsimile Number	
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.) (Same as Permitting Contact)		Title

Mailing Address	
Email Address	
Telephone Number	Facsimile Number

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.

□ 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	29.2	29.2	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}	29.2	29.2	
$PM_{2.5}$	29.2	29.2	
SO_2	0.0	0.0	
NO_x	444.5	222.2	
CO	245.3	245.3	
VOC	90.8	90.8	
Pb	0.0	0.0	
Fluorides	0.0	0.0	
H_2SO_4	0.0	0.0	
H_2S	0.0	0.0	
TRS	0.0	0.0	
RSC	0.0	0.0	

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				
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.

Antler Power Station

Red Cedar Gathering Company

Attachment A

Form SYNMIN

&

Attachment Item Descriptions

OMB Control No. N/A

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

Application for Synthetic Minor Limit

(Form SYNMIN)

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/synthetic_minor_limit_application_rev2017_0.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

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

The Tribal Environmental Contact for the specific reservation:

If you need assistance in identifying the appropriate Tribal Environmental Contact and address, please contact:

R8airpermitting@epa.gov

A. GENERAL INFORMATION

Company Name (Who owns this facility?) **Red Cedar Gathering Company**	**Facility Name** **Antler Power Station**
Company Contact (Who is the primary contact for the company that owns this facility?**)** **Coy Bryant**	Title President/COO
Mailing Address 125 Mercado St., Suite 201; Durango, CO 81301	
Email Address cbryant@redcedargathering.com	
Telephone Number (970) 764-6900	Facsimile Number

B. ATTACHMENTS

For each criteria air pollutant, hazardous air pollutant and for all emission units and air pollutant-generating activities to be covered by a limitation, include the following:

☐ **Item 1 -** The proposed limitation and a description of its effect on current actual, allowable and the potential to emit.
☐ **Item 2 -** The proposed testing, monitoring, recordkeeping, and reporting requirements to be used to demonstrate and assure compliance with the proposed limitation.
☐ **Item 3 -** A description of estimated efficiency of air pollution control equipment under present or anticipated operating conditions, including documentation of the manufacturer specifications and guarantees.
☐ **Item 4 -** Estimates of the Post-Change Allowable Emissions that would result from compliance with the proposed limitation, including all calculations for the estimates.
☐ **Item 5 –** Estimates of the potential emissions of Greenhouse Gas (GHG) pollutants.

Instructions

Submit this form in addition to FORM NEW.

1. Who Can Request Federally-Enforceable Limitations Under the Tribal NSR Authority?

The Tribal NSR Rule applies only to sources located within the exterior boundaries of an Indian reservation in the United States of America or other lands as specified in 40 CFR part 49, collectively referred to as "Indian country". So, to use the authority in the Tribal NSR Rule to create federally-enforceable limitations, a source must be located within Indian country. Land ownership status (for example, whether the land is owned by a Tribal member or whether the land is owned in fee or in trust) does not affect how the rule applies.

2. Who Might Want to Request Federally-Enforceable Limitations?

The primary reason for requesting federally-enforceable limitations is to avoid an otherwise applicable federal Clean Air Act program, rule or requirement. Many federal Clean Air Act programs use a source's "potential to emit" (PTE) air pollution to determine which rules or requirements apply. A source's PTE is based on the maximum annual operational (production, throughput, etc) rate of the source taking into consideration the capacity and configuration of the equipment and operations. Emission or operational limits can also be taken into consideration as maximums if they are federally enforceable. So, using a synthetic minor NSR permit to establish federally enforceable limitations can lower a source's PTE and possibly allow the source to avoid certain federal Clean Air Act requirements.

Three examples of federal Clean Air Act programs that use PTE to determine whether they apply are (1) the Prevention of Significant Deterioration (PSD) construction permitting program, (2) the Title V operating permit program, and (3) the Maximum Achievable Control Technology (MACT) program. For example, existing sources that are considered "major" for Title V (meaning they have the potential to emit air pollution at levels defined in that rule as "major") must apply for a Title V operating permit. If a source accepts a federally-enforceable limitation through a synthetic minor NSR permit that reduces their PTE to below the "major" threshold, and the source does not meet any of the other requirements that would trigger applicability to the part 71 program, then the source no longer needs a Title V operating permit. When planning for the construction of a new source or expansion of an existing source, a source can also accept limitations on PTE (using a synthetic minor NSR permit) that allow the source to avoid PSD. Limitations on PTE can similarly help a source to avoid new MACT standards that would otherwise apply to the source.

3. Section B. ATTACHMENTS

This section lists the information that must be attached to the application form for each requested limitation. The requested limitation(s) must be described for each affected emissions unit (or pollutant-generating activity) and pollutant and must be accompanied by the supporting information listed on the form and described below. Note that applicability of many federal Clean Air Act requirements (such as Title V, PSD and MACT) is often based on source-wide emission levels of specific pollutants. In that case, all emissions units at a source and all pollutants regulated by that given rule or regulation must be addressed by this section of the application form.

Item 1 – The requested limitation and its effect on actual emissions or potential to emit must be presented in enough detail to document how the limitation will limit the source's actual or potential emissions as a legal and practical matter and, if applicable, will allow the source to avoid an otherwise applicable requirement. The information presented must clearly explain how the limitation affects each emission unit and each air pollutant from that emission unit. Use the information provided in response to Item 4 below to explain how the limitation affects emissions before and after the limitation is in effect.

Item 2 – For each requested limitation, the application must include proposed testing, monitoring, recordkeeping and reporting that will be used to demonstrate and assure compliance with the limitation. Testing approaches should incorporate and reference appropriate EPA reference methods where applicable. Monitoring should describe the emission, control or process parameters that will be relied on and should address frequency, methods, and quality assurance.

Item 3 – The application must include a description and estimated efficiency of air pollution control equipment under present or anticipated operating conditions. For control equipment that is not proposed to be modified to meet the requested limit, simply note that fact; however, for equipment that is proposed to be modified (e.g. improved efficiency) or newly installed to meet the proposed limit, address both current and future descriptions and efficiencies. Include manufacturer specifications and guarantees for each control device.

Items 4 – Any emission estimates submitted to the Reviewing Authority must be verifiable using currently accepted engineering criteria. The following procedures are generally acceptable for estimating emissions from air pollution sources:

(i) Source-specific emission tests;
(ii) Mass balance calculations;
(iii) Published, verifiable emission factors that are applicable to the source. (i.e., manufacturer specifications).
(iv) Other engineering calculations; or
(v) Other procedures to estimate emissions specifically approved by the Reviewing Authority.

Post-Change Allowable Emissions: A source's allowable emissions for a pollutant is expressed in tpy and generally is calculated by multiplying the allowed hourly emissions rate in pounds per hour (lbs/hr) times allowed hours (which is the number of hours in a year) and dividing by 2,000 (which is the number of pounds in a ton).

Item 5 - New construction projects that have the potential to emit GHG emissions of at least 100,000 tpy CO_2e and 100 or 250 tpy on a mass basis, modifications at existing PSD facilities that increase GHG emissions by at least 75,000 tpy CO_2e and minor sources that increase GHG emissions by at least 100,000 tpy CO_2e and 100 or 250 tpy on a mass basis are subject to PSD permitting requirements, even

if they do not significantly increase emissions of any other pollutant. As such, any requested limits to avoid PSD must take into account greenhouse gases.

Therefore, please include in your permit application estimates of the potential emissions of the following pollutants. More information about GHG permitting and how to calculate CO_2 equivalents (CO_2e), the mass emissions of each individual GHG adjusted for its Global Warming Potential (GWP) can be found at: http://epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf

1. Carbon dioxide (CO_2)
2. Methane (CH_4) and its CO_2e
3. Nitrous oxide (N_2O) and its CO_2e
4. Hydrofluorocarbons (HFCs) and its CO_2e
5. Perfluorocarbons (PFCs) and its CO_2e
6. Sulfur hexafluoride (SF_6) and its CO_2e

Item 1: Proposed Limitation

- Red Cedar is requesting a facility wide NOx emission limit of 230 tpy to maintain facility emissions below the PSD permitting threshold.
- Red Cedar is requesting a limit of 25.4 lbs/hr NOx for each turbine, to make the facility wide limit federally enforceable.
- Red Cedar proposes to limit the combined run hours for the 4 natural gas fired turbine engines to 50% of the total max run hours. This is a reduction from 35,040 hours/year to 17,520 hours/year for all units. Red Cedar is not proposing a run time limit on each individual unit, to allow operational flexibility.
- The proposed operating limits will reduce the annual NOx emissions by 50%, down to 222.2 tpy.

Item 2: Proposed Testing, Monitoring, Recordkeeping, and Reporting

- **Testing**: Annual testing of each turbine for NOx to demonstrate compliance with 25.4 lb/hr limits. This testing will align with required testing under 40 CFR part 60, subpart KKKK.
- **Monitoring**: Continuous monitoring of unit run time.
- **Recordkeeping**: Maintain annual records of unit run time and emission test results to determine actual annual emissions.
- **Reporting**: Annual compliance reporting, to align with Title V (Part 70) reporting requirements. Report emission test results within 60 days following the completion of each emission test. There are no continuously monitored parameters (CPMS or CMS) so no semi-annual reporting should be necessary.

Item 3: Air Pollution Control Equipment

- No air pollution control equipment will be necessary for this facility.

Item 4: Post-Change Allowable Emissions

- See Attachment D

Item 5: Estimates GHG potential emissions

- See Attachment D

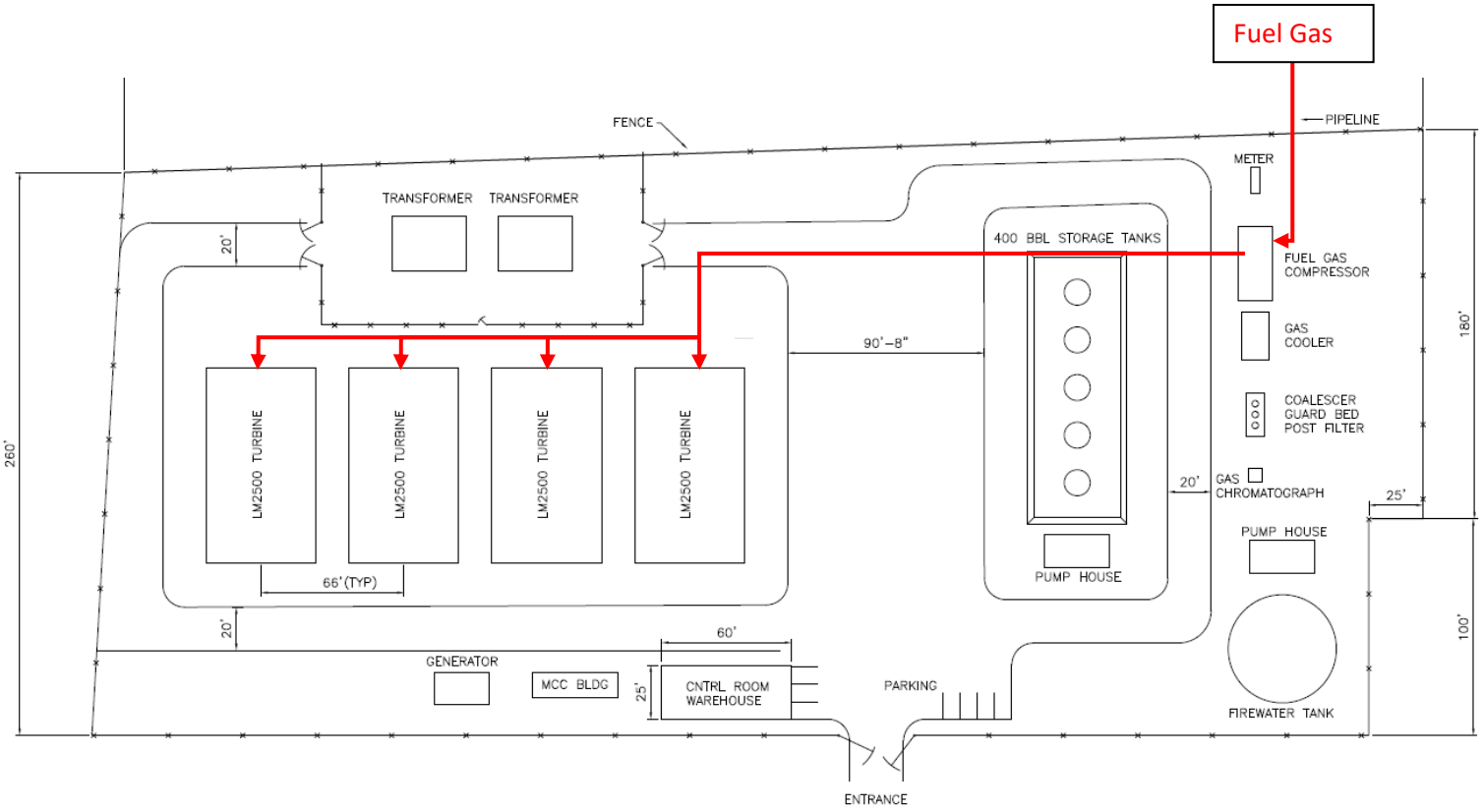
Antler Power Station

Red Cedar Gathering Company

Attachment B

Narrative Description and Process Flow Chart

The Antler Power Station will consist of four natural gas fired turbine engines that will be used to generate electrical power. The fuel for the turbine engines will be pipeline quality natural gas, except for CO2 content, from Red Cedar's medium pressure system. The power generated by the turbines will be fed into the main power grid through onsite power transformers. The turbines will be the only significant emission units at the facility. Fuel gas flow is shown in red in the figure below. Fuel gas is the only product coming into the facility.



Antler Power Station

Red Cedar Gathering Company

Attachment C

- Proposed Emission Units and Controls
- Fuels, Raw Materials, and Products
- Proposed Operating Schedule

Proposed Emission Units and Controls

- 4 – GE LM2500 +4G DLE natural gas fired turbine engines
    - Natural gas fired turbine engines for the purpose of generating electrical energy
    - See attached GE information sheet
    - No emission control devices will be used

- Insignificant emission units (proposed)
    - Produced water tank (15,750 gal)
    - Turbine lube oil tank (140 gal)
    - Generator lube oil tank (205 gal)
    - Hydraulic lube oil tank (40 gal)
    - Water wash detergent (55 gal)
    - GSU transformer oil (2 x 8,500 gal)
- Tank volumes and numbers are estimates. A complete IEU list will be submitted with the Part 70 permit application. No proposed insignificant emission units will have any NOx emissions and therefore are not included in this application.

Fuels, Raw Materials, Products

The fuel used for the turbines will be pipeline quality natural gas, with the exception of CO2 content. The fuel gas composition is attached.

- Max fuel use for each turbine is 2,667.5 MMscf/yr
- Max total fuel for all 4 units is 5,335 MMscf/yr

Sulfur content of the fuel gas is 0.00 Mole %.

The facility will be capable of producing approximately 110-120 MW of power during periods of peak power demand, and 30-60 MW at all other times.

Proposed Operating Schedule

Each turbine unit will have the potential to operate 8,760 hours/year, however total run hours for the 4 units combined will be limited to 17,520 hours/year. Red Cedar may operate any combination of the 4 turbines together at any given time.

Fuel Gas - Sample #1

AFE NO.:	-	DATE:	4/22/2020	Ref. Pressure:	14.696	PSIA
PLANT:	Antler	BY:	RGA	Ref. Temperature:	60	deg. F.
PROJECT:	Electric Power Generation			Elevation:	6,168	ft. ASL
				Pressure at Elevation:	11.71	PSIA
Ref. GPA Dat Book 12th Ed.	Gas Flow Rate: 50,000.00 MSCFD	Pressure:	304.93*	Temperature:	55 deg. F *	

	Gas Composition			Gas Heating Values				MW of Gas	
Component	Mole %	Mole/Hr	lb/hr	GHV BTU/SCF	LHV BTU/SCF	Mol%*GHV	Mol%*LHV	MW	Mol%*MW
N2	*0.05%*	2.98	83.49	0.0	0.0	0.0	0.0	28.01	0.015
CO2	*10.43%*	572.75	25,206.75	0.0	0.0	0.0	0.0	44.01	4.592
H2S	*0.00%*	0.04	1.51	637.1	586.8	0.0	0.0	34.08	0.000
C1H4	*87.89%*	4824.80	77,404.27	1,010.0	909.4	887.7	799.2	16.04	14.100
C2H6	*1.21%*	66.19	1,990.36	1,769.6	1,618.7	21.3	19.5	30.07	0.363
C3H8	*0.33%*	18.06	796.57	2,516.1	2,314.9	8.3	7.6	44.10	0.145
IC4H10	*0.04%*	2.15	125.01	3,251.9	3,000.4	1.3	1.2	58.12	0.023
NC4H10	*0.04%*	2.12	123.20	3,262.3	3,010.8	1.3	1.2	58.12	0.022
IC5H12	*0.01%*	0.39	28.10	4,000.9	3,699.0	0.3	0.3	72.15	0.005
NC5H12	*0.01%*	0.28	20.24	4,008.9	3,706.9	0.2	0.2	72.15	0.004
C6H14	*0.00%*	0.10	8.46	4,755.9	4,403.8	0.1	0.1	86.18	0.002
C7H16	*0.00%*	0.00	0.00	5,502.5	5,100.0	0.0	0.0	100.20	0.000
C8H18	*0.00%*	0.00	0.00	6,248.9	5,796.1	0.0	0.0	114.23	0.000
C9H20	*0.00%*	0.00	0.00	6,996.5	6,493.2	0.0	0.0	128.26	0.000
C10H22	*0.00%*	0.00	0.00	7,742.9	7,189.6	0.0	0.0	142.29	0.000
He	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	4.00	0.000
H2	*0.00%*	0.00	0.00	324.2	273.8	0.0	0.0	2.02	0.000
Argon	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	39.95	0.000
H2O	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	16.02	0.000
O2	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	32.00	0.000
TOTALS	*100.00%*	5489.87	105,787.96			920.4	829.2	MW	19.270
						GHV	LHV		

* Before Compression

Note: Gas will contain water up to 7 lb/MMSCFD

Fuel Gas - Sample #2

AFE NO.:	-	DATE:	4/22/2020	Ref. Pressure:	14.696	PSIA
PLANT:	Antler	BY:	RGA	Ref. Temperature:	60	deg. F.
PROJECT:	Electric Power Generation			Elevation:	6,168	ft. ASL
				Pressure at Elevation:	11.71	PSIA
Ref. GPA Dat Book 12th Ed.	Gas Flow Rate: 50,000.00 MSCFD	Pressure:	249.75*	Temperature:	55 deg. F. *	

	Gas Composition			Gas Heating Values				MW of Gas	
Component	Mole %	Mole/Hr	lb/hr	GHV BTU/SCF	LHV BTU/SCF	Mol%*GHV	Mol%*LHV	MW	Mol%*MW
N2	*0.03%*	1.66	46.48	0.0	0.0	0.0	0.0	28.01	0.008
CO2	*7.51%*	412.37	18,148.49	0.0	0.0	0.0	0.0	44.01	3.306
H2S	*0.00%*	0.04	1.51	637.1	586.8	0.0	0.0	34.08	0.000
C1H4	*91.63%*	5030.57	80,705.50	1,010.0	909.4	925.5	833.3	16.04	14.701
C2H6	*0.63%*	34.78	1,045.90	1,769.6	1,618.7	11.2	10.3	30.07	0.191
C3H8	*0.13%*	7.26	320.17	2,516.1	2,314.9	3.3	3.1	44.10	0.058
IC4H10	*0.02%*	1.06	61.74	3,251.9	3,000.4	0.6	0.6	58.12	0.011
NC4H10	*0.02%*	1.20	69.49	3,262.3	3,010.8	0.7	0.7	58.12	0.013
IC5H12	*0.01%*	0.41	29.46	4,000.9	3,699.0	0.3	0.3	72.15	0.005
NC5H12	*0.01%*	0.30	21.65	4,008.9	3,706.9	0.2	0.2	72.15	0.004
C6H14	*0.00%*	0.21	18.08	4,755.9	4,403.8	0.2	0.2	86.18	0.003
C7H16	*0.00%*	0.00	0.00	5,502.5	5,100.0	0.0	0.0	100.20	0.000
C8H18	*0.00%*	0.00	0.00	6,248.9	5,796.1	0.0	0.0	114.23	0.000
C9H20	*0.00%*	0.00	0.00	6,996.5	6,493.2	0.0	0.0	128.26	0.000
C10H22	*0.00%*	0.00	0.00	7,742.9	7,189.6	0.0	0.0	142.29	0.000
He	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	4.00	0.000
H2	*0.00%*	0.00	0.00	324.2	273.8	0.0	0.0	2.02	0.000
Argon	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	39.95	0.000
H2O	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	16.02	0.000
O2	*0.00%*	0.00	0.00	0.0	0.0	0.0	0.0	32.00	0.000
TOTALS	*100.00%*	5489.87	100,468.46			942.1	848.5	MW	18.301
						GHV	LHV		

* Before Compression

Note: Gas will contain water up to 7 lb/MMSCFD

Antler Power Station

Red Cedar Gathering Company

Attachment D

Emissions Estimates

Antler Power Station

Red Cedar Gathering

Significant Emission Units		Potential Emissions			Emissions (tons/yr)								
ID	Unit	Rating	Annual Run Hours	Fuel Use (mmscf/yr)	NOX	VOC	CO	PM_{10}	HAP	HCHO	CO_2	Methane	CO_2e (mtpy)
GTC-1	GE LM2500 Turbine	27.52 MW	8,760	2,667.5	111.1	22.7	61.3	0.0	1.1	0.8	149,432.5	0.0	135,563.4 mtpy
GTC-2	GE LM2500 Turbine	27.52 MW	8,760	2,667.5	111.1	22.7	61.3	0.0	1.1	0.8	149,432.5	0.0	135,563.4 mtpy
GTC-3	GE LM2500 Turbine	27.52 MW	8,760	2,667.5	111.1	22.7	61.3	0.0	1.1	0.8	149,432.5	0.0	135,563.4 mtpy
GTC-4	GE LM2500 Turbine	27.52 MW	8,760	2,667.5	111.1	22.7	61.3	0.0	1.1	0.8	149,432.5	0.0	135,563.4 mtpy
Subtotal Significant Emission Units				*10,670.0*	*444.5*	*90.8*	*245.3*	*0.0*	*4.3*	*3.1*	*597,729.8*	*0.1*	*542,253.4 mtpy*

Significant Emission Units		SynMinor Limits and Actual Emissions			Emissions (tons/yr)								
ID	Unit	Rating	Annual Run Hours	Fuel Use (mmscf/yr)	NOX	VOC	CO	PM_{10}	HAP	HCHO	CO_2	Methane	CO_2e (mtpy)
GTC-1	GE LM2500 Turbine	27.52 MW	17,520	5,335.0	222.2	45.4	122.6	0.0	2.1	1.6	298,864.9	0.0	271,126.7
GTC-2	GE LM2500 Turbine	27.52 MW											
GTC-3	GE LM2500 Turbine	27.52 MW											
GTC-4	GE LM2500 Turbine	27.52 MW											
Subtotal Significant Emission Units			***17,520***	*5,335.0*	***222.2***	*45.4*	*122.6*	*0.0*	*2.1*	*1.6*	*298,864.9*	*0.0*	*271,126.7 mtpy*

**Requested limit of 230tpy Nox will be achieved by limiting the combined annual run hours of all 4 units.*

GE LM2500 Gas Turbine Emission Calculations
Antler Power Station
Red Cedar Gathering Company

GE LM2500 Turbine

Units GTC-1, GTC-2, GTC-3, GTC-4

Site Specific Unit Rating [a]:	27.52 MW
BSFC:	8,706 Btu/kWh
Maximum Heat Input:	252.5 mmbtu/hr
Operating Schedule:	8,760 hr/yr
Maximum Fuel Use [b]:	2,667.5 mmscf/yr

[a] Based on manufacturer's site rating at 6300ft elevation.

[b] Based on LHV of: 829.2 btu/scf Per engineering estimate

Potential Criteria Pollutant and GHG Emissions

	Uncontrolled Emissions			
Pollutant	**Emission Factors [c]**	**Data Source**	**(lb/hr)**	**(ton/yr)**
NO_x	25.37 lb/hr	Manufacturer	25.37	111.12
CO	14.00 lb/hr	Manufacturer	14.00	61.32
VOC	5.18 lb/hr	Manufacturer	5.18	22.69
PM_{10}	6.60E-03 lb/MMBtu	AP-42	0.00	0.00
CO_2	34,117.0 lb/hr	Manufacturer	34,117.00	149,432.5
Methane	8.60E-03 lb/MMBtu	AP-42	4.79E-03	0.02
CO_2e	-- --	--	34,045.59	135,563.36 mtpy

[c] VOC emissions are indicated in manufacturer literature as UHC.

	Federally Enforceable Emissions			
Pollutant	**Emission Factors**	**Data Source**	**(lb/hr)**	**(ton/yr)**
Nox	25.37 lb/hr	EPA SMNSR Permit	25.37	--

Potential Hazardous Air Pollutant (HAP) Emissions

	Uncontrolled Emissions			Controlled Emissions
Pollutant	**Emission Factors [e]**	**Data Source**	**(ton/yr)**	**(ton/yr)**
1,3-Butadiene	4.30E-07 lb/MMBtu	AP-42	4.76E-04	4.76E-04
Acetaldehyde	4.00E-05 lb/MMBtu	AP-42	0.04	0.04
Acrolein	6.40E-06 lb/MMBtu	AP-42	7.08E-03	0.01
Benzene	1.20E-05 lb/MMBtu	AP-42	1.33E-02	1.33E-02
Formaldehyde	7.10E-04 lb/MMBtu	AP-42	0.79	0.79
Toluene	1.30E-04 lb/MMBtu	AP-42	0.14	0.14
Xylenes (m,p,o)	6.40E-05 lb/MMBtu	AP-42	7.08E-02	7.08E-02
Total	**--**		**1.06**	**1.06**

[e] Uncontrolled emission factors for Stationary Gas Turbines from EPA's AP-42, Table 3.1-3.

GE Proprietary Information

Project: Red Cedar Antler Facility

Configuration: 4x LM2500+G4 DLE, Shown Per GT

		Pipeline Natural Gas	
Case Number		**1**	**2**
Case Description		**4 GT's @ 100%**	**4 GT's @ 50%**
Ambient Conditions			
Ambient Temperature	F	45.0	45.0
Relative Humidity	pct	40%	40%
Altitude	ft asl	6300	6300
GT Information			
GT Load Percentage	-	100%	50%
Engine Inlet Temperature	F	45	45
Gas turbine Inlet Relative Humidity	pct	40%	40%
Inlet Loss	inH2O	5	5
Exhaust Loss	inH2O	6	6
Evap Cooler Effectiveness	-	-	-
Evap Cooler Water Consumption	gpm	-	-
Fuel Assumptions			
Fuel LHV	Btu/lb	21,156	21,156
Fuel Temperature	F	80	80
Fuel Flow Rate	kpph	11.37	7.10
Fuel Heat Consumption	MMBTU/hr	252.5	157.8
Output Parameters			
Net Equipment Power	MW	27.52	13.76
Net Equipment Heat Rate	BTU/kWh	9,175.15	11,468.02
Net Equipment Efficiency	pct	39.42%	30.85%
Aux Loads	kW	175	175
Exhaust Conditions			
GT Exhaust Temperature	F	989	948
GT Exhaust Flow Rate	kpph	613	443
Exhaust Mole % Wet Composition	---	----------	----------
Exhaust Mole % Wet Ar	---	0.90	0.90
Exhaust Mole % Wet N2	---	75.15	75.47
Exhaust Mole % Wet O2	---	13.38	14.32
Exhaust Mole % Wet CO2	---	3.54	3.10
Exhaust Mole % Wet H2O	---	7.03	6.21
Estimated Uncontrolled Emissions Information			
NOx Concentration @ 15% O2	ppmvd	25	25
NOx as NO_2 Flow Rate	lb/h	25.4	15.8
CO Concentration	ppmvd	25	25
CO Flow Rate	lb/h	14.0	10.1
UHC Concentration	ppmvw	15	15
UHC Flow Rate	lb/h	5.2	3.7
CO2 Flow Rate (calculated)	lb/h	34117.00	21556.7

The notes page is an integral part of this document and must be reviewed prior to use of this data.

Estimated Steady State Emission Notes

GTG Emission Notes:

1. Gas turbine(s) are in steady-state operation.
2. Steady State Emissions data above are estimated values based on GE recommended measurements and analysis procedures, per GEK 28172.
3. The CO2 estimates are margined 5 % to account for equipment variation and site operating conditions. If CO2 compliance is to be demonstrated using actual CO2 measurement from the GT stack, GE recommends an additional 10% margin to the estimated values.
4. The estimated values for heat consumption and exhaust flows are margined in this document to account for equipment variations, site operating conditions, and life-cycle operating parameters.The Plant Performance section does not include permitting margin, for more information on performance please refer to the performance summary.

Additional Notes for Particulate Emissions

1. Particulate Matter estimates over the entire emissions compliance region of GT operation are based on field data obtained at base load for the GT. In reality, particulate matter emissions measured in lb/h are expected to decrease at part load operation and the lb/MMBTU values at part load operation are expected not to exceed the lb/MMBTU value for PM at baseload.
2. PM10 and PM2.5 are estimated at the same rate as Total Particulates.
3. PM estimates are based on maximum S content in the fuel of 0 ppm for gas fuel.

Antler Power Station

Red Cedar Gathering Company

Attachment E

Air Quality Review

Air Quality Impact Analysis
Antler Power Station

Red Cedar Gathering Company

December 2020

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1.0 Introduction

Red Cedar Gathering Company (Red Cedar) is proposing to construct the Antler t2øŜℕ Station to provide 110.0 MW of electricity to the local power grid. The proposed equipment is presented in Section 2.0.

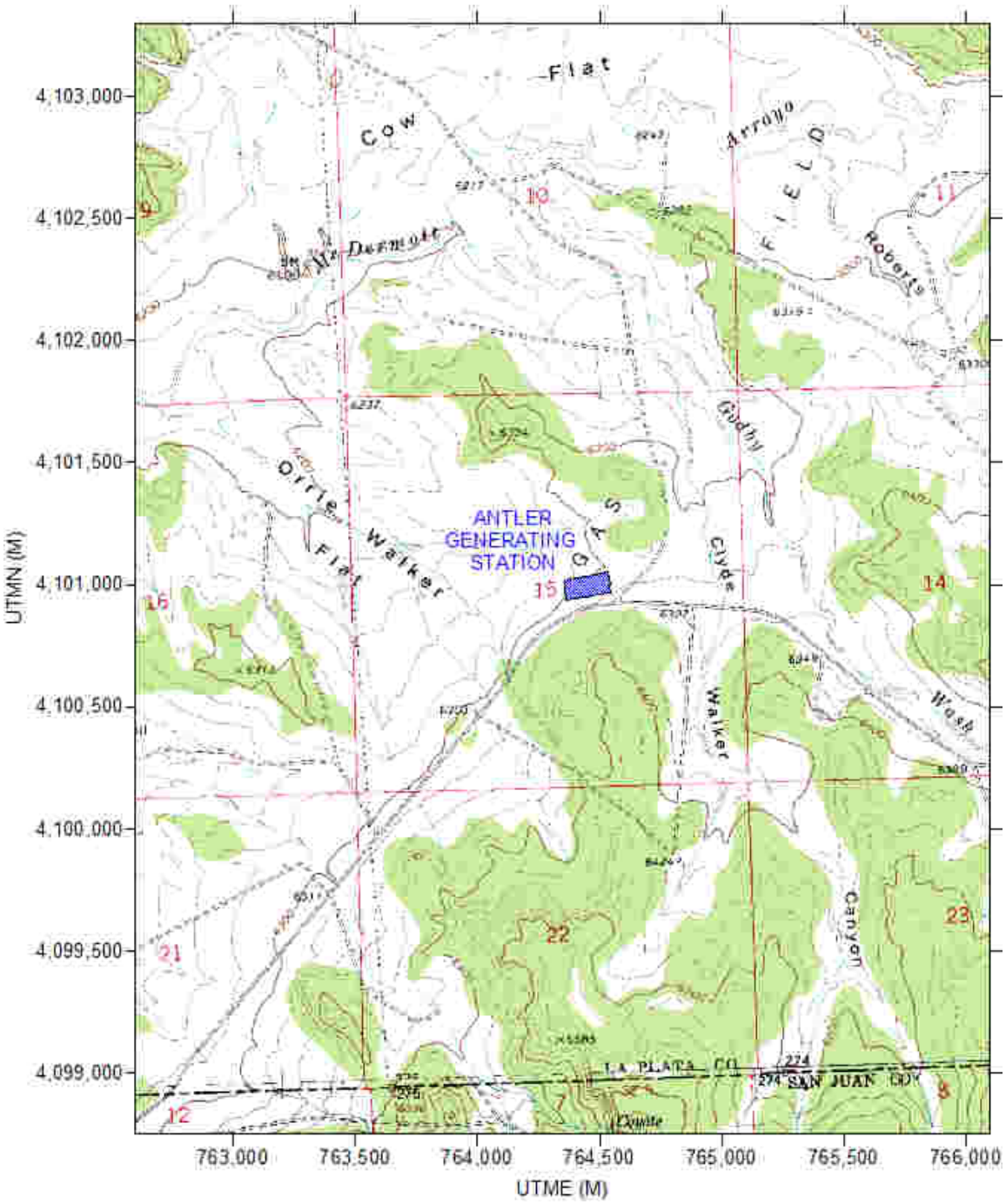
An initial permit application dated April 25, 2019 was submitted to USEPA for the facility. In response to the application, USEPA indicated that an air quality impact analysis (AQIA) should be conducted to evaluate 1-hour nitrogen dioxide (NO_2) and carbon monoxide (CO) impacts with respect to the respective National Ambient Air Quality Standards (NAAQS).

A revised permit application is being submitted to USEPA (which incorporates minor changes in manufacturer's data), and this AQIA has been prepared as an attachment to that application. This document presents the methodology used for the AQIA and presents modeled ambient impacts for NO_2 and CO to demonstrate compliance with the 1-hour NAAQS for these pollutants.

2.0 Description of Project

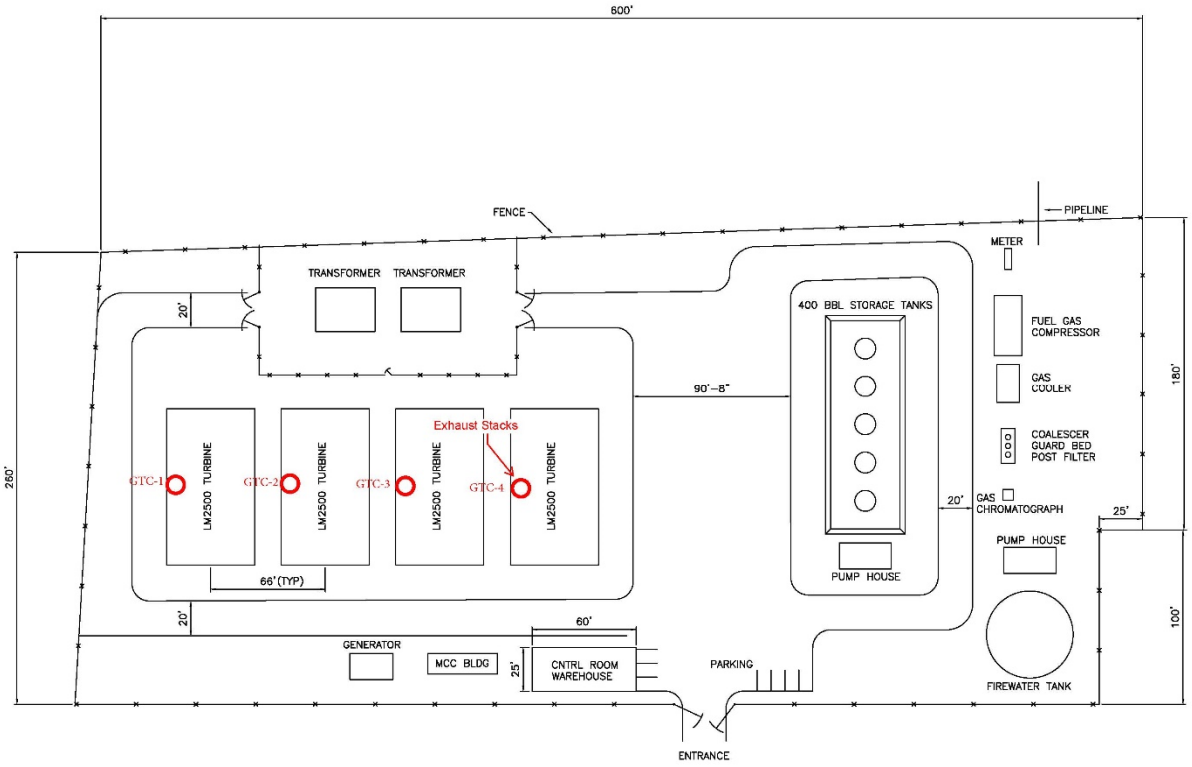
The Antler t2øŜℕ Station will be located approximately 19 miles south-southwest of Durango, CO. Figure 2.1 shows the facility location and the terrain surrounding the project site.

FIGURE 2.1
GENERAL LOCATION MAP



The proposed facility layout is presented in Figure 2.2.

FIGURE 2.2 – GENERAL FACILITY LAYOUT



Proposed equipment at the facility includes four (4) natural gas-fired turbines, as presented in Table 2.1.

TABLE 2.1 – PROPOSED FACILITY EQUIPMENT [1]

ID	Proposed Sources	Rating (MW)
GTC-1	GE LM2500 gas turbine	27.5
GTC-2	GE LM2500 gas turbine	27.5
GTC-3	GE LM2500 gas turbine	27.5
GTC-4	GE LM2500 gas turbine	27.5

[1] Note that the gas turbines will be limited to a total of 17,520 hours per year operation between the four units, but will be able to operate all four units on an hourly basis in order to meet short-term power demands.

3.0 Determination of Applicable Pollutants

An initial permit application dated April 25, 2019 was submitted to USEPA for the facility. In response to the application, USEPA indicated that an air quality impact analysis (AQIA) should be conducted to evaluate 1-hour NO_2 and CO impacts with respect to the respective NAAQS. NO_2 and CO are therefore the applicable pollutants for this analysis.

4.0 Air Quality Impacts Analysis (AQIA) Description

The latest version of the AERSCREEN screening model (16216) was used to assess ambient impacts from the proposed facility. This screening model is expected to produce conservative estimates of ambient concentrations, and is listed as an appropriate model for assessing NO_2 and CO impacts in Section 4.0 of USEPA's *Appendix W to Part 51 - Guideline on Air Quality Models* (GAQM). Per the GAQM, AERSCREEN is the recommended screening model in all types of terrain and for sources subject to building downwash, and also uses limited chemistry assumptions for NO_X to NO_2 conversion when assessing NO_2 impacts.

AERSCREEN is a single-source model. In order to estimate ambient impacts from all four (4) turbines, a single turbine was modelled, and the resulting maximum impacts were assigned to each of the other three (3) turbines (conservatively assuming colocation of all four (4) turbines). Turbine GTC-1 was the turbine selected to be modeled, as this turbine's stack will be located closest to the facility fence line of all the turbines (see Figure 2.2), at an approximate distance of 50 feet (15.24 meters).

5.0 Source Characterization

The four (4) proposed turbines will be rated at 27.5 MW each and fired on a mixture of pipeline quality natural gas and coal bed natural gas. Combined run hours for the four (4) units will be limited to 17,520 hr/yr (or 50% of capacity on an annual basis). However, all four turbines can be operated simultaneously on a short-term basis.

Each turbine was modeled as an individual point source (see Section 4.0), and the maximum modeled impacts from each turbine were combined to assess maximum impacts from the facility. Stack locations and stack parameters are presented in Tables 5.1 and 5.2, respectively.

TABLE 5.1 – STACK LOCATIONS

Unit	UTM Easting (m)	UTM Northing (m)	Base Elevation	
			(ft)	(m)
GTC-1	764,376.20	4,100,977.83	6,312.0	1,923.9
GTC-2	764,395.94	4,100,981.67	6,312.0	1,923.9
GTC-3	764,415.69	4,100,985.51	6,312.0	1,923.9
GTC-4	764,435.44	4,100,989.34	6,312.0	1,923.9

TABLE 5.2 – STACK PARAMETERS

Unit	Stack Height		Stack Temperature		Stack Diameter		Stack Exit Velocity		Stack Flow
	(ft)	(m)	(F)	(K)	(ft)	(m)	(ft/s)	(m/s)	(ACFM)
GTC-1	60.0	18.29	989.1	804.87	9.0	2.7432	125.2	38.2	477,917
GTC-2	60.0	18.29	989.1	804.87	9.0	2.7432	125.2	38.2	477,917
GTC-3	60.0	18.29	989.1	804.87	9.0	2.7432	125.2	38.2	477,917
GTC-4	60.0	18.29	989.1	804.87	9.0	2.7432	125.2	38.2	477,917

Rural dispersion parameters were selected based on the land use classification methods proposed by Auer (1978), per Section 7.2.1.1.b of the GAQM. Visual inspection of the area surrounding the facility (on Google Earth) indicated that significantly more than 50 percent of the land use within three kilometers of the site is classified as rural. Rural dispersion coefficients were therefore used in the modeling analysis.

6.0 Source Emissions

Emissions from the gas turbines were estimated using manufacturer's pound per hour (lb/hr) emission rates, as presented in Tables 6.1 and 6.2. The potential emissions presented in Table 6.1 are based on these hourly emission rates and 8,760 hours per year (hr/yr) operation for each turbine. The proposed allowable emissions presented in Table 6.2 are based on the hourly emission rates and 4,380 hr/yr operation for each turbine. [2]

TABLE 6.1 – POTENTIAL FACILITY EMISSIONS OF NO_X AND CO

Unit	NO_X			CO		
	(g/s)	(lb/hr)	(TPY)	(g/s)	(lb/hr)	(TPY)
GTC-1	3.1965	25.37	111.1	1.7640	14.00	61.3
GTC-2	3.1965	25.37	111.1	1.7640	14.00	61.3
GTC-3	3.1965	25.37	111.1	1.7640	14.00	61.3
GTC-4	3.1965	25.37	111.1	1.7640	14.00	61.3

TABLE 6.2 – PROPOSED ALLOWABLE FACILITY EMISSIONS OF NO_X AND CO

Unit	NO_X			CO		
	(g/s)	(lb/hr)	(TPY)	(g/s)	(lb/hr)	(TPY)
GTC-1	3.1965	25.37	55.6	1.7640	14.00	30.7
GTC-2	3.1965	25.37	55.6	1.7640	14.00	30. 7
GTC-3	3.1965	25.37	55.6	1.7640	14.00	30. 7
GTC-4	3.1965	25.37	55.6	1.7640	14.00	30. 7

[2] Detailed emissions calculations and supporting manufacturer's data are provided in the permit application for the facility.

7.0 Domain and Receptors

Receptors were placed from the minimum distance to ambient air to 10,000 meters from the facility.

The GTC-1 turbine stack will be located nearest to the facility fence line (at an approximate distance of 15.24 meters; see Figure 2.2). Receptors were therefore evaluated from 15.24 to 10,000 meters downwind from GTC-1, for 36 flow sectors (from 10 to 360 degrees from the facility). The receptors were spaced 25 meters apart (from 25 to 5,000 meters downwind), and 50 meters apart (from 5,000 to 10,000 meters downwind).

Receptor elevations were obtained from USGS National Elevation Data (NED) data for the area. Six (6) NED files were provided by USEPA for the project, covering an area 2 degrees of latitude (from 37 to 39 ° N) by 3 degrees of longitude (from -107 to -110 ° W). The NED data were processed by AERSCREEN with the latest version of the AERMAP terrain processor (18081), and each receptor was assigned a corresponding elevation by the program. The NED files are listed in Table 7.1.

TABLE 7.1 - USGS NATIONAL ELEVATION DATASET (NED) FILES USED BY AERMAP

USGS_1_n38w109	USGS_1_n38w108	USGS_1_n38w107
USGS_1_n37w109	USGS_1_n37w108	USGS_1_n37w107

AERMAP also determined the terrain height and location that has the greatest influence on dispersion for each individual receptor, and determined a hill scale height for each receptor location. These hill scale heights were then used by AERSCREEN with the receptor data for the model runs.

8.0 Buildings and Downwash

Building downwash effects were simulated for the turbine stacks using data provided by the latest version (04274) of USEPA's Building Profile Input Program for PRIME (BPIPPRM). BPIPPRM first computed Good Engineering Practice (GEP) stack heights for each emission source, and then computed direction-specific building dimensions (height, length and projected width) and relative stack locations (along-flow and across-flow distances from the stack to the center of the upwind face of the projected building) for each non-GEP stack modeled. These dimensions were then used by AERSCREEN to simulate wake-related downwash effects for all point sources that exhaust at heights less than GEP stack height.

Table 8.1 shows data included in the BPIP input file read by AERSCREEN. As the table shows, the turbine structure was simulated as a four (4) tiered structure, with tier heights ranging from 13.3 to 25.2 feet (4.05 to 7.68 meters) above grade.

TABLE 8.1 – BPIP INPUT BUILDING DATA

Tier No	Base Elevation (ft)	Tier Height (ft)	Number of Corners
1	6312.0	13.3	12
2	6312.0	21.9	4
3	6312.0	25.2	4
4	6312.0	22.2	4

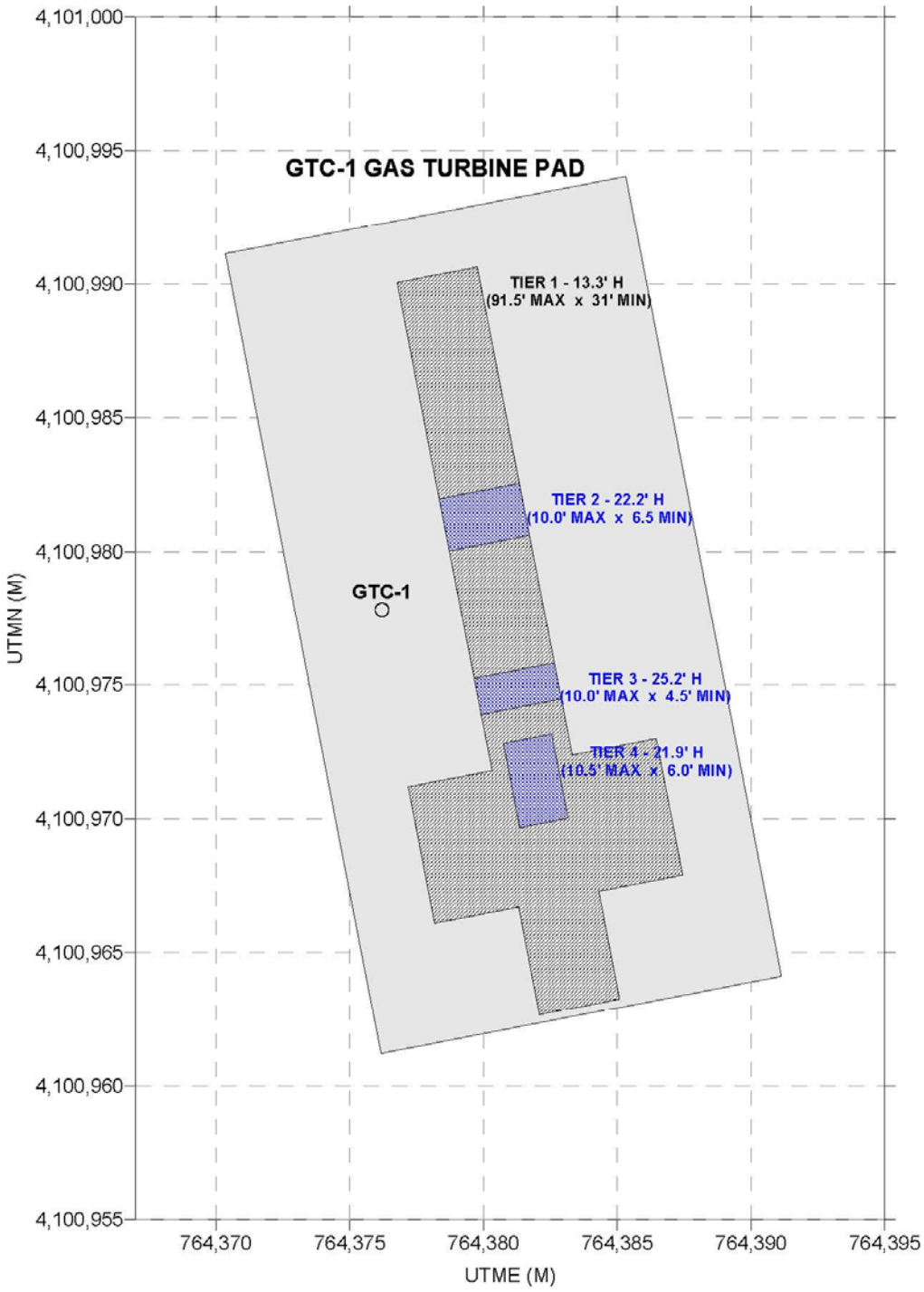
The 4-tiered turbine structure simulated by BPIPPRM is shown in Figure 8.1. The figure shows the relative location of the turbine stack (GTC-1) to the turbine structure. Based on this configuration, all four (4) tiers of the turbine structure have the potential to influence dispersion on the turbine stack (depending on wind direction), and were therefore included in the BPIPPRM input file.

The BPIPPRM run resulted in downwash parameters being calculated for all 36 wind directions evaluated and a GEP stack height of 19.2 meters being calculated for the GTC-1 turbine stack. Table B-2 presents the proposed turbine stack heights for comparison to the GEP stack height, and shows that the turbine stack will exhaust at heights less than the GEP height.

TABLE 8.2 – GEP STACK HEIGHT

Turbine Stack	Proposed Stack Height (m)	GEP Stack Height (m)
GTC-1	18.3	19.2

FIGURE 8.1
TURBINE BUILDING DIMENSIONS



9.0 Background Concentrations

Monitoring data collected at the Southern Ute Indian Tribe (SUIT) Bondad and Ignacio monitoring sites was provided by USEPA for this analysis. These background concentrations were used to represent "other background sources" to be added to modeled NO_2 and CO impacts for comparison to the NAAQS in Section 12.0. These background concentrations represent the latest 3-year design values from 2017-2019, and are presented in Table 9.1

TABLE 9.1 – BACKGROUND CONCENTRATIONS

Pollutant/Averaging Time	**Background Concentration ($\mu g/m^3$)**	**Air Monitor**
NO_2 1-hour	49.4	08-067-7003 (SUIT - Bondad)
CO 1-hour	1,068.6	08-067-7001 (SUIT - Ignacio)

10.0 Meteorology

The meteorological input files for the analysis were created by AERSCREEN. AERSCREEN runs MAKEMET (Version 16216) to generate a matrix of meteorological conditions in the form of surface (*.sfc) and profile (*.pfl) meteorological input files based on seasonal surface characteristics and other input data. These user-specified inputs are summarized in Table 10.1.

TABLE 10.1 – MAKEMET DATA INPUTS

MAKEMET input	Spring Value	Summer Value	Autumn Value	Winter Value
MIN WS (M/S)	0.5	0.5	0.5	0.5
ANEM HT (M)	10	10	10	10
LAND USE	Desert shrub land	Desert shrub land	Desert shrub land	Desert shrub land
CLIMATOLOGY	Dry conditions	Dry conditions	Dry conditions	Dry conditions
ADJUST U*	NO	NO	NO	NO
NUMBER OF WIND DIRECTIONS	1	1	1	1
WIND DIRECTION	270	270	270	270
MIN AMBIENT TEMPERATURE (K)	250	250	250	250
MAX AMBIENT TEMPERATURE (K)	310	310	310	310
ALBEDO	0.30	0.28	0.28	0.45
BOWEN RATIO	5.0	6.0	10.0	10.0
SURFACE ROUGHNESS LENGTH (M)	0.30	0.30	0.30	0.15

Table 10.2 presents the meteorological input files created by MAKEMET and used by AERSCREEN. Four (4) seasonal surface files (.sfc) and four (4) seasonal profile files (.pfl) were used for the analysis.

TABLE 10.2 – AERSCREEN METEROLOGICAL INPUT FILES

Meteorological File	Spring Value	Summer Value	Autumn Value	Winter Value
SFC MET FILE	aerscreen_01_01.sfc	aerscreen_02_01.sfc	aerscreen_03_01.sfc	aerscreen_04_01.sfc
PFL MET FILE	aerscreen_01_01.pfl	aerscreen_02_01.pfl	aerscreen_03_01.pfl	aerscreen_04_01.pfl

11.0 Air Quality Modeling System

The latest version of the AERSCREEN screening model (16216) was used to assess ambient impacts from the proposed facility. Source locations, stack parameters, emission rates, receptors, building downwash, background concentrations, and meteorology used with the model are presented in previous sections.

AERSCREEN also uses limited chemistry assumptions for NO_X to NO_2 conversion when assessing NO_2 impacts. The model uses the ozone (O_3) limiting method (OLM), which is based on an in-stack NO_2/NO_X ratio and an ambient background ozone concentration. Values of these parameters provided by USEPA for this analysis are presented in Table 11.1. [3]

TABLE 11.1 – NO_X to NO_2 CHEMISTRY MODEL OPTIONS

Parameter	Value
NO_X to NO_2 Chemistry	OLM
NO_2/NO_X In-stack ratio	0.5 (default)
O_3 Background Concentration	63.3 ppb

[3] Ozone background concentration is the 2017-2019 design value from Air Monitor 08-067-7003 (SUIT – Bondad).

12.0 Air Quality Analysis Results

Maximum modeled impacts were predicted to occur in elevated terrain 4,665 m downwind at 140 degrees from the proposed facility. These maximum modeled impacts are presented in Table 12.1.

TABLE 12.1 – MODELED 1-HR NO_2 AND CO IMPACTS

Pollutant	Averaging time	GTC-1 Modeled Impact ($\mu g/m^3$)	GTC-2 Modeled Impact ($\mu g/m^3$)	GTC-3 Modeled Impact ($\mu g/m^3$)	GTC-4 Modeled Impact ($\mu g/m^3$)	Total Modeled Impact ($\mu g/m^3$)
NO_2	1-hour	21.70	21.70	21.70	21.70	86.8
CO	1-hour	15.61	15.61	15.61	15.61	62.4

The total modeled impact from all four turbines was added to the background concentrations described in Section 9.0 to assess total impacts from all sources with respect to the respective NAAQS, as presented in Table 12.2. As the table shows, these total impacts are well below the respective NAAQS. The maximum NO_2 impact is approximately 72% of the 1-hour NAAQS for NO_2, and the CO impact is approximately 3% of the 1-hour NAAQS for CO.

TABLE 12.2 – TOTAL FACILITY 1-HR NO_2 AND CO IMPACTS

Pollutant	Averaging time	Total Modeled Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$) [4]
NO_2	1-hour	86.8	49.4	136	188
CO	1-hour	62.4	1,068.6	1,131	40,000

[4] 1-hour NAAQS for NO_2 (100 ppb) and CO (35 ppm) at 25 C and 1 atm.

Attachment A
AERSCREEN Model Run for NO_2

TITLE: ANTLER 0/7%2 STATION - NO2 IMPACTS

********** STACK PARAMETERS **********

SOURCE EMISSION RATE:	3.1965	g/s	25.369	lb/hr
STACK HEIGHT:	18.29	meters	60.01	feet
STACK INNER DIAMETER:	2.743	meters	108.00	inches
PLUME EXIT TEMPERATURE:	804.9	K	989.1	Deg F
PLUME EXIT VELOCITY:	38.163	m/s	125.21	ft/s
STACK AIR FLOW RATE:	477917	ACFM		
STACK BASE LONGITUDE:	-108.0284	deg	764376.	Easting
STACK BASE LATITUDE:	37.0178	deg	4100978.	Northing
STACK BASE UTM ZONE:			12	
REFERENCE DATUM (NADA):			4	
STACK BASE ELEVATION:	1923.90	meters	6312.01	feet
RURAL OR URBAN:	RURAL			

DIGITAL ELEVATION MAP(S) USGS_1_n38w107.tif

USGS_1_n38w108.tif

USGS_1_n38w109.tif

USGS_1_n37w107.tif

USGS_1_n37w108.tif

USGS_1_n37w109.tif

INITIAL PROBE DISTANCE =	10000. meters	32808. feet

NOx TO NO2 CHEMISTRY	OLM
NO2/NOx IN-STACK RATIO:	0.50000
OZONE BACKGROUND CONCENTRATION:	0.63300E+02 PPB

********** BUILDING DOWNWASH PARAMETERS **********

USER DEFINED BPIPPRM INPUT FILE: bpip.inp

MAXIMUM BUILDING HEIGHT: 7.7 meters 25.2 feet

MAXIMUM BUILDING LENGTH: 28.0 meters 91.9 feet

MINIMUM BUILDING WIDTH: 9.5 meters 31.3 feet

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 15. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAXIMUM 1-HR CONC (ug/m3)	IMPACT RECEPTOR DIST (m)	RECEPTOR HEIGHT (m)	TEMPORAL PERIOD
10	14.35	27.13	-13.91	-5.62	14.53	250.0	-4.60	SPR
20	17.60	25.48	-12.23	-5.16	15.59	250.0	-1.89	SPR
30	20.59	23.05	-10.18	-4.68	16.26	250.0	-0.43	SPR
40	23.59	19.92	-7.83	-4.37	16.60	225.0	-0.03	SPR
50	25.86	16.99	-6.03	-3.94	18.00	6300.0	142.38	WIN
60	27.36	13.64	-4.16	-3.38	19.20	5800.0	143.51	WIN
70	28.02	10.14	-2.16	-2.72	18.46	5100.0	123.44	WIN
80	27.94	9.53	-0.19	-1.98	16.05	4900.0	108.39	WIN
90	27.96	10.67	0.57	-1.18	19.37	4875.0	136.56	WIN
100	27.13	14.35	-1.56	-0.34	15.73	250.0	7.16	SPR
110	25.48	17.60	-3.64	0.51	15.92	250.0	10.05	SPR
120	23.05	20.59	-5.62	1.34	16.42	250.0	13.31	SPR
130	19.92	23.59	-7.42	2.13	16.72	250.0	14.76	SPR
140*	16.99	25.86	-8.99	2.46	21.69	4675.0	139.74	WIN
150	13.64	27.36	-10.30	2.66	20.85	4600.0	151.82	WIN
160	10.14	28.02	-11.29	2.91	18.72	3075.0	134.52	WIN
170	9.53	27.94	-11.99	4.58	17.27	2975.0	118.18	WIN
180	10.67	27.96	-12.80	5.90	16.48	3150.0	117.00	WIN
190	14.35	27.13	-13.22	5.62	15.72	250.0	6.42	SPR
200	17.60	25.48	-13.25	5.16	15.81	250.0	4.42	SPR
210	20.59	23.05	-12.87	4.68	16.20	225.0	1.54	SPR
220	23.59	19.92	-12.09	4.37	16.15	250.0	-0.67	SPR
230	22.35	9.01	-28.55	13.41	14.96	250.0	-3.43	SPR
240	23.52	6.05	-28.51	9.01	13.91	250.0	-6.65	SPR
250	23.99	3.16	-27.85	4.33	13.40	250.0	-8.79	SPR
260	23.72	3.62	-29.46	-0.48	13.05	250.0	-10.82	SPR
270	22.73	7.68	-30.99	-5.28	12.85	225.0	-11.66	SPR
280	21.05	11.51	-31.58	-9.91	12.74	225.0	-12.82	SPR
290	12.32	14.63	-45.21	-5.86	12.69	225.0	-13.56	SPR

300	23.05	20.59	-14.98	-1.34	12.66	225.0	-14.05	SPR
310	19.92	23.59	-16.17	-2.13	12.64	225.0	-14.44	SPR
320	16.99	25.86	-16.87	-2.46	12.60	225.0	-15.24	SPR
330	13.64	27.36	-17.06	-2.66	12.66	250.0	-14.57	SPR
340	10.14	28.02	-16.73	-2.91	12.79	250.0	-13.03	SPR
350	9.53	27.94	-15.95	-4.58	13.16	250.0	-10.12	SPR
360	10.67	27.96	-15.16	-5.90	13.47	250.0	-8.45	SPR

* = worst case flow sector

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Desert Shrubland
DOMINANT CLIMATE TYPE: Dry Conditions
DOMINANT SEASON: Winter

ALBEDO: 0.45
BOWEN RATIO: 10.00
ROUGHNESS LENGTH: 0.150 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	02	06	6	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-1.89	0.048	-9.000	0.020	-999.	24.	4.4	0.150	10.00	0.45	1.00

HT	REF TA	HT
10.0	250.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 2.0 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 18.3 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 108.5 meters

ESTIMATED FINAL PLUME HEIGHT (non-downwash): 126.7 meters

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR	MO	DY	JDY	HR
10	02	06	6	12

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
400.33	0.141	1.800	0.020	826.	122.	-1.0	0.300	10.00	0.28	0.50

HT	REF TA	HT
10.0	310.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.6 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 18.3 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 1409.8 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash): 1428.1 meters

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)
15.24	1.436	-2.68	3775.00	15.91	120.39
25.00	1.545	-1.95	3800.00	15.72	122.96
50.00	1.406	-0.29	3825.00	15.79	124.73
75.00	1.451	1.19	3850.00	16.18	127.22
100.00	1.993	2.86	3875.00	16.56	130.11
125.00	3.887	4.51	3900.00	16.69	131.75
150.00	9.321	5.86	3925.00	16.83	133.89
175.00	12.83	2.35	3950.00	16.99	101.03
200.00	15.78	0.72	3975.00	17.51	102.49
225.00	16.62	0.31	4000.00	17.87	103.63
250.00	16.85	15.37	4025.00	18.17	104.66
275.00	16.77	20.74	4050.00	17.66	103.56
300.00	17.08	27.57	4075.00	18.86	132.62
325.00	15.90	28.27	4100.00	18.69	131.81
350.00	14.87	29.66	4125.00	18.67	132.33
375.00	13.87	29.81	4150.00	18.74	133.80
400.00	12.96	29.45	4175.00	18.95	137.97

425.00	12.16	29.86	4200.00	18.67	143.81
450.00	11.43	29.89	4225.00	16.91	103.17
475.00	10.77	25.30	4250.00	17.18	104.12
500.00	10.18	24.78	4275.00	17.44	105.11
525.00	9.639	19.25	4300.00	17.74	106.26
550.00	9.142	18.45	4325.00	17.83	106.79
575.00	8.672	17.46	4350.00	18.09	107.93
600.00	8.228	16.59	4375.00	18.33	109.07
625.00	7.807	15.78	4400.00	18.49	110.01
650.00	7.415	18.01	4425.00	18.64	110.97
675.00	7.041	16.33	4450.00	18.82	112.18
700.00	6.696	19.05	4475.00	18.98	113.49
725.00	6.370	19.76	4500.00	19.14	114.95
750.00	6.065	18.80	4525.00	19.24	116.44
775.00	5.778	20.75	4550.00	19.28	117.73
800.00	5.511	20.80	4575.00	19.27	118.81
825.00	5.259	21.06	4600.00	20.85	151.82
850.00	5.024	22.06	4625.00	20.66	152.36
875.00	4.887	36.71	4650.00	21.49	134.58
900.00	4.758	38.13	4675.00	21.69	139.74
925.00	4.630	39.67	4700.00	21.55	142.93
950.00	4.503	40.49	4725.00	21.49	142.23
975.00	4.378	40.27	4750.00	20.71	149.63
1000.00	4.258	40.22	4775.00	19.30	156.20
1025.00	4.143	35.44	4800.00	18.63	163.97
1050.00	4.032	34.42	4825.00	18.87	167.65
1075.00	3.925	34.08	4850.00	18.95	170.33
1100.00	3.822	33.73	4875.00	19.37	136.56
1125.00	3.721	33.23	4900.00	19.32	137.11
1150.00	3.624	32.99	4925.00	18.81	173.47
1175.00	3.530	32.80	4950.00	18.69	172.12
1200.00	3.439	33.84	4975.00	18.65	173.87
1225.00	3.353	52.04	5000.00	18.57	173.53
1250.00	3.370	52.69	5050.00	18.43	174.57
1275.00	3.403	52.99	5100.00	18.46	123.44
1300.00	3.311	52.83	5150.00	18.07	179.00
1325.00	3.152	52.40	5200.00	17.81	181.70
1350.00	5.211	59.20	5250.00	17.47	166.18
1375.00	6.428	62.54	5300.00	17.36	166.56
1400.00	7.554	65.39	5350.00	17.36	182.04
1425.00	8.515	67.74	5400.00	17.39	173.06
1450.00	9.356	69.78	5450.00	17.21	171.43
1475.00	10.03	71.41	5500.00	16.77	165.87
1500.00	10.22	72.01	5550.00	16.78	129.57
1525.00	9.951	71.76	5600.00	18.34	148.47
1550.00	9.644	71.42	5650.00	18.61	143.60
1575.00	9.358	71.10	5700.00	18.24	146.92
1600.00	9.135	70.89	5750.00	18.42	130.93
1625.00	9.014	70.87	5800.00	19.20	143.51
1650.00	9.190	71.45	5850.00	18.94	146.28
1675.00	9.703	72.70	5900.00	18.43	150.14
1700.00	10.44	74.38	5950.00	17.37	155.81

1725.00	11.36	76.40	6000.00	18.26	149.54
1750.00	12.42	78.67	6050.00	17.04	156.33
1775.00	13.59	81.17	6100.00	17.31	154.33
1800.00	13.61	81.52	6150.00	17.13	179.93
1825.00	13.53	81.67	6200.00	17.09	174.63
1850.00	12.33	79.60	6250.00	16.48	186.50
1875.00	10.33	75.84	6300.00	18.00	142.38
1900.00	11.25	77.97	6350.00	16.40	145.93
1925.00	12.13	80.01	6400.00	16.53	170.40
1950.00	12.84	81.74	6450.00	16.31	182.46
1975.00	13.29	82.96	6500.00	15.99	185.72
2000.00	13.51	83.72	6550.00	15.97	184.53
2025.00	13.63	84.28	6600.00	15.82	185.15
2050.00	13.94	85.28	6650.00	15.96	137.53
2075.00	14.52	86.91	6700.00	15.71	134.75
2100.00	15.05	88.52	6750.00	15.55	146.95
2125.00	15.49	90.01	6800.00	15.71	179.06
2150.00	15.86	91.39	6850.00	15.50	168.83
2175.00	16.13	92.61	6900.00	14.15	195.87
2200.00	16.22	93.35	6950.00	13.36	203.18
2225.00	16.25	93.95	7000.00	12.88	207.35
2250.00	16.33	94.73	7050.00	12.25	108.71
2275.00	16.40	95.52	7100.00	12.78	112.64
2300.00	16.43	96.22	7150.00	13.18	117.69
2325.00	16.44	96.85	7200.00	14.95	127.99
2350.00	16.52	97.87	7250.00	15.92	136.72
2375.00	16.39	97.94	7300.00	15.98	143.47
2400.00	16.08	97.23	7350.00	15.70	147.48
2425.00	15.60	95.81	7400.00	15.63	147.35
2450.00	14.95	93.90	7450.00	15.19	151.11
2475.00	14.35	92.31	7500.00	15.66	142.22
2500.00	13.91	91.30	7550.00	15.02	132.40
2525.00	13.59	90.75	7600.00	15.24	148.08
2550.00	13.47	90.65	7650.00	14.71	152.39
2575.00	13.55	91.26	7700.00	15.12	135.98
2600.00	13.89	92.79	7750.00	15.18	145.10
2625.00	13.98	93.53	7800.00	13.53	158.55
2650.00	13.99	93.97	7850.00	13.56	165.82
2675.00	14.07	94.69	7900.00	13.77	175.74
2700.00	14.34	96.32	7950.00	13.24	187.34
2725.00	14.72	97.27	8000.00	12.26	197.31
2750.00	15.55	100.72	8050.00	11.86	200.95
2775.00	16.07	102.65	8100.00	11.62	203.29
2800.00	16.34	103.92	8150.00	11.89	198.98
2825.00	16.54	105.03	8200.00	13.35	127.27
2850.00	16.69	106.03	8250.00	14.49	141.86
2875.00	16.88	107.24	8300.00	13.74	152.67
2900.00	16.89	111.54	8350.00	12.96	157.63
2925.00	17.23	109.96	8400.00	13.28	155.13
2950.00	17.72	113.97	8450.00	13.18	155.42
2975.00	17.92	119.15	8500.00	13.27	154.28
3000.00	17.55	124.53	8550.00	14.07	140.23

3025.00	18.35	129.03	8600.00	12.79	126.91
3050.00	18.47	132.63	8650.00	11.82	135.93
3075.00	18.72	134.52	8700.00	12.00	138.85
3100.00	18.54	132.80	8750.00	11.95	140.50
3125.00	18.24	132.26	8800.00	12.11	186.41
3150.00	17.66	129.07	8850.00	12.51	126.99
3175.00	16.80	124.53	8900.00	12.02	139.00
3200.00	16.87	119.26	8950.00	12.13	125.34
3225.00	16.57	115.05	9000.00	12.98	131.92
3250.00	16.24	112.96	9050.00	13.21	135.23
3275.00	16.04	112.21	9100.00	13.30	137.81
3300.00	15.91	111.99	9150.00	12.90	150.60
3325.00	15.77	112.39	9200.00	12.87	150.33
3350.00	15.34	118.60	9250.00	12.37	133.08
3375.00	15.39	118.22	9300.00	12.52	135.24
3400.00	15.21	120.32	9350.00	12.56	136.43
3425.00	15.10	119.67	9400.00	12.64	137.89
3450.00	15.00	119.35	9450.00	12.90	145.43
3475.00	14.87	118.38	9500.00	12.82	145.96
3500.00	14.75	117.82	9550.00	12.54	139.27
3525.00	14.71	118.87	9600.00	12.78	143.69
3550.00	14.60	118.27	9650.00	12.74	140.86
3575.00	14.52	117.36	9700.00	12.61	137.68
3600.00	15.24	108.78	9750.00	12.43	135.28
3625.00	15.58	110.23	9800.00	12.29	149.42
3650.00	15.72	111.69	9850.00	12.29	134.79
3675.00	15.84	113.31	9900.00	12.00	151.68
3700.00	16.01	115.18	9950.00	11.99	151.19
3725.00	16.03	116.96	10000.00	12.03	150.11
3750.00	15.99	118.55			

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
ELEVATED TERRAIN	21.70	21.70	19.53	13.02	2.170

DISTANCE FROM SOURCE 4665.00 meters directed toward 140 degrees
RECEPTOR HEIGHT 138.58 meters

IMPACT AT THE AMBIENT BOUNDARY	1.436	1.436	1.292	0.8614	0.1436

DISTANCE FROM SOURCE 15.24 meters directed toward 160 degrees
RECEPTOR HEIGHT -2.68 meters

Attachment B
AERSCREEN Model Run for CO

TITLE: ANTLER GENERTING STATION - CO IMPACTS

********** STACK PARAMETERS **********

SOURCE EMISSION RATE:	1.7640	g/s	14.000	lb/hr
STACK HEIGHT:	18.29	meters	60.01	feet
STACK INNER DIAMETER:	2.743	meters	108.00	inches
PLUME EXIT TEMPERATURE:	804.9	K	989.1	Deg F
PLUME EXIT VELOCITY:	38.163	m/s	125.21	ft/s
STACK AIR FLOW RATE:	477917	ACFM		
STACK BASE LONGITUDE:	-108.0284	deg	764376.	Easting
STACK BASE LATITUDE:	37.0178	deg	4100978.	Northing
STACK BASE UTM ZONE:			12	
REFERENCE DATUM (NADA):			4	
STACK BASE ELEVATION:	1923.90	meters	6312.01	feet
RURAL OR URBAN:	RURAL			

DIGITAL ELEVATION MAP(S) USGS_1_n38w107.tif

USGS_1_n38w108.tif

USGS_1_n38w109.tif

USGS_1_n37w107.tif

USGS_1_n37w108.tif

USGS_1_n37w109.tif

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

********** BUILDING DOWNWASH PARAMETERS **********

USER DEFINED BPIPPRM INPUT FILE: bpip.inp

MAXIMUM BUILDING HEIGHT: 7.7 meters 25.2 feet

MAXIMUM BUILDING LENGTH: 28.0 meters 91.9 feet

MINIMUM BUILDING WIDTH: 9.5 meters 31.3 feet

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 15. meters - 5000. meters

50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAXIMUM 1-HR CONC (ug/m3)	IMPACT DIST (m)	RECEPTOR HEIGHT (m)	TEMPORAL PERIOD
10	14.35	27.13	-13.91	-5.62	8.910	250.0	-4.60	SPR
20	17.60	25.48	-12.23	-5.16	9.559	250.0	-1.89	SPR
30	20.59	23.05	-10.18	-4.68	9.971	250.0	-0.43	SPR
40	23.59	19.92	-7.83	-4.37	10.18	225.0	-0.03	SPR
50	25.86	16.99	-6.03	-3.94	11.04	6300.0	142.38	WIN
60	27.36	13.64	-4.16	-3.38	11.77	5800.0	143.51	WIN
70	28.02	10.14	-2.16	-2.72	11.32	5100.0	123.44	WIN
80	27.94	9.53	-0.19	-1.98	9.837	4900.0	108.39	WIN
90	27.96	10.67	0.57	-1.18	11.87	4875.0	136.56	WIN
100	27.13	14.35	-1.56	-0.34	9.641	250.0	7.16	SPR
110	25.48	17.60	-3.64	0.51	9.759	250.0	10.05	SPR
120	23.05	20.59	-5.62	1.34	10.06	250.0	13.31	SPR
130	19.92	23.59	-7.42	2.13	10.25	250.0	14.76	SPR
140*	16.99	25.86	-8.99	2.46	13.30	4675.0	139.74	WIN
150	13.64	27.36	-10.30	2.66	12.78	4600.0	151.82	WIN
160	10.14	28.02	-11.29	2.91	11.48	3075.0	134.52	WIN
170	9.53	27.94	-11.99	4.58	10.59	2975.0	118.18	WIN
180	10.67	27.96	-12.80	5.90	10.10	3150.0	117.00	WIN
190	14.35	27.13	-13.22	5.62	9.639	250.0	6.42	SPR
200	17.60	25.48	-13.25	5.16	9.695	250.0	4.42	SPR
210	20.59	23.05	-12.87	4.68	9.932	225.0	1.54	SPR
220	23.59	19.92	-12.09	4.37	9.900	250.0	-0.67	SPR
230	22.35	9.01	-28.55	13.41	9.171	250.0	-3.43	SPR
240	23.52	6.05	-28.51	9.01	8.525	250.0	-6.65	SPR
250	23.99	3.16	-27.85	4.33	8.217	250.0	-8.79	SPR
260	23.72	3.62	-29.46	-0.48	8.003	250.0	-10.82	SPR
270	22.73	7.68	-30.99	-5.28	7.875	225.0	-11.66	SPR
280	21.05	11.51	-31.58	-9.91	7.813	225.0	-12.82	SPR
290	12.32	14.63	-45.21	-5.86	7.781	225.0	-13.56	SPR
300	23.05	20.59	-14.98	-1.34	7.763	225.0	-14.05	SPR
310	19.92	23.59	-16.17	-2.13	7.750	225.0	-14.44	SPR
320	16.99	25.86	-16.87	-2.46	7.727	225.0	-15.24	SPR
330	13.64	27.36	-17.06	-2.66	7.760	250.0	-14.57	SPR
340	10.14	28.02	-16.73	-2.91	7.839	250.0	-13.03	SPR

```
      350     9.53     27.94   -15.95    -4.58   8.069       250.0  -10.12     SPR
      360    10.67     27.96   -15.16    -5.90   8.260       250.0   -8.45     SPR
* = worst case flow sector



--------------------------------------------------------------------------------
*********************  MAKEMET METEOROLOGY PARAMETERS  *********************
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Desert Shrubland
DOMINANT CLIMATE TYPE:    Dry Conditions
DOMINANT SEASON:          Winter

ALBEDO:                   0.45
BOWEN RATIO:             10.00
ROUGHNESS LENGTH:        0.150 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 02 06   6 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.89  0.048 -9.000  0.020 -999.   24.      4.4 0.150  10.00   0.45    1.00

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   250.0    2.0

WIND SPEED AT STACK HEIGHT (non-downwash):        2.0 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT:        18.3 meters
ESTIMATED FINAL PLUME RISE (non-downwash):      108.5 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash):    126.7 meters


       METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT
       -------------------------------------------------------------
```

YR	MO	DY	JDY	HR
10	02	06	6	12

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
400.33	0.141	1.800	0.020	826.	122.	-1.0	0.300	10.00	0.28	0.50

HT	REF TA	HT
10.0	310.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 0.6 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 18.3 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 1409.8 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash): 1428.1 meters

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	RECEPTOR HEIGHT (m)
15.24	0.8801	-2.68	3775.00	9.751	120.39
25.00	0.9475	-1.95	3800.00	9.637	122.96
50.00	0.8622	-0.29	3825.00	9.683	124.73
75.00	0.8897	1.19	3850.00	9.922	127.22
100.00	1.222	2.86	3875.00	10.15	130.11
125.00	2.383	4.51	3900.00	10.23	131.75
150.00	5.714	5.86	3925.00	10.32	133.89
175.00	7.864	2.35	3950.00	10.42	101.03
200.00	9.677	0.72	3975.00	10.73	102.49
225.00	10.19	0.31	4000.00	10.96	103.63
250.00	10.33	15.37	4025.00	11.14	104.66
275.00	10.28	20.74	4050.00	10.83	103.56
300.00	10.47	27.57	4075.00	11.56	132.62
325.00	9.746	28.27	4100.00	11.46	131.81
350.00	9.117	29.66	4125.00	11.44	132.33
375.00	8.503	29.81	4150.00	11.49	133.80
400.00	7.948	29.45	4175.00	11.62	137.97
425.00	7.456	29.86	4200.00	11.45	143.81
450.00	7.006	29.89	4225.00	10.37	103.17
475.00	6.600	25.30	4250.00	10.53	104.12
500.00	6.239	24.78	4275.00	10.69	105.11
525.00	5.910	19.25	4300.00	10.88	106.26

550.00	5.605	18.45	4325.00	10.93	106.79
575.00	5.317	17.46	4350.00	11.09	107.93
600.00	5.044	16.59	4375.00	11.24	109.07
625.00	4.786	15.78	4400.00	11.34	110.01
650.00	4.546	18.01	4425.00	11.43	110.97
675.00	4.317	16.33	4450.00	11.54	112.18
700.00	4.105	19.05	4475.00	11.64	113.49
725.00	3.905	19.76	4500.00	11.73	114.95
750.00	3.718	18.80	4525.00	11.80	116.44
775.00	3.543	20.75	4550.00	11.82	117.73
800.00	3.378	20.80	4575.00	11.82	118.81
825.00	3.224	21.06	4600.00	12.78	151.82
850.00	3.080	22.06	4625.00	12.67	152.36
875.00	2.996	36.71	4650.00	13.17	134.58
900.00	2.917	38.13	4675.00	13.30	139.74
925.00	2.838	39.67	4700.00	13.21	142.93
950.00	2.760	40.49	4725.00	13.17	142.23
975.00	2.684	40.27	4750.00	12.69	149.63
1000.00	2.611	40.22	4775.00	11.83	156.20
1025.00	2.540	35.44	4800.00	11.42	163.97
1050.00	2.472	34.42	4825.00	11.57	167.65
1075.00	2.406	34.08	4850.00	11.62	170.33
1100.00	2.343	33.73	4875.00	11.87	136.56
1125.00	2.282	33.23	4900.00	11.84	137.11
1150.00	2.222	32.99	4925.00	11.53	173.47
1175.00	2.164	32.80	4950.00	11.46	172.12
1200.00	2.109	33.84	4975.00	11.44	173.87
1225.00	2.056	52.04	5000.00	11.38	173.53
1250.00	2.066	52.69	5050.00	11.30	174.57
1275.00	2.086	52.99	5100.00	11.32	123.44
1300.00	2.030	52.83	5150.00	11.08	179.00
1325.00	1.933	52.40	5200.00	10.92	181.70
1350.00	3.195	59.20	5250.00	10.71	166.18
1375.00	3.941	62.54	5300.00	10.64	166.56
1400.00	4.631	65.39	5350.00	10.65	182.04
1425.00	5.220	67.74	5400.00	10.66	173.06
1450.00	5.736	69.78	5450.00	10.55	171.43
1475.00	6.148	71.41	5500.00	10.28	165.87
1500.00	6.265	72.01	5550.00	10.29	129.57
1525.00	6.101	71.76	5600.00	11.24	148.47
1550.00	5.913	71.42	5650.00	11.41	143.60
1575.00	5.737	71.10	5700.00	11.19	146.92
1600.00	5.601	70.89	5750.00	11.30	130.93
1625.00	5.526	70.87	5800.00	11.77	143.51
1650.00	5.634	71.45	5850.00	11.61	146.28
1675.00	5.948	72.70	5900.00	11.30	150.14
1700.00	6.399	74.38	5950.00	10.65	155.81
1725.00	6.964	76.40	6000.00	11.19	149.54
1750.00	7.613	78.67	6050.00	10.45	156.33
1775.00	8.331	81.17	6100.00	10.61	154.33
1800.00	8.346	81.52	6150.00	10.50	179.93
1825.00	8.298	81.67	6200.00	10.48	174.63

1850.00	7.559	79.60	6250.00	10.10	186.50
1875.00	6.335	75.84	6300.00	11.04	142.38
1900.00	6.900	77.97	6350.00	10.06	145.93
1925.00	7.437	80.01	6400.00	10.13	170.40
1950.00	7.872	81.74	6450.00	10.00	182.46
1975.00	8.147	82.96	6500.00	9.802	185.72
2000.00	8.280	83.72	6550.00	9.790	184.53
2025.00	8.353	84.28	6600.00	9.698	185.15
2050.00	8.546	85.28	6650.00	9.782	137.53
2075.00	8.899	86.91	6700.00	9.633	134.75
2100.00	9.225	88.52	6750.00	9.532	146.95
2125.00	9.497	90.01	6800.00	9.631	179.06
2150.00	9.721	91.39	6850.00	9.503	168.83
2175.00	9.889	92.61	6900.00	8.676	195.87
2200.00	9.943	93.35	6950.00	8.191	203.18
2225.00	9.963	93.95	7000.00	7.896	207.35
2250.00	10.01	94.73	7050.00	7.508	108.71
2275.00	10.05	95.52	7100.00	7.837	112.64
2300.00	10.07	96.22	7150.00	8.078	117.69
2325.00	10.08	96.85	7200.00	9.164	127.99
2350.00	10.13	97.87	7250.00	9.761	136.72
2375.00	10.05	97.94	7300.00	9.799	143.47
2400.00	9.860	97.23	7350.00	9.627	147.48
2425.00	9.564	95.81	7400.00	9.580	147.35
2450.00	9.166	93.90	7450.00	9.312	151.11
2475.00	8.798	92.31	7500.00	9.598	142.22
2500.00	8.526	91.30	7550.00	9.207	132.40
2525.00	8.334	90.75	7600.00	9.343	148.08
2550.00	8.257	90.65	7650.00	9.021	152.39
2575.00	8.307	91.26	7700.00	9.269	135.98
2600.00	8.517	92.79	7750.00	9.306	145.10
2625.00	8.573	93.53	7800.00	8.293	158.55
2650.00	8.574	93.97	7850.00	8.314	165.82
2675.00	8.627	94.69	7900.00	8.444	175.74
2700.00	8.790	96.32	7950.00	8.116	187.34
2725.00	9.023	97.27	8000.00	7.514	197.31
2750.00	9.531	100.72	8050.00	7.268	200.95
2775.00	9.850	102.65	8100.00	7.127	203.29
2800.00	10.02	103.92	8150.00	7.290	198.98
2825.00	10.14	105.03	8200.00	8.185	127.27
2850.00	10.23	106.03	8250.00	8.886	141.86
2875.00	10.35	107.24	8300.00	8.425	152.67
2900.00	10.35	111.54	8350.00	7.945	157.63
2925.00	10.56	109.96	8400.00	8.144	155.13
2950.00	10.87	113.97	8450.00	8.079	155.42
2975.00	10.98	119.15	8500.00	8.138	154.28
3000.00	10.76	124.53	8550.00	8.623	140.23
3025.00	11.25	129.03	8600.00	7.841	126.91
3050.00	11.32	132.63	8650.00	7.244	135.93
3075.00	11.48	134.52	8700.00	7.355	138.85
3100.00	11.37	132.80	8750.00	7.327	140.50
3125.00	11.18	132.26	8800.00	7.425	186.41

3150.00	10.83	129.07	8850.00	7.669	126.99
3175.00	10.30	124.53	8900.00	7.368	139.00
3200.00	10.34	119.26	8950.00	7.437	125.34
3225.00	10.16	115.05	9000.00	7.956	131.92
3250.00	9.958	112.96	9050.00	8.098	135.23
3275.00	9.836	112.21	9100.00	8.151	137.81
3300.00	9.755	111.99	9150.00	7.911	150.60
3325.00	9.670	112.39	9200.00	7.891	150.33
3350.00	9.402	118.60	9250.00	7.583	133.08
3375.00	9.434	118.22	9300.00	7.678	135.24
3400.00	9.326	120.32	9350.00	7.700	136.43
3425.00	9.258	119.67	9400.00	7.750	137.89
3450.00	9.195	119.35	9450.00	7.909	145.43
3475.00	9.113	118.38	9500.00	7.861	145.96
3500.00	9.040	117.82	9550.00	7.686	139.27
3525.00	9.020	118.87	9600.00	7.838	143.69
3550.00	8.950	118.27	9650.00	7.813	140.86
3575.00	8.904	117.36	9700.00	7.731	137.68
3600.00	9.342	108.78	9750.00	7.619	135.28
3625.00	9.552	110.23	9800.00	7.536	149.42
3650.00	9.636	111.69	9850.00	7.535	134.79
3675.00	9.708	113.31	9900.00	7.354	151.68
3700.00	9.814	115.18	9950.00	7.351	151.19
3725.00	9.828	116.96	10000.00	7.378	150.11
3750.00	9.804	118.55			

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
ELEVATED TERRAIN	13.30	13.30	11.97	7.983	1.330

DISTANCE FROM SOURCE 4665.00 meters directed toward 140 degrees
RECEPTOR HEIGHT 138.58 meters

IMPACT AT THE AMBIENT BOUNDARY	0.8801	0.8801	0.7921	0.5281	0.8801E-01

DISTANCE FROM SOURCE 15.24 meters directed toward 160 degrees
RECEPTOR HEIGHT -2.68 meters

Antler Power Station

Red Cedar Gathering Company

Attachment F

ESA (Endangered Species Act)

Biological Assessment
Red Cedar Gathering Company
Antler Gas Turbine Generating Station

Prepared for:

U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street
Denver, Colorado 80202

Prepared by:

Southern Ute Growth Fund
Safety and Environmental Compliance Management Group
175 Mercado Street, Suite 225
Durango, Colorado 81301

June 15, 2020

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Contents

Abbreviation/Acronym List

BA	Biological Assessment
ESA	Endangered Species Act
Red Cedar	Red Cedar Gathering Company
Reservation	Southern Ute Indian Reservation
SECMG	Safety and Environmental Compliance Management Group
USFWS	United States Fish and Wildlife Service

1 Introduction

This Biological Assessment (BA) has been prepared by the Southern Ute Indian Tribe Growth Fund's Safety and Environmental Compliance Management Group (SECMG) on behalf of Red Cedar Gathering Company (Red Cedar). This BA analyzes potential site-specific impacts of Red Cedar's proposed Antler Gas Turbine Generating (GTG) Station project on threatened and endangered species and designated "critical habitat" [hereinafter "threatened and endangered species"] listed under the Endangered Species Act (ESA).

Red Cedar has proposed to convert a decommissioned natural gas processing facility to an electric power generation station. The proposed Antler GTG Station will use natural gas gathered from nearby wells to power four gas turbines and generate electricity. The station is expected to have a capacity of approximately 98 megawatts (MW). The produced electricity will be delivered to the grid through two generator step-up transformers to be located at the facility. Current plans are to connect to the electrical grid within 1 mile of the site.

1.1 Purpose and Need

A BA is required by law (ESA of 1973, 16 United States Code [USC] 1531 et seq.) if there is an action that is authorized, carried out, or funded by a federal agency. The Antler GTG Station project will be permitted through the U.S. Environmental Protection Agency's (EPA) Federal Minor New Source Review Program in Indian Country, thus providing a federal nexus and compliance with the ESA.

1.2 Consultation History

Section 7 of the ESA requires federal agencies to ensure that actions they authorize, fund, or carry out do not jeopardize the existence of threatened and endangered species. Under Section 7, federal agencies are required to consult with the U.S. Fish and Wildlife Service (USFWS) when any action the agency carries out, funds, or authorizes (such as through a permit) would result in adverse impacts to threatened and endangered species.

The proposed Antler GTG Station project has no history of Section 7 consultation with the USFWS. In March 2001, *A Survey for Threatened, Endangered, and Sensitive Species* was completed by Ecosphere Environmental Services (Ecosphere) for Red Cedar's Antler Compression Site Expansion project. No federally listed fauna or flora were found during the biological survey. Table 1 lists the federally listed species, and their federal status at the time of the report, that were eliminated from detailed evaluation in Ecosphere's March 2001 report.

Table 1. Federally Listed Species Eliminated from Detailed Evaluation (A *Survey for Threatened, Endangered, and Sensitive Species, Ecosphere, 2001).*

Species Name	Federal Status
Knowlton's cactus (*Pediocactus knowltonii*)	Endangered
Mancos milkvetch (*Astragalus humillimus*)	Endangered
Mesa Verde cactus (*Sclerocactus mesae-verdae*)	Threatened
Sleeping Ute milkvetch (*Astragalus tortipes*)	Candidate
Black-footed ferret (*Mustela nigripes*)	Endangered
Mexican Spotted Owl (*Strix occidentalis lucida*)	Threatened
Southwestern Willow Flycatcher (*Empidonax trailii extimus*)	Endangered
Gunnison Sage Grouse (*Centrocercus minimus*)	Candidate
Razorback sucker (*Xyrauchen texanus*)	Endangered with Critical Habitat
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered
Canada Lynx (*Lynx canadensis*)	Threatened
Peregrine Falcon (*Falco peregrinus anatum*)	Protected under the Migratory Bird Treaty Act
Boreal Toad (*Bufo boreas boreas*)	Candidate

Ecosphere did evaluate potential impacts to the bald eagle (*Haliaeetus leucocephalus*) in detail, which at the time of the report was a federally threatened species. The report noted that bald eagles are known to winter in southern Colorado and some are yearlong residents of the area. The nearest suitable habitat for bald eagles was determined to be some 20 miles to the east in the Animas River valley. Bald eagles were not expected to be affected by the Antler Compression Site Expansion project.

The Southern Ute Indian Tribe's (the Tribe's) Department of Natural Resources has been informed of the proposed project since it is located on Southern Ute tribal trust land. The Tribe's Division of Wildlife Resource Management will be reviewing the BA and issuing a concurrence on its *effects determinations* for threatened and endangered species. The concurrence can be found in Appendix A.

2 Proposed Project

2.1 Location

The proposed project is in southwestern La Plata County, Colorado and within the exterior boundaries of the Southern Ute Indian Reservation (the Reservation) on Southern Ute tribal trust land. The Antler GTG Station is being proposed at Red Cedar's former Antler Processing Plant located approximately 20 miles southwest of Durango. The legal location of the proposed facility is the southwest quarter of the northeast quarter and the northwest quarter of the

southeast quarter of Section 15, Township 32 North, Range 11 West, New Mexico Principle Meridian. A Project Area Map and Site Detail Map are included in Appendix B.

2.2 Equipment and Processes

Red Cedar is planning on removing all old equipment at their decommissioned Antler natural gas processing plant. The equipment needed for the proposed power generating station will be installed entirely within the fenced area of the Antler facility. Generator step-up transformers located on site will allow Red Cedar to deliver power to a high-voltage power line located approximately 0.6 mile to the west of the facility. Emissions from the station will be accounted for through the U.S. EPA's Federal Minor New Source Review Program in Indian Country. The manufacturer of the turbines has issued a noise guarantee of 85 dB(A) for a single turbine package. Therefore, total noise expected from the facility when it is up and running is estimated at 91 DB(A). Red Cedar will develop a new lighting plan for the facility and the station will not be staffed. Red Cedar will implement best management practices accepted by the Southern Ute Indian Tribe's Department of Energy in the design and development of the facility.

The newly installed turbines at the station will burn natural gas produced by area wells delivered by a nearby pipeline. The natural gas will be dehydrated at upstream locations before reaching the site for efficient power generation. The gas turbines are expected to consume up to approximately 8 million standard cubic feet per day (MMSCFD) of fuel gas per machine to produce maximum load. Fuel use and produced load is highly dependent on atmospheric conditions with reduced fuel volume needed on cold winter days and maximum fuel volume needed on hot days with low relative humidity.

The natural gas delivered to the station is routed through an inlet separator and filter and compressed to 550 pounds per square inch in gauge (psig) / 120 ˚F maximum temperature. The gas is then filtered to remove lube oil and other fine particulates before being delivered to the gas turbines. The gas compressor is expected to be driven with a 2,000-horsepower electric motor.

Captured lube oils and coalesced liquids will be routed to a 400-barrel catch tank operating at atmospheric pressure for truck out. A carbon guard bed and filter will capture lube oil as well as any coalesced hydrocarbon liquids to help reduce fouling in the turbines. No further gas conditioning is expected to be required.

Besides lube oil, other waste products are generated as a result of periodic maintenance. These include water from turbine parts washing, water-glycol mixture used for cooling purposes, and

hydraulic fluid from gear boxes and transfer cases. Storage of fresh lube oil, glycol and hydraulic fluid is expected to be on site.

An open drain system will be used to collect any skid runoff predominantly composed of rainwater with the potential for trace amounts of hydrocarbon, lube oil, and glycol. These liquids are to be routed to an independent atmospheric 400-barrel bulk tank for truck out and disposal.

Many instruments and controls will be instrument air operated with air produced by an electric drive air compressor located inside a building at the station.

2.3 Electric Power Generation

In order to generate electricity, the gas turbines will heat a mixture of air and natural gas causing the turbine blades to spin. Each turbine is connected to a rod in a generator that turns a large magnet surrounded by coils of copper wire. The fast-revolving generator magnet creates a powerful magnetic field that lines up the electrons around the copper coils and causes them to move. The movement of these electrons through a wire is electricity.

The generator step-up transformers are expected to have a water deluge system that will extinguish a transformer fire in case one was to happen. The system is expected to have an 8,000-barrel water storage tank, firefighting water pump, and deluge nozzles located near the transformers. All firefighting water pumps will be electric motor driven. The water storage tank will have an electric heater installed to prevent wintertime freeze-up.

3 Summary of the Analysis

An official species list was generated on the Information for Planning and Consultation (IPaC) web portal on May 4, 2020. An updated species list was obtained on May 18, 2020 after receiving updated project details. The updated species list from the USFWS, Western Colorado Ecological Services Field Office can be found in Appendix C.

A biological field survey was performed by Matthew Zabka, a biologist with SECMG, on May 4, 2020. Conditions at the time of the survey were extremely arid. There was a steady wind of approximately 10 to 15 miles per hour. The air temperature was approximately 78 ˚F under a clear sky. The project area was surveyed for threatened and endangered species and their habitat with potential to occur within the project area. All plants and animals observed have been recorded in Appendix D. Digital photos taken during the biological field survey are included in Appendix E.

To further inform the biological analysis, a desktop review was performed using available geographic information system (GIS) data in Google Earth and ESRI ArcMap software. The desktop reviews evaluated the list of seven threatened or endangered species provided by the USFWS (see Appendix C).

For this proposed project, an action area was defined as the fenced facility area plus a 1/2-mile buffer (see Site Detail Map in Appendix B). The action area was delineated to analyze the potential for direct, indirect, and cumulative impacts to threatened and endangered species.

4 Existing Habitat Conditions

The project is in an active natural gas production area, as there are several well pads and production facilities within the action area. The proposed Antler GTG Station is situated on an existing 8.4-acre industrial facility. This facility is at an elevation of approximately 6,300 feet on a fenced and leveled pad devoid of vegetation. A pipeline corridor runs east-west along the north side of the facility. The action area contains both piñon-juniper woodland and desert shrub habitat where not developed with natural gas production facilities.

Vegetation identified outside the fencing and immediately adjacent to the facility includes big sagebrush (*Artemisia tridentata*), fourwing saltbush (*Atriplex canescens*), gilia (*Aliciella* sp.), piñon pine (*Pinus edulis*), purple springparsley (*Cymopterus purpureus*), Russian thistle (*Salsola tragus*), sweetclover (*Melilotus officinalis*), and Utah juniper (*Juniperus osteosperma*). As revealed in the aerial imagery on the Site Detail Map (Appendix B), the southeast portion of the action area contains relatively undisturbed piñon-juniper woodland. The remainder of the action area consists of desert shrub habitat dissected by ephemeral drainages.

Wildlife observed within the action area during the biological survey included common raven (*Corvus corax*), Gunnison's prairie dog (*Cynomys gunnisoni*), mountain bluebird (*Sialia currucoides*), Say's phoebe (*Sayornis saya*), and turkey vulture (*Cathartes aura*). Signs (burrows, droppings, prints) were observed for coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), ground squirrel (family *Sciuridae*), and mule deer (*Odocoileus hemionus*).

The action area generally drains to the north and west down Clyde Walker Canyon, Godby Wash, and several unnamed ephemeral drainages into McDermott Arroyo. McDermott Arroyo drains southwest and joins the La Plata River near the town of La Plata, New Mexico – approximately 11 miles southwest of the project area.

Surface geology within the action area consists of Nacimiento Formation. Soils that have been mapped by the U.S Department of Agriculture in the action area include, Dulce-Travessilla-Rock outcrop complex, 6 to 50 percent slopes; Panitchen-Dominguez variant silty clay loams; Picante-

Rock outcrop complex, 10 to 45 percent slopes; Sili clay loam, 1 to 3 percent slopes; Sili clay loam, 3 to 6 percent slopes; and Yenlo-Florita sandy loams. The facility was originally built on Yenlo-Florita sandy loams.

5 Threatened and Endangered Species Evaluation

There are two threatened and five endangered species that may occur in the proposed project location, and/or may be affected by the proposed project. Table 2 lists these species, their conservation status and habitat, and whether a species warrants a detailed evaluation in this BA.

Table 2. Threatened and Endangered Species with Potential to Occur in the Project Area.

Species Name	Conservation Status	Habitat	Warranting Detailed Evaluation?
MAMMALS			
New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*)	Endangered	Herbaceous wetlands dominated by dense sedges adjacent to permanent water. Designated critical habitat for this species is found approx. 21 miles from the project area along the Florida River.[1]	NO: There are no perennial water resources in the action area containing potential habitat for this species.
BIRDS			
Mexican Spotted Owl (*Strix occidentalis lucida*)	Threatened	Frequently associated with mature mixed-conifer, pine-oak, and riparian forests. Also found in canyon habitat dominated by vertical-walled rocky cliffs within complex watersheds including tributary side canyons. Designated critical habitat for this species is found approx. 43 miles from the project area on the Carson National Forest in northwestern New Mexico.[2]	NO: The action area lacks mature forest in canyon or cliff habitat.
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	Endangered	Dense, shrubby riparian habitats at least 5 feet tall, 30 feet wide, and greater than 0.25 acre in size. Habitat is usually close to surface water or saturated soil. Designated critical habitat for this species is found approx. 27 miles from the project area along the Los Piños River.[3]	NO: There is no riparian habitat close to surface water or saturated soil in the action area.

Species Name	Conservation Status	Habitat	Warranting Detailed Evaluation?
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	Nests almost exclusively in low to moderate elevation riparian woodlands that cover 50 acres or more within arid to semiarid landscapes.[4] Distribution and abundance is influenced by the amount of cottonwood-willow-dominated vegetation cover and the width of riparian habitat. Although this species breeds locally in river valleys in western Colorado, it is "scarcer at elevations above approximately 6,000 feet, and almost never breeds above 7,000 feet".[5] Proposed critical habitat for this species is found approx. 20 miles from the project area along the San Juan River in New Mexico.[6]	NO: There is no riparian woodland that cover 50 acres or more in the action area.
FISHES			
Colorado Pikeminnow (*Ptychocheilus lucius*)	Endangered	Large rivers with strong currents, deep pools, eddies, and quiet backwaters. Designated critical habitat for this species is found approx. 23 miles from the project area within the San Juan River west of Farmington, New Mexico.[7]	NO: The project will not result in water-related activities or water use in the San Juan River Basin.
Razorback Sucker (*Xyrauchen texanus*)	Endangered	Swift currents, eddies, and backwaters in the San Juan, Colorado, Green and Yampa Rivers. Designated critical habitat for this species is found approx. 34 miles from the project area within the San Juan River west of Farmington, New Mexico.[7]	NO: The project will not result in water-related activities or water use in the San Juan River Basin.
FLOWERING PLANTS			
Knowlton's Cactus (*Pediocactus knowltonii*)	Endangered	Known from one location in rocky alluvial humus soils along the Los Piños River near the Colorado-New Mexico border. There is no critical habitat designated for this species.	NO: No unique, cobble-covered substrate occurs in the action area. This species is not known to occur outside of the Los Piños River valley.

Sources: [1]USFWS 2016; [2]USFWS 2004; [3]USFWS 2013a; [4]USFWS 2013b; [5]USFWS 2014b; [6]USFWS 2014a; [7]USFWS 1994.

5.1 Summary of Potential Impacts to Threatened and Endangered Species

There was no evidence of any threatened or endangered species, or critical habitats thereof, in the project area. Therefore, no impacts to threatened and endangered species are expected from the proposed project. Table 3 provides the effects determinations for the listed species with potential to occur in the project area.

Table 3. Effects Determination Summary of Federally Listed Species with Potential to Occur in the Project Area.

Species	Status	Determination of Effect
Colorado Pikeminnow	Endangered	No effect

Knowlton's Cactus	Endangered	No effect
Mexican Spotted Owl	Threatened	No effect
New Mexico Meadow Jumping Mouse	Endangered	No effect
Razorback Sucker	Endangered	No effect
Southwestern Willow Flycatcher	Endangered	No effect
Yellow-Billed Cuckoo	Threatened	No effect

Potential impacts to other wildlife in the area, including big game, migratory birds, and raptors, would result from an increase in noise above ambient levels – which are currently low and quiet. Air emissions from the facility will be in compliance with the U.S. EPA's Federal Minor New Source Review Program in Indian Country and are not expected to negatively impact the environment. Red Cedar will be developing a new facility lighting plan increasing light pollution levels in the area. However, as noted in Section 2.2 of this BA, Red Cedar will implement best management practices accepted by the Southern Ute Indian Tribe's Department of Energy in the design and development of the facility.

6 Certification

It is believed by SECMG that the proposed project would not violate any of the provisions of the ESA, as amended. Conclusions of this report are based on actual field examination and are correct to the best of my knowledge.

Matthew Zabka, Biologist and Environmental Compliance Specialist
Southern Ute Indian Tribe Growth Fund, SECMG
65 Mercado Street, Suite 260
Durango, Colorado 81301
(970) 764-6491

7 Literature Cited, Reviewed and Data Sources

Ecosphere Environmental Services. 2001. A Survey for Threatened, Endangered, and Sensitive Species for the Proposed Red Cedar Gathering Company Antler Compressor Site Expansion. March 2001.

USFWS. 1994. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback Sucker, Colorado Squawfish, Humpback Chub, and Bonytail Chub. Federal Register Vol. 59, No. 54. March 21, 1994.

USFWS. 1995. Endangered and Threatened Wildlife and Plants; Final Rule Determining Endangered Status for the Southwestern Willow Flycatcher. Federal Register Vol. 60, No. 38. February 27, 1995.

USFWS. 2004. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Mexican Spotted Owl. Federal Register Vol. 69, No. 168. August 31, 2004.

USFWS. 2013a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher. Federal Register Vol. 78, No. 2. January 3, 2013.

USWFS. 2013b. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-Billed Cuckoo (*Coccyzus americanus*). Federal Register Vol. 78, No. 192. October 3, 2013.

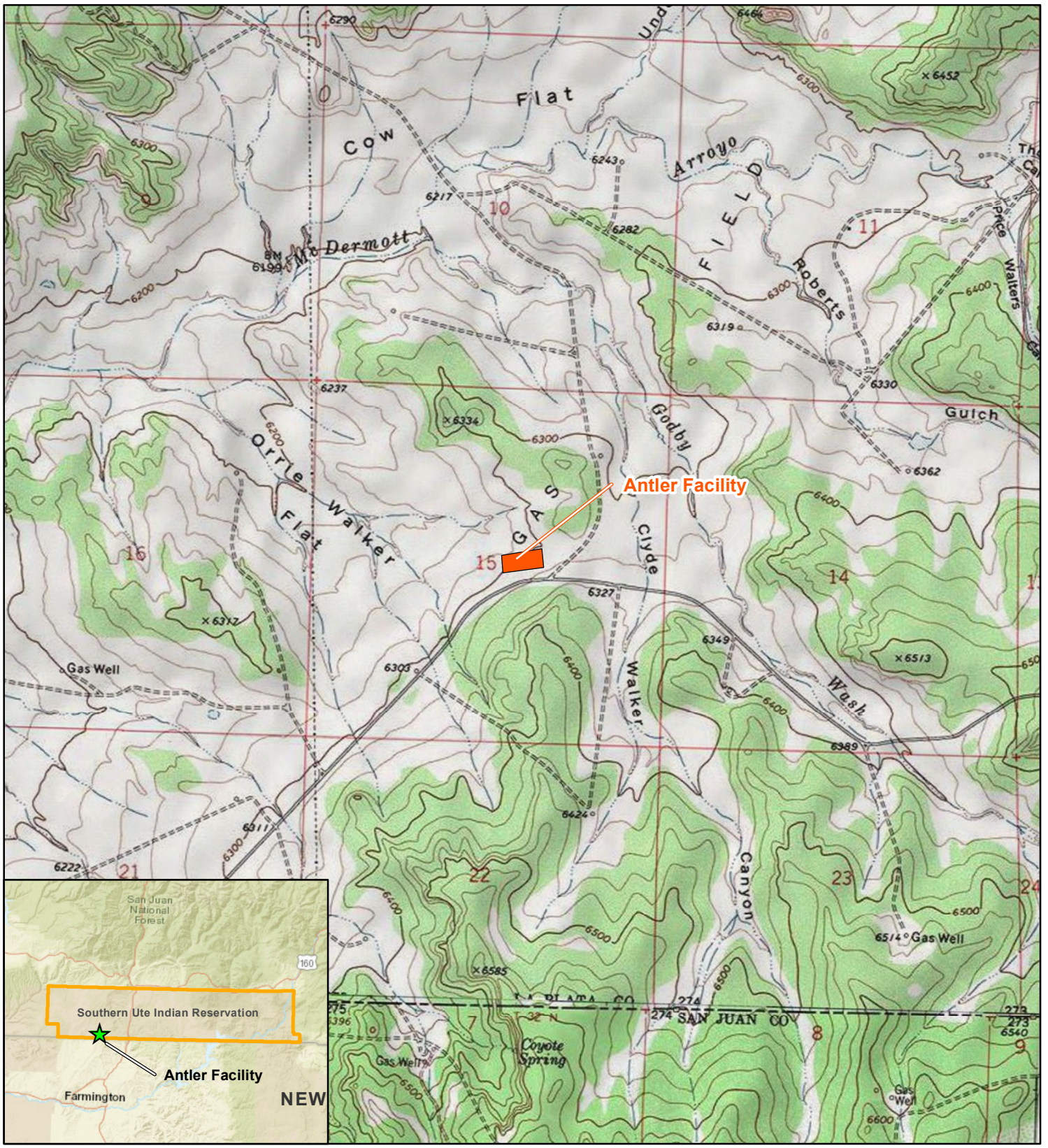
USFWS. 2014a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo. Federal Register Vol. 79, No. 158. August 15, 2014.

USFWS. 2014b. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*). Federal Register Vol. 79, No. 192. October 3, 2014.

USFWS. 2016. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the New Mexico Meadow Jumping Mouse. Federal Register Vol. 81, No. 51. March 16, 2016.

Appendix A. Southern Ute Indian Tribe, Department of Natural Resources Concurrence

Appendix B. Project Maps



Project Area Map
Antler Gas Turbine Generating Station

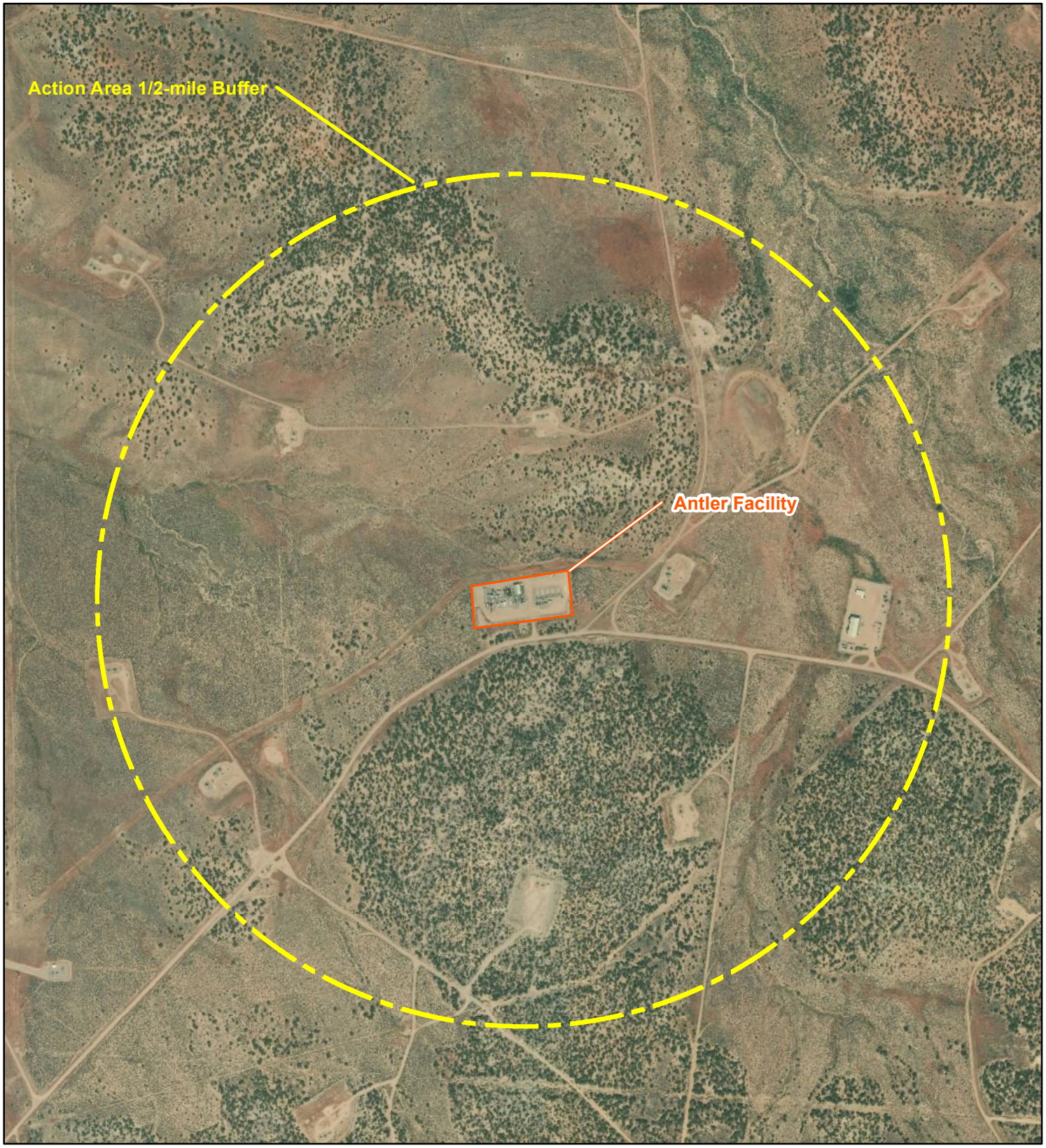
0 0.25 0.5 0.75 1 Miles

N

1:24,000

RED CEDAR GATHERING COMPANY

Prepared by: mzabka
Date: 6/4/2020



Site Detail Map
Antler Gas Turbine Generating Station

0 0.1 0.2 0.3 0.4 Miles

N

1:10,000

RED CEDAR
GATHERING COMPANY

Prepared by: mzabka
Date: 6/4/2020

Appendix C. USFWS Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
Phone: (970) 628-7180 Fax: (970) 245-6933
http://www.fws.gov/mountain-prairie/es/Colorado/
http://www.fws.gov/platteriver/

In Reply Refer To: May 18, 2020
Consultation Code: 06E24100-2020-SLI-0249
Event Code: 06E24100-2020-E-00726
Project Name: Antler Gas Turbine Generating Station

Subject: Updated 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
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

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:

Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
(970) 628-7180

Project Summary

Consultation Code: 06E24100-2020-SLI-0249

Event Code: 06E24100-2020-E-00726

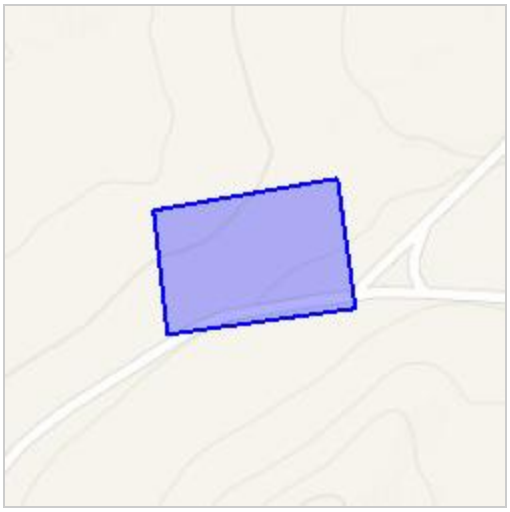
Project Name: Antler Gas Turbine Generating Station

Project Type: POWER GENERATION

Project Description: Red Cedar Gathering Co. is proposing to install four gas turbines at their former Antler Processing Plant. The turbines will burn natural gas gathered from nearby wells to generate electricity. The station will produce between ~11 MW and ~30 MW gross power output per machine, with a total capacity of ~98 MW.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.017745036476654N108.0274498139051W



Counties: La Plata, CO

Endangered Species Act Species

There is a total of 7 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. Note that 2 of these species should be considered only under certain conditions.

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
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/8196	
Southwestern Willow Flycatcher *Empidonax traillii extimus*	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/6749	
Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/149/office/65413.pdf	
Yellow-billed Cuckoo *Coccyzus americanus*	Threatened
Population: Western U.S. DPS	
There is **proposed** critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/3911	
Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/6901/office/65413.pdf	

Fishes

NAME	STATUS
Colorado Pikeminnow (=squawfish) *Ptychocheilus lucius*	Endangered
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.	
This species only needs to be considered under the following conditions:	
▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. This species does not need to be considered if the project is outside of its occupied habitat and does not deplete water from the basin.	
Species profile: https://ecos.fws.gov/ecp/species/3531	
Razorback Sucker *Xyrauchen texanus*	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.	
This species only needs to be considered under the following conditions:	
▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. This species does not need to be considered if the project is outside of its occupied habitat and does not deplete water from the basin.	
Species profile: https://ecos.fws.gov/ecp/species/530	

Flowering Plants

NAME	STATUS
Knowlton's Cactus *Pediocactus knowltonii*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/1590	

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

Appendix D. Plants and Animals Observed in the Project Area

Scientific Name	Common Name
Plants	
Achnatherum hymenoides	Indian ricegrass
Agropyron cristatum	Crested wheatgrass
Aliciella haydenii	San Juan gilia
Atriplex canescens	Fourwing saltbush
Artemisia tridentata	Big sagebrush
Bromus tectorum	Cheatgrass
Convolvulus arvensis	Field bindweed
Cymopterus purpureus	Purple springparsley
Ericameria nauseosa	Rubber rabbitbrush
Gutierrezia sarothrae	Broom snakeweed
Helianthus annuus	Common sunflower
Juniperus osteosperma	Utah juniper
Melilotus officinalis	Sweetclover
Opuntia polyacantha	Prickly-pear cactus
Pinus edulis	Piñon pine
Quercus gambelii	Gambel oak
Salsola tragus	Russian thistle
Sisymbrium altissimum	Tall tumblemustard
Thlaspi arvense	Field pennycress
Wildlife	
Buteo jamaicensis	Red-tailed hawk
Canis latrans	Coyote (sign)
Cathartes aura	Turkey vulture
Corvus corax	Common raven
Cynomys gunnisoni	Gunnison’s prairie dog
Odocoileus hemionus	Mule deer (sign)
Pica hudsonia	Black-billed magpie
Sayornis saya	Say’s phoebe
family *Sciuridae*	Ground squirrel (sign)
Sialia currucoides	Mountain bluebird
Sylvilagus audubonii	Desert cottontail (sign)

Appendix E. Selected Photos of the Project Area

Photo 1. Entrance to Antler facility, view north.

Photo 2. View west along southern facility boundary.

Photo 3. View north along the west facility boundary.

Photo 4. View east along north facility boundary.

Photo 5. View east of existing equipment from west facility boundary.

Photo 6. View northeast from southeast corner of facility boundary.

Department of Natural Resources
Division of Wildlife Resource Management
Interoffice Memorandum

To: Matthew Zabka, Environmental Compliance Specialist, Southern Ute SECMG

From: Steve Whiteman, Wildlife Division Head

Subject: Biological Assessment Concurrence

Date: June 30, 2020

CC: Adrian Abeyta, SUIT Dept. of Energy
Shannon Nez, BIA Southern Ute Agency / Realty
SUIT Wildlife Division Files

The following biological assessment, prepared by the Southern Ute Safety & Environmental Compliance Management Group, has recently been received and reviewed by the Southern Ute Division of Wildlife Resource Management:

Red Cedar Gathering Company / Antler Gas Turbine Generating Station

In reviewing this biological assessment, I have found it to be complete and accurate, and concur with the determinations of *"no effect"* for all nine ESA-protected species identified for the Reservation. If you have any questions or need additional information, please feel free to contact me directly at 970-563-0130.

Steve Whiteman, Division Head
Division of Wildlife Resource Management
Southern Ute Indian Tribe

Antler Power Station

Red Cedar Gathering Company

Attachment G

NHPA (National Historic Preservation Act)

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
SOUTHWEST REGION
P.O. BOX 26567
Albuquerque, New Mexico 87125-6567

IN REPLY REFER TO:

380-Natural Resources Services
Southern Ute 2001-132

MAY 0 7 2001

Ms. Gina Doerner
Timberline Land Company
1911 Main Street, Suite 240
Durango, Colorado 81301

Dear Ms. Doerner:

We have reviewed a cultural resource survey report dated March 20, 2001, and entitled, "An Intensive Archaeological Survey For the Proposed Red Cedar Antler Compressor Site La Plata County, Colorado" and is numbered MCES Technical Report No. 2001-015. Ms. Susan Barnett and Ms. Roberta Bradley, Muukui-ci Cultural and Environmental Services, prepared this report. We understand that you also have copy of this document.

The proposed compressor site is an undertaking as defined in 36 CFR 800.16(y) and has the potential to effect historic properties located on Southern Ute Tribal lands. Red Cedar Gathering Company proposes to expand the compressor site. The total "area of potential effect" (APE) is 13.95 acres and is described in the report. This survey was performed as part of the Federal requirement for compliance with § 106 of the National Historic Preservation Act (16 U.S.C. 470) to identify and evaluate any effects to historic properties as a result of these projects.

During the survey, one site (5LP 6054) and four Isolated Finds (5LP 6050 - 6053) were located and recorded. Pursuant to 36 CFR 800.4(c)(1), we have determined that site 5LP 6054 (a single ceramic sherd) and the four Isolated Finds are not significant or eligible to the National Register of Historic Places and require no further consideration. The Southern Ute Tribe has previously reviewed the reports prior to submittal to the Bureau of Indian Affairs (BIA) and no comments were made regarding any areas, which may have traditional religious or cultural importance to the Tribe. Additionally, the Tribe had no comments if other tribes, individuals, or organizations should also be consulted with regard to any issue relating to this project. Therefore, we have determined that the proposed project will have no effect on any historic properties listed or eligible to the National Register of Historic Places pursuant to 36 CFR 800.4(d)(1). We have notified the Southern Ute Tribe and the Colorado State Historic Preservation Officer on our determination.

The proposed undertaking is in compliance with the provisions of § 106 of the National Historic Preservation Act (16 U.S.C. 470) and its implementing regulations (36 CFR 800). The project may proceed under the following stipulations:

1. All land-altering activities shall be confined to the area surveyed for cultural resources. The Archaeological Resources Protection Act (16 U.S.C. § 470ee) prohibits the excavation, removal, damage, alteration or defacement, or attempt to excavate, remove, damage, alter or deface any archaeological resources [cultural resources] located on Federal or Indian lands. Both criminal and civil penalties may be assessed (16 U.S.C. §§ 470ee and 470ff). The project sponsor shall control the action of its agents at the job site to ensure that any archaeological sites will not be damaged.

2. If subterranean cultural resources are encountered, all land-altering activities shall cease within 50 feet of the discovery and the Regional Archeologist shall be notified immediately for consultation on the treatment of the discovery.

These stipulations shall be followed or project suspensions will be issued. The responsibility of project sponsors is to notify subcontractors of the project boundaries and stipulations. Any change in project boundaries, new construction or proposed improvements, which are outside the area previously surveyed, will require an additional survey and repetition of the compliance procedures.

This letter only serves as notification that § 106 compliance has been completed for the subject project pursuant to the National Historic Preservation Act (16 U.S.C. 470) and its implementing regulations (36 CFR 800.4(d)(1)). It does not constitute approval of right-of-way or concurrence in the proposed activities by the Bureau of Indian Affairs (BIA). This compliance is one of several legal requirements, which must be accomplished before BIA approval of rights-of-way, easements, or other land use contract for land modifying projects.

If you have any questions, please contact Mr. Rolf J. Nabahe, Archeologist, Branch of Natural Resources Services, at (505) 346-7111.

Sincerely,

Acting

Deputy Regional Director