March 28, 2025

Dear Stakeholder:

The Department of Environmental Quality (DEQ) has prepared the attached supplemental draft environmental assessment (EA) in response to the Montana Supreme Court's Decision (DA-23-0225), issued on January 3, 2025. This court-ordered supplemental draft EA is for Montana Air Quality Permit Application Number 5261-00 for the NorthWestern Energy-Laurel Generating Station. This supplemental EA includes information subject to the Court's decision: requiring a lighting analysis and a Greenhouse Gas (GHG) Assessment.

The lighting analysis within this supplemental draft EA was previously made available to the public from June 1, 2023, through July 3, 2023, when a separate supplemental draft EA was posted for public comment. DEQ's responses to public comments received on the 2023 supplemental draft EA—in addition to the matters addressed in the Montana Supreme Court's decision—are included in this court-ordered supplemental draft EA.

NorthWestern Energy has since completed construction of the Laurel Generating Station, which began operations on March 7, 2024. Potential impacts normally described for a "proposed" project continue to be described within this document in the future tense. For this project, construction impacts have already occurred, and potential impacts from facility operations are presently occurring and expected to continue to occur. Please use the Table of Contents found on page 2 to navigate the document.

Public Comment: Any member of the public desiring to comment must submit comments to DEQAIR@mt.gov or to the address below. DEQ is only taking comments on lighting and GHG impacts from the proposed Laurel Generation Station. If comments outside of the lighting analysis and GHG Assessment are received, DEQ will summarize those comments, but the agency is not required to respond to any comments beyond those associated with lighting and GHG impacts.

All comments are due by April 28, 2025. Copies of the application and DEQ's analysis may be requested at https://deq.mt.gov (at the bottom of the home page, select Request Public Records). For more information, you may contact DEQ at (406) 444-3490, or DEQAIR@mt.gov.

Departmental Action: DEQ intends to make a Decision on the EA following the Public Comment period with the issuance of a Supplemental Final Environmental Assessment. A copy of the Supplemental Final EA will be available on DEQ's website, https://deq.mt.gov/public/publicnotice (select AIR). The EA shall become final on the date stated in the Decision, unless the Board of Environmental Review (Board) orders a stay.

For DEQ,

Eric Merchant
Air Permitting Section Supervisor
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Environmental Engineer
Air Quality Bureau
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SUPPLEMENTAL DRAFT ENVIRONMENTAL ASSESSMENT

LAUREL GENERATING STATION

03/28/2025

Air Quality Bureau

Air, Energy, and Mining Division

Montana Department of Environmental Quality

Table of Contents

Project Overview

COMPANY NAME:	NorthWestern Energy
EA DATE:	March 28, 2025
SITE NAME:	Laurel Generating Station (Yellowstone Generating Station)
MAQP#:	5261-00
Application Received Date:	June 9, 2021

Location

County: Yellowstone
The facility location is for 45.659706°N, latitude and -108.745954°W, longitude.

PROPERTY OWNERSHIP: FEDERAL STATE PRIVATE X

Compliance with the Montana Environmental Policy Act

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The proposed action is a state action that may have an impact on the human environment and, therefore, the Department of Environmental Quality (DEQ) must prepare an environmental review. This Environmental Assessment (EA) will examine the proposed action and alternatives to the proposed action and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608. DEQ may not withhold, deny, or impose conditions on the Permit based on the information contained in this EA (§ 75-1- 201(4), MCA).

EA Chronology

Draft EA associated with permit Preliminary Determination: July 9, 2021.
Final EA associated with permit Department Decision: August 23, 2021.
Supplemental Draft EA out for public comment; June 1, 2023, thru July 3, 2023.
This court-ordered supplemental EA on lighting and GHG assessment out for public comment; March 28, 2025, thru April 28, 2025.

This supplemental EA incorporates the previously identified EAs and has been prepared for Montana Air Quality Permit Application Number 5261-00 for the NorthWestern Energy-Laurel Generating Station. This supplemental EA includes information subject to the Court's decision requiring a lighting analysis and a Greenhouse Gas (GHG) Assessment.

Proposed Action

NWE applied for a Montana Air Quality Permit under the Clean Air Act of Montana for eighteen (18) 9.7-megawatt-electrical (MWe) reciprocating internal combustion engines (RICE), one 2,682 brake horsepower (bhp) emergency diesel-fired engine generator set. Other emitting

units of the action are a 315-bhp diesel-fired fire pump engine and a 1.11 MMBtu/hr natural gas line heater, and fugitive road dust from a new road. The proposed action would be located on private land, 1.5 miles southeast of Laurel, Montana. All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools. All information included in this EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, a lighting analysis prepared by NWE and other research tools.

Purpose and Need

Under MEPA, Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The proposed action may have an impact on the human environment; therefore, DEQ must prepare an environmental review. This supplemental EA will examine the proposed action and alternatives to the proposed action and disclose potential impacts that may result from the proposed and alternative actions. DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in ARM 17.4.608.

Table 1. Summary of activities proposed in application

Summary of Proposed Action	
General Overview	NWE's air quality permit application consists of the following equipment: • Eighteen (18) 9.7-megawatt-electrical (MWe) reciprocating internal combustion engines (RICE), • One 2,682 -bhp emergency diesel-fired generator, • One 315-bhp diesel-fired fire pump engine, • 1.11 MMBtu/hr natural gas line heater. • Fugitive road dust. The facility would be permitted to emit air pollutants from this equipment until NWE requested permit revocation or if the permit were revoked by DEQ due to gross non-compliance with the permit conditions.
Proposed Action Estimated Disturbance	
Disturbance	Operational disturbance would be approximately 10.4 acres including the access road. Construction disturbance would be approximately 20.4 to 25.4 acres.
Proposed Action	
Duration	**Construction:** Construction or commencement would start within three years of issuance of the final air quality permit. **Construction Period:** The construction period is expected to

	last approximately 12 months. Startup and commissioning would run for approximately six months. As the result of litigation, this duration could possibly extend beyond the original timeframe estimates. **Operation Life:** The project specification used by NWE for bids for this project were stated as a minimum of a 30-year life.
Construction Equipment	Cranes, backhoes, graders/dozers, passenger trucks, delivery trucks, cement trucks, various other types of smaller equipment
Personnel Onsite	**Construction:** Approximately 150 Contract Personnel **Operations:** Twelve to fifteen permanent staff during operation
Location and Analysis Area	**Location**: Lat/Long 45.659706, -108.745954 **Analysis Area**: The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.
Air Quality	This EA will be attached to the Air Quality Permit which would include all enforceable conditions for operation of the emitting units
Conditions incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the Montana Air Quality Permit dated July 9, 2021, set forth in Sections II.A-D and updated in the Decision Air Quality Permit dated August 20, 2021. Conditions included in the remanded Preliminary Determination dated 6/1/2023.
Cumulative Impact Considerations	
Past Actions	This is a new air quality permit for an electrical generating station which utilizes natural gas-fired engines to produce electricity. Combustion related emissions will be released from each of the eighteen engines when they are in operation.
Present Actions	This is a new air quality permit for an electrical generating station which utilizes natural gas-fired engines to produce electricity. Combustion related emissions will be released from each of the eighteen engines when they are in operation. This facility has since begun operation but the EA addresses both a lighting analysis and greenhouse gas assessment.
Related Future Actions	No information is available regarding future actions.

Evaluation of Affected Environment and Impact by Resource

The impact analysis will identify and evaluate whether the impacts are direct or secondary impacts to the physical environment and human population in the area to be affected by the proposed project. Direct impacts occur at the same time and place as the action that causes the

impact. Secondary impacts are a further impact to the human environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action (ARM 17.4.603(18)). Where impacts would occur, the impacts will be described.

Cumulative impacts are the collective impacts on the human environment within the borders of Montana that could result from the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location and generic type. Related future impacts must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. The activities identified in Table 1 were analyzed as part of the cumulative impacts assessment for each resource.

The duration is quantified as follows:

- Construction Impacts (short-term): These are impacts to the environment during the construction period. When analyzing duration, please include a specific range of time.

- Operation Impacts (long-term): These are impacts to the environment during the operational period. When analyzing duration, please include a specific range of time.

The intensity of the impacts is measured using the following:

- No impact: There would be no change from current conditions.

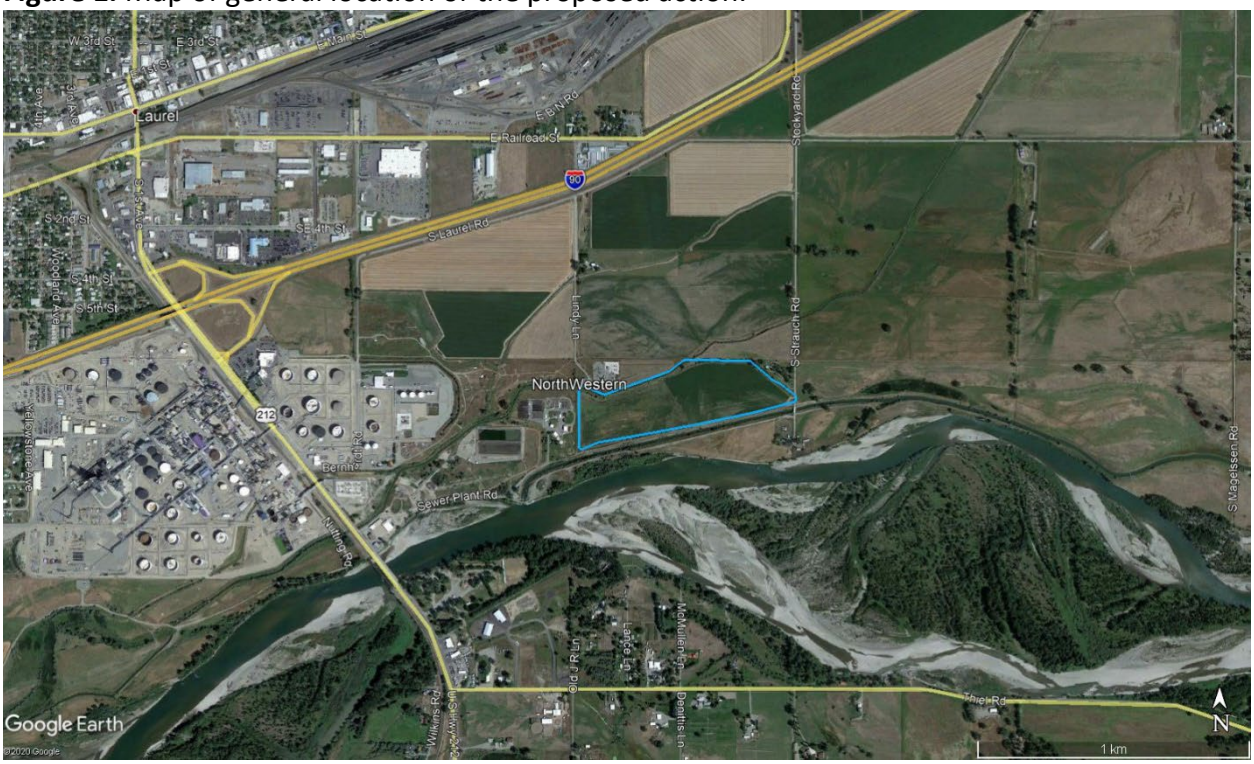
- Negligible: An adverse or beneficial effect would occur but would be at the lowest levels of detection.

- Minor: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.

- Moderate: The effect would be easily identifiable and would change the function or integrity of the resource.

- Major: The effect would alter the resource.

Figure 1. Map of general location of the proposed action.



Aesthetic Impacts from Lighting

This facility has since completed construction and began operation on March 7, 2024. Potential impacts normally described for a "proposed" project continue to be described within this document in the future tense. For this project, construction impacts have already occurred, and potential impacts from facility operation are presently occurring and expected to continue to occur.

At DEQ's request, NWE has provided additional information regarding the potential lighting impacts from the proposed action to assist in preparing this supplemental EA. Information and text provided by NWE has been incorporated into this section to support DEQ's conclusions on potential aesthetic impacts from lighting. DEQ has made available the full NWE Lighting Analysis (NWE Laurel Generating Station Lighting Design, dated May 19, 2023, Ref. NWE #1 and NWE Laurel Nighttime Rendering Design Follow-Up Submittal, May 26, 2023, Ref. Thompson2) and posted those materials as separate documents to DEQ's AQB permit website.

The proposed action is located in an area mostly surrounded by agricultural and industrial private property. The proposed action is located exclusively on private land.

The immediate receptors surrounding the project are industrial neighbors, agricultural properties, recreationalists on the river, and intermittent residences surrounding the property. The nearest two residences are located approximately 1,030 feet and 1,230 feet away from the

east side of the proposed action's engine hall, respectively. The exhaust stacks are on the west side of the engine hall and are further away from these two residences.

The analysis area for lighting is the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered. There are no other zoning or regulatory requirements at a local, county, state level for lighting requirements in the analysis area of the proposed action. The area adjacent to the proposed action is zoned for HI-heavy industrial and A1-Agricultural Open and there are no lighting restrictions in these zoning requirements.

Light can travel, and be visible, up to several miles from a single light source, depending on atmospheric conditions. Factors influencing travel distance are numerous and include:

- The intensity of the source,
- Distribution and orientation of the source,
- Color temperature of the source,
- Shielding of the source,
- Air quality (particulates, ppm)
- Humidity,
- Temperature,
- Time of day,
- Man-made or natural obstructions including buildings and trees,
- Elevation changes,
- Existing ambient sky glow in any given area,
- Age of observer.

The luminous flux of a particular light source is measured in lumens. Lighting fixtures are typically specified and categorized based on lumen output. The higher the lumen output, the 'brighter' the light source; the lower the lumen output, the less bright the light source. Fixtures are specified based on lumens, not watts. Watts are a unit for the measure of energy consumption. Each of the external lights that are planned for the proposed action are specified in lumen output and part of the analysis to determine the overall lighting impact.

Illuminance is the amount of light (lumens) falling on a defined surface area. Illuminance is quantified as lumens per square foot (footcandles) or lumens per square meter (lux). Measuring (or calculating) the illuminance allows for determining how much light is needed to perform specific tasks.

The Illuminating Engineering Society (IES) recommends a typical classroom, to have a light level of 30-50 footcandles or 300-500 lux. Compared to a professional laboratory which recommends a light level of 75-120 footcandles or 750-1200 lux. The IES recommendations are evidence-based to determine how much light is needed for different tasks varying levels of detail.

Typical examples of lighting are noted as follows:

- Clear Summer Day: 100,000 Lux (~10,000 footcandles)
- Full Indirect Sunlight: 10,000 Lux (~1,000 footcandles)
- Overcast Day: 1,000 Lux (~100 footcandles)
- Traditional Office Lighting: 300-500 Lux (30-50 footcandles)
- Common Stairway: 50-100 Lux (5-10 footcandles)
- Twilight: 10 Lux (1 footcandle)
- Full Moon: <1 Lux (<0.1 footcandle)

Direct Impacts

Proposed Action: Consistent with the original project phases of the proposed action, there are lighting needs during construction and lighting needs that would occur with the operation of the facility. During construction, outdoor lighting would be used to provide safe, secure operations after project completion. Typical construction working hours would be weekdays 6 a.m. to 6 p.m. Occasional construction work could occur during nighttime hours and weekends. Outside of working hours lighting would be reduced to that sufficient for security purposes with the majority being turned off. The project design demonstrates the planned lighting system design and installation reasonably minimizes the lighting while also providing necessary lighting consistent with the need to provide a safe working environment for personnel during construction, as well as a safe, secure environment for operating and maintaining the project. The desired average illuminance for this project would be approximately 1 footcandle for roadway and circulation around buildings.

Photographs from the site at its current construction phase, are shown below.

Figure 2. Construction lighting from the east looking west during 5 progressing phases of construction.

At dusk from east edge of site looking west

From construction trailers looking west

From construction trailers looking west

From construction trailers looking west

From construction trailers looking west

During operations, the proposed action would have a total of five buildings including the engine hall, a control room, an electrical and battery room, a warehouse building, and a maintenance building. The largest building would be the engine hall where the 18 engines would reside. The second largest building would the maintenance building. There are approximately 176 external lighting fixtures expected across these five buildings, but almost half of these lights are dedicated for equipment areas and would normally be turned off on a nightly basis and only turned on as required during periods of operations or maintenance. Outdoor nighttime maintenance activities are not anticipated but may occur occasionally.

The tallest external lighting fixtures noted in the building plan are those mounted on poles, generally lighting the road access area to the facility and surrounding the project site. These fixtures are designed for an elevation of 30 feet and also have the highest rated lumens of all the fixtures at 22,400. These fixtures are controlled through a light sensing cell and therefore do not operate during the day but would operate continuously during the night. These lights are for safety and security purposes. These lights are also fitted with shielding to make these lights Dark Sky compliant which directs light downward to the intended lighting area and avoiding excess upward lighting. Dimmers are also planned to offer additional control to turn the lighting levels down as warranted. There are two 30 feet pole fixtures which have lumen ratings of 44,800 lumens located south of the plant but these are not planned for continuous night operation and have wall switches. These poles are designed with two fixtures each rated at 22,400 lumens for occasional use when additional lighting is needed at these locations.

Other external fixtures are mounted on the five buildings including the engine hall and the exhaust silencers. These lighting fixtures are designed for installation elevations between 6.5 and 15 feet. These lights are generally Dark Sky compliant to minimize unintended upward and outward lighting. These lights only operate during the nighttime as they also utilize a light sensing cell to operate, and these lights are designed with ratings between 2671 and 7373 lumens. The exhaust stacks are 78 feet above final grade. There would be no permanent lights installed on the stacks, which are the tallest and most prominent structures in the proposed action.

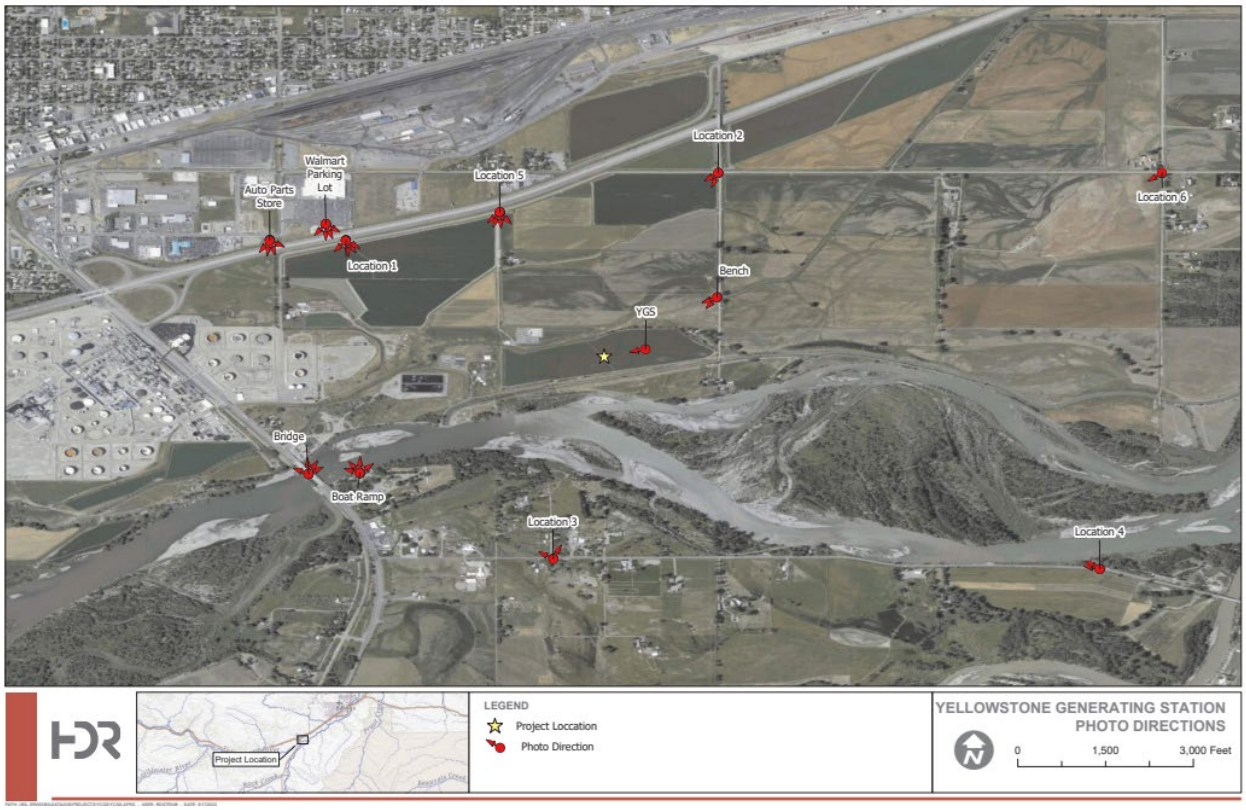
The electrical transformers also have lighting fixtures which are not intended to operate at night and “wall switches” are planned so the area could be lit on an as needed basis. This operation would be expected to be intermittent and these fixtures are located at approximately 20 feet each with a 12, 278 lumen rating.

The external fixtures that would most often be used are either Dark Sky Compliant thru shielding or have actual fixtures which are Dark Sky Approved. Lights that are not continuously on at night, are designed with the shielding to mitigate unintended lighting.

Because internal lighting would not be visible externally, the impacts from internal lighting would not be present off the site. The internal building lighting, additionally, would be based on occupational lighting requirements.

In order to compare the proposed action impact to the no action alternative, photographs were taken around the existing site with no external lighting from the existing project site, and then modelling performed to show the likely lighting levels with all external lighting on, and with the normal nighttime lighting. This comparison should explain what—if any—new lighting impacts would occur with the proposed action. These nighttime photographs were taken from six labeled locations surrounding the project site. Photographs were actually taken at 11 locations, but a few of these locations were in such close proximity to one another that the report identifies a total of six locations. At each location, photographs from multiple directions were taken to show which lights are visible in the background. The locations are generally northwest, north, northeast, southwest, south, and southeast of the proposed action site. These locations cover the range of views similar to what most observers currently see around the proposed site. Several of the photographs from submittal NWE#1 are included below. The location key is shown here but only specific detail is summarized for some of the photograph locations. The proposed action is in the middle of the map provided in Figure 3, shown by the yellow star.

Figure 3. Proposed action location and key observation points location with directions of photographs.



Comments on the Final EA for the proposed action dated August 23, 2021, generally concerned impacts to locations to the south, southeast and east of the proposed action site. Key pictures from locations from those directions from the site are included on the following pages.

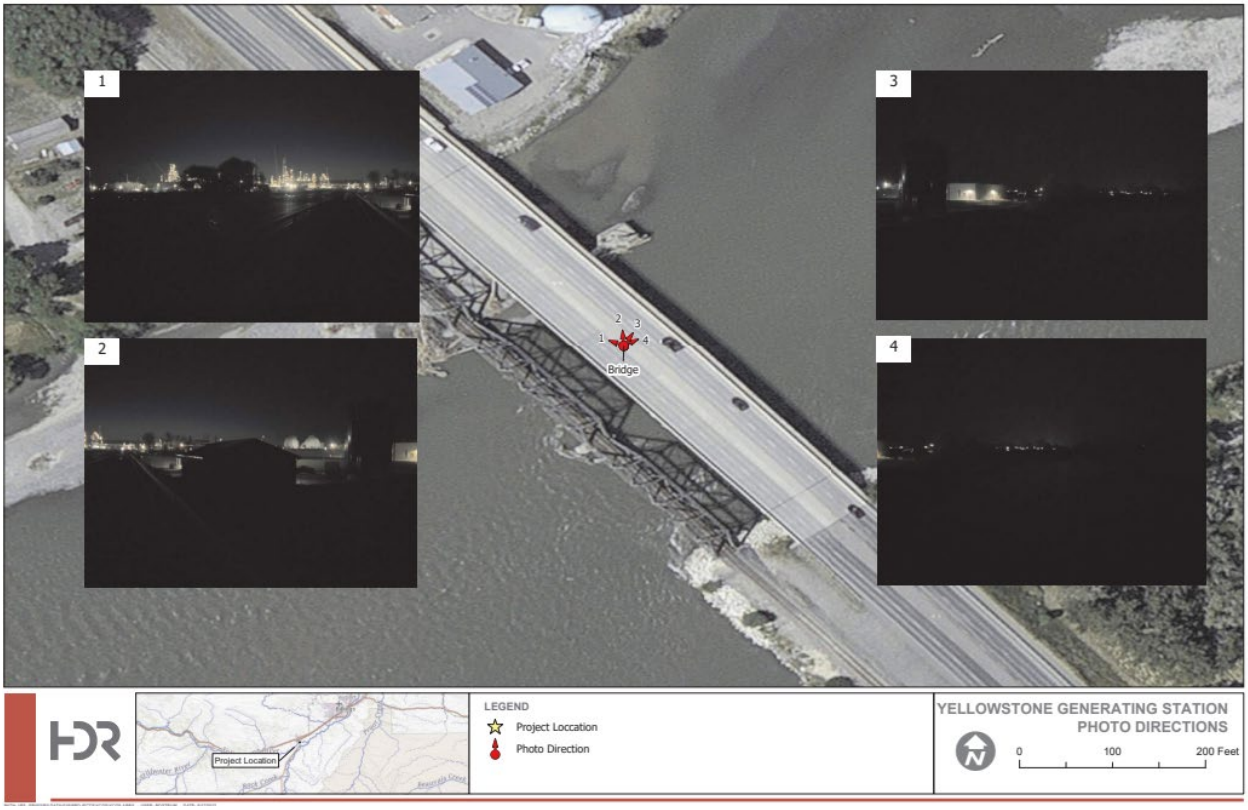
The pictures below were taken from the Boat Ramp at the park location west southwest of the proposed action. The four pictures taken from that location are pointing west northwest, northwest, north, and northeast.

Figure 4. Current views from boat ramp without the proposed action.

The views are identified as pictures 1, 2, 3, and 4. Pictures 1 and 2 clearly show the tall lights from the CHS refinery, while picture 3 shows lights located near the Walmart parking lot and along the Interstate in the background. Picture 4 would be looking directly over the proposed site to the northeast. The Boat ramp location currently has light pollution from many of the industrial and commercial neighbors visible from this location. The brightest lights are near the Walmart parking lot shown in pictures 2 and 3.

Another location where several pictures were taken documenting the current lighting pollution near the proposed action is the Bridge crossing the Yellowstone River just west of the Boat Ramp.

Figure 5. Current views from bridge without the proposed action.



In the existing view from the Bridge location, pictures 1 and 2 clearly show the CHS refinery and tank farm being illuminated. Picture 3 looks directly toward the wastewater treatment plant, electrical substation, and toward the north portion of the project site with picture 4 looking across the project parcel primarily to the east. Existing lights are shown in all four views.

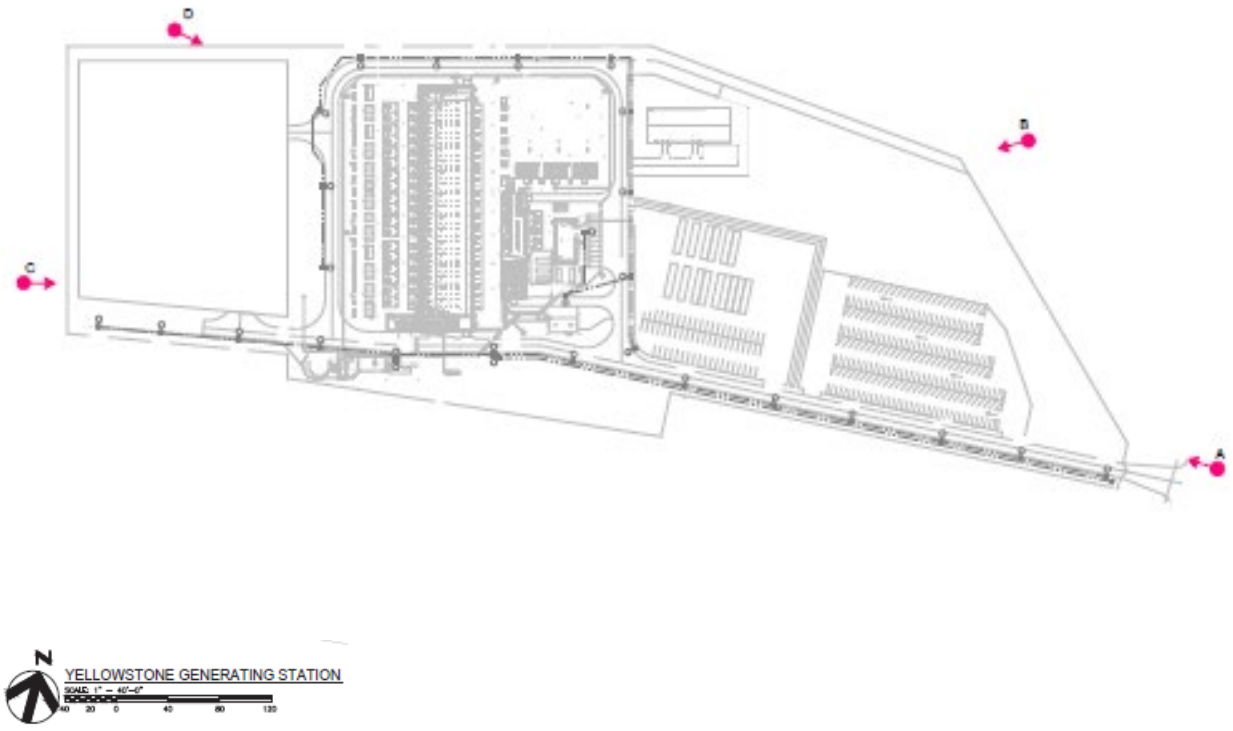
To see how the existing light pollution in the area impacts locations southeast of the proposed action, Location 4 (Figure 6) shows two photographs pointing directly toward the CHS refinery and toward the Walmart location. These two pictures are approximately 0.87 mile from the proposed site (near the engine hall).

Figure 6. Current views from the existing public highway without the proposed action.

At Location 4, light pollution is currently visible from the CHS refinery, which is located approximately 1.79 miles from this vantage point, demonstrating light pollution is already present from numerous locations surrounding the project site.

DEQ, requested modelling be conducted to show the expected light emitted by the proposed action from several locations near the site. This modelling is based on the ratings of the external fixtures, locations of those fixtures including the Dark Sky compliant fixtures using shielding and the Dark Sky approved fixtures. The four locations (A, B, C, and D) are shown in the modelling overview map Figure 7.

Figure 7. Modelled location key.



Locations B and D are two positions where a viewer would be able to see the proposed action. Modeling was conducted demonstrating the impact with all the lights on at the proposed action. Modeling was also conducted demonstrating normal expected operations when only lights on light sensing cells would be in operation. Location B shows the following results.

Figure 8. Location B modelling.

LIGHTING SIMULATION LOCATION **B**

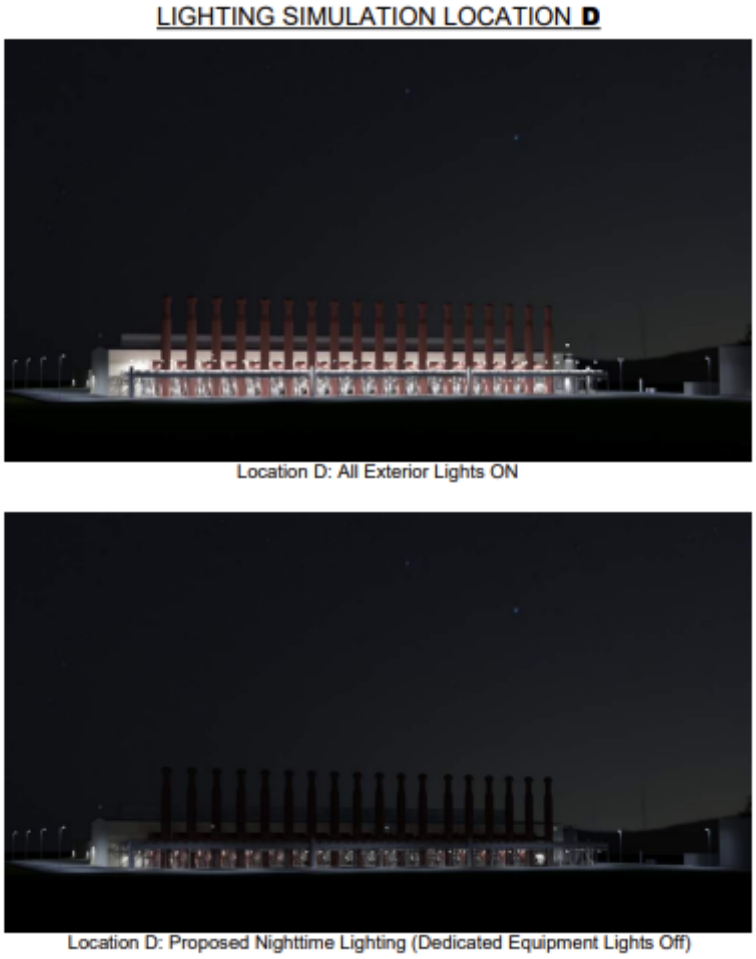
Location B: All Exterior Lights ON

Location B: Proposed Nighttime Lighting (Dedicated Equipment Lights Off)

Stacks appear in the model using a color to simulate the Corten steel which develop a corrosion resistant rust-colored coating. The stack color is likely over-exaggerated in the model. The downward direction of lights is clearly visible with little unintended lighting occurring.

Location D in Figure 7 is shown in the following two pictures.

Figure 9. Location D modelling.



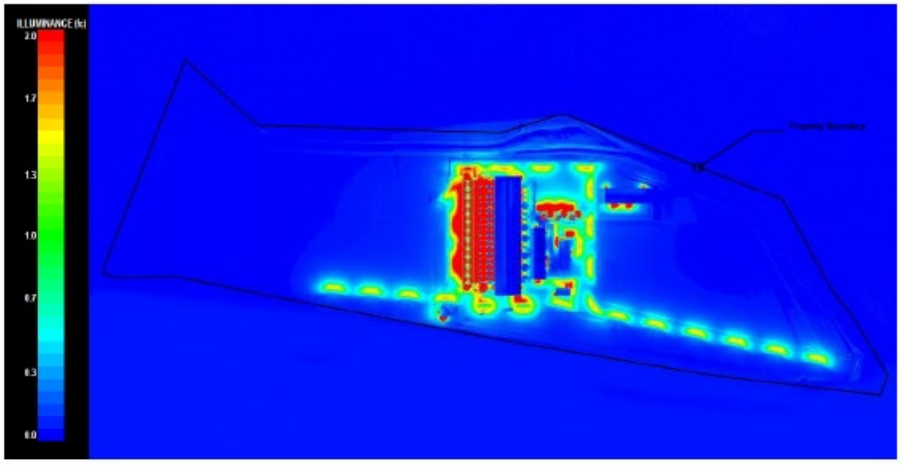
With all lights on, the engine hall becomes more visible, but during normal operation (*i.e.*, when only lights on light sensing cells would be in operation) the lighting impacts are comparatively lower. Locations A and C also show similar results with a minor increase in lighting in the area.

The current baseline pictures indicate there is light pollution surrounding the site. Regardless, of location and distance, lights are visible especially when looking toward the CHS refinery and Interstate Interchange area near Laurel. The modeled renderings of the proposed lighting demonstrate measures are in place to mitigate light pollution. This design includes Dark Sky approved external fixtures, Dark Sky compliant fixtures using shielding and selecting fixture ratings appropriate for the needed lighting. Additionally, dimmers are also planned to further aid in limiting light pollution.

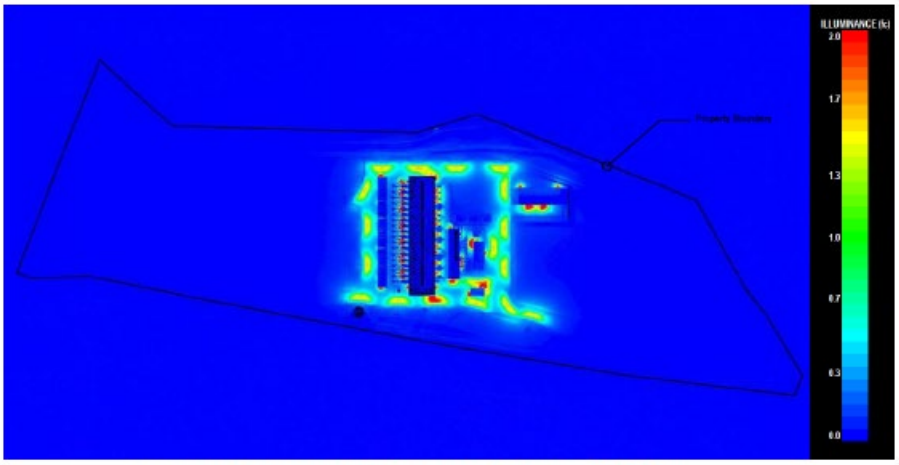
NWE also provided DEQ a lighting illuminance diagram of the proposed action.

NWE's lighting illuminance diagram, provided below, depicts the illuminance levels throughout the site. The property boundary is illustrated by the black line. The illuminance scale is shown on both sides where blue indicates zero footcandles and red indicates areas that have at least 2 footcandles.

Figure 10. Illuminance levels



Lighting Calculation: All Exterior Lights ON



Lighting Calculation: Proposed Nighttime Lighting
(Dedicated Equipment Lights Off + Entrance Roadway Lights Off)

This illuminance map further shows that lighting impacts detectable and measurable in the footcandles metric are local and well within the boundaries of the proposed action parcel.

In addition to the materials discussed above, NWE provided a follow-up submittal on May 26, 2023 (Thompson2), which contained additional renderings of nighttime operation of the facility both with all external lighting on and with typical nighttime lighting levels (*i.e.*, when only lights associated with the light sensing cells would be in operation). These renderings include actual nighttime photographs of existing area lights with the proposed facility also incorporated. Locations for the renderings are shown in the map provided in Figure 9.

Locations and renderings on Figure 11 are identified as follows with their respective Figure reference.

- Entrance 01- All External Lighting On- Figure 12
- Entrance 01 – Typical Nighttime Lighting- Figure 13
- Entrance 02- All External Lighting On -Figure 14
- Entrance 02 - Typical Nighttime Lighting-Figure 15
- Entrance at Channel- All External Lighting On- Figure 16
- Entrance at Channel – Typical Nighttime Lighting-Figure 17
- Walmart Parking Lot- All External Lighting On-Figure 18
- Walmart Parking Lot - Typical Nighttime Lighting-Figure 19
- Bridge – All External Lighting On-Figure 20
- Bridge- Typical Nighttime Lighting- Figure 21

Figure 11. Laurel Generating Station – Nighttime rendering locations.

Note: Materials and colors used for the YCGS equipment/buildings in the lighting simulations is an approximation, actual colors may vary. Stacks are weathered Steel.

Figure 12. Entrance 01 – All lighting on.

Figure 13. Entrance 01 – Typical nighttime lighting.

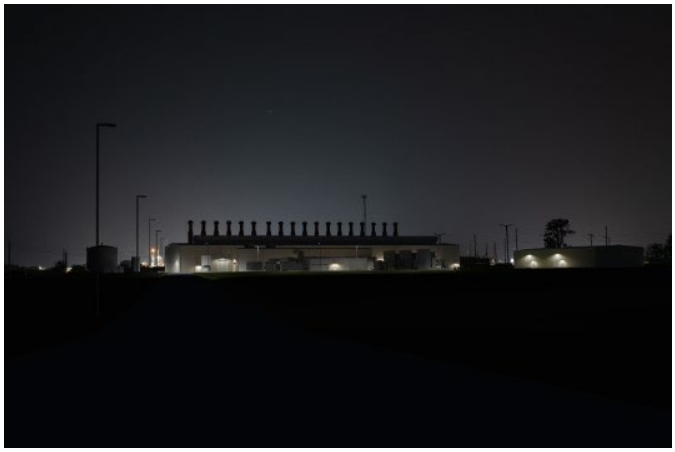


Figure 14. Entrance 02 – All lighting on.

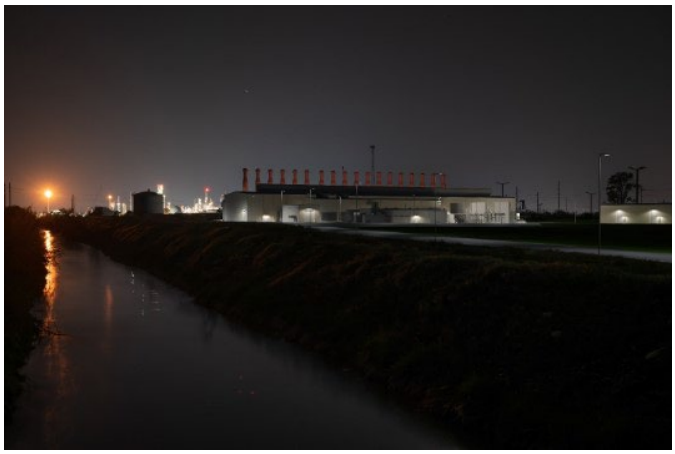


Figure 15. Entrance 02 – Typical nighttime lighting.

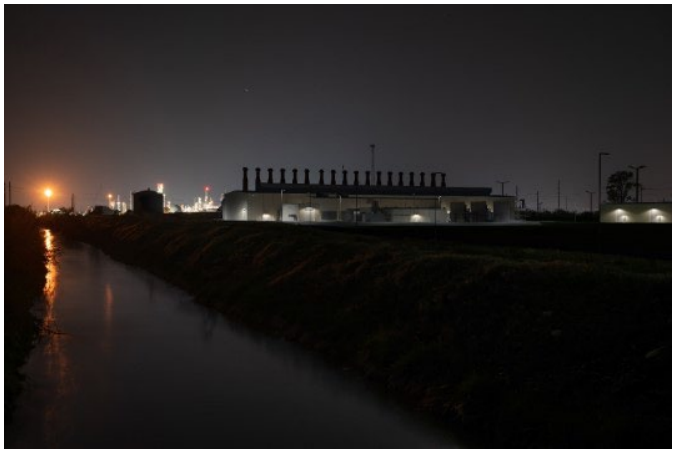


Figure 16. Roadside at channel – All lighting on.

Figure 17. Roadside at channel – Typical nighttime lighting.

Figure 18. Walmart parking lot – All lighting on.

Figure 19. Walmart parking lot – Typical nighttime lighting.

Figure 20. Bridge – All lighting on.

Figure 21. Bridge – Typical nighttime lighting.

Secondary Impacts

Proposed Action: There would be secondary impacts to places with previously unobstructed views toward the facility. Farther away receptor locations which previously saw the lighting pollution from the direction of the CHS refinery, may now have some of that lighting pollution blocked by the proposed facility. No other secondary impacts to aesthetics including lighting are anticipated.

Cumulative Impacts

Proposed Action: The project location constitutes an area previously used for agricultural purposes that over time have been developed into industrial-use properties. This is evidenced by the continuing operation of the CHS Refinery, water treatment and wastewater treatment plants, and existing NWE electrical substation (all on the north side of the Yellowstone River) in addition to the commercial and retail businesses along the Interstate 90 Corridor.

These existing facilities currently have external lighting common to industrial and commercial facilities, and the Laurel Generating Station also requires external lighting for the safety, security, operation and maintenance of the equipment. The lighting design details submitted for this supplemental analysis include design specifications intended to limit outward and upward light pollution by focusing light downward and with the right intensity for the required purpose of the lighting. The design includes Dark Sky approved and Dark Sky compliant (fixtures with shielding) which are not regulated by DEQ or any other regulation. As noted, the proposed action, incorporates many design features intended to mitigate light pollution.

Impacts from operation of the construction lighting and nighttime lighting at the facility would be negligible or minor. Construction lighting would be necessary until that phase is complete. Continuing facility operation with a lighting design as described in this supplemental analysis

brings infrastructure necessary for grid reliability and the minimal lighting with this proposed facility is designed to be less noticeable than other existing facilities. An earthen berm would also be constructed between the project and the nearest residence. The berm would be planted with trees selected in cooperation with the occupants of the residence. The visual screening could reduce light impacts to receptors at this location. The lighting impacts of the proposed action in combination with the construction stormwater permit, and septic permit would not have any cumulative impacts for the proposed action.

Greenhouse Gas Assessment

This facility has since completed construction and began operation on March 7, 2024. Potential impacts normally described for a "proposed" project continue to be described within this document in the future tense. For this project, construction impacts have already occurred, and potential impacts from facility operation are presently occurring and expected to continue to occur.

Issuance of this permit would authorize the use of up to eighteen (18) engines for the purpose of producing electricity for electrical supply. Emissions from each natural gas fired engine associated with the proposed project is included in the Greenhouse Gas Assessment.

The analysis area for this resource is limited to the activities regulated by the issuance of MAQP #5261, which is for the construction and operation of up to 18 natural gas-fired generator engines. The amount of natural gas utilized at this site may be impacted by several factors including seasonal weather impediments, equipment malfunctions and grid demand. However, DEQ has calculated the maximum fuel usage based on continuous operation of all 18 engines, one 2,682 brake horsepower (bhp) emergency diesel-fired engine generator set, a 315-bhp diesel-fired fire pump engine and a 1.11 MMBtu/hr natural gas line heater. The 18 engines and the line heater are assumed operational for 365 days per year while the emergency generator engine and fire pump engine are assumed operational for 300 hours per year due to their intended service function.

DEQ also confirmed that heating ventilation and air conditioning (HVAC) units would be in service for this facility. There are five units planned for operation with a total of 465.8 lbs of refrigerant 410A (R-410A). Some losses of refrigerant would occur from these units during normal operation and maintenance.

For the purposes of this analysis, DEQ defined greenhouse gas emissions as the following gas species: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and many species of fluorinated compounds. The range of fluorinated compounds includes numerous chemicals which are used in many household and industrial products. Other pollutants have certain properties similar to those GHG pollutants mentioned above, but the EPA has clearly identified the species above as the primary GHGs. Water vapor is also technically a greenhouse gas, but its properties are controlled by the temperature and pressure within the atmosphere, and it is not considered an anthropogenic species.

Direct Impacts

The combustion of natural gas and diesel fuel at the site would release GHGs to the atmosphere, primarily CO_2, N_2O and much smaller concentrations of uncombusted fuel components including methane (CH_4) and other volatile organic compounds (VOCs).

DEQ has calculated GHG emissions using the EPA Simplified GHG Calculator version May 2023, for the purpose of totaling GHG emissions. This tool totals CO_2, N_2O, and CH_4 and reports the total as

CO_2 equivalent (CO_2e) in metric tons CO_2e. The calculations in this tool are widely accepted to represent reliable calculation approaches for developing a GHG inventory. Pursuant to MEPA, DEQ determined Scope 1 GHG emissions, as defined by EPA's Inventory Guidance for Greenhouse Gas Emissions, represents an appropriate level of analysis for the proposed action. Scope 1 GHG emissions are defined as direct GHG emissions that occur from sources that are controlled or owned by the organization (EPA Center for Corporate Climate Leadership).

Construction of this facility has already occurred, and the facility has been operating since early 2024. Equipment used for construction included cranes, backhoes, graders/dozers, passenger trucks, delivery trucks, cement trucks and various other types of generally smaller equipment.

Construction related GHGs were tabulated based on contractor estimated fuel usage during actual construction (Ref.Thompson3). Emissions from gasoline, diesel fuel and propane usage on the site were estimated to be equivalent to be 3,792.5 metric tons of CO_2e for all construction-related vehicles.

Operational annual GHG emissions were estimated for natural gas combustion by the 18 engines and the dew point heater. Each of these units were assumed to operate 8,760 hours per year. The fire pump engine and emergency backup generator each combust diesel fuel and are assumed to only be used to check their operational readiness and in actual emergency situations. They are each assumed to operate up to 300 hours per year. The annual emissions total from all engines at the facility using the GHG Calculator tool predicts 695,195 metric tons of CO_2e.

DEQ also confirmed the affected heating ventilation and air conditioning (HVAC) units would be in service for a total charge of 465.8 lbs of refrigerant R-410A, which is considered a greenhouse gas. DEQ estimated the leak/release rate for these five units at no more than 5 percent of system capacity on an annual basis. R-410 has a global warming potential in the EPA GHG Calculator tool of 2,088. A five percent R-410 loss would annually result in 22 metric tons of CO_2e.

DEQ has calculated the potential GHG emissions and provided a narrative description of GHG impacts. This approach is consistent with Montana Supreme Court caselaw and the agency's discussion of other impacts in this draft EA. See Belk v. Mont. DEQ, 2022 MT 38, ¶ 29.

Secondary Impacts

GHG emissions contribute to changes in atmospheric radiative forcing, resulting in climate change impacts. GHGs act to contain solar energy loss by trapping longer wave radiation emitted from the Earth's surface and act as a positive radiative forcing component (BLM 2021). If a reader would like further details, please see the BLM 2022 Annual GHG Report (Reference BLM 2022).

Per EPA's website "Climate Change Indicators", the lifetime of carbon dioxide cannot be represented with a single value because the gas is not destroyed over time. The gas instead moves between air, ocean, and land mediums with atmospheric carbon dioxide remaining in the atmosphere for thousands of years, due in part to the very slow process by which carbon is

transferred to ocean sediments. CH_4 remains in the atmosphere for approximately 12 years. N_2O has the potential to remain in the atmosphere for about 109 years (EPA, Climate Change Indicators). The impacts of climate change throughout the specified region of the state of Montana include changes in flooding and drought, rising temperatures, and the spread of invasive species (BLM 2021).

Cumulative Impacts

Montana recently used the EPA State Inventory Tool (SIT) to develop a GHG inventory in conjunction with preparation of a possible grant application for the Community Planning Reduction Grant (CPRG) program. This tool was developed by EPA to help states develop their own GHG emission inventories and relies upon data already collected by the federal government through various agencies. The inventory specifically deals with CO_2, CH_4, and N_2O, reported as total CO_2e. The SIT consists of eleven Microsoft Excel based modules with pre-populated data that can be used with default settings or in some cases, allows states to input their own data when the state believes their own data provides a higher level of quality and accuracy. Once each of the eleven modules is filled out, the data from each module is exported into a final "synthesis" module which summarizes all the data into a single file. Within the synthesis file, several worksheets display the output data in a number of formats such as GHG emissions by sector and GHG emissions by type of GHG.

DEQ determined use of the default data provided by EPA provides a reasonable representation of the GHG emissions generated by the various sectors of the state, and the estimated total annual GHG inventory for the state, by year. The SIT data from EPA is currently only updated through the year 2021, as it takes several years to validate and make new data available within revised modules. DEQ maintains a copy of the output results of the SIT.

At present, annually, Montana accounts for approximately 47.77 million metric tons of CO_2e based on the EPA SIT for the year 2021. This project may contribute up to 695,217 metric tons per year of CO_2e. The estimated annual emissions of 695,217 metric tons of CO_2e from this project would contribute 1.38% of Montana's total annual CO_2e emissions. Construction related GHG emissions would be less than 3,800 metric tons of CO_2e.

Proposed Action Alternatives

No Action Alternative: In addition to the analysis above for the proposed action, DEQ considered the "no action" alternative. The "no action" alternative would deny the approval of the proposed permitting action and the applicant would then lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

Other Ways to Accomplish the Action: The No Action Alternative would not allow for the construction and operation of the facility. Demand for electricity would likely be met from other sources providing electricity to the electrical grid, if the proposed activity is not approved.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the "no action" alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), MCA DEQ "may not withhold, deny, or impose conditions on any permit or other authority to act based on" an environmental assessment.

Consultation

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed project. Internal scoping consisted of internal review of the environmental assessment document by DEQ staff. External scoping efforts also included queries to the following websites/databases/personnel:

Application for MAQP #5261, EPA State Inventory Tool, the EPA GHG Calculator Tool, the Montana Natural Heritage Program Website, the Montana Cadastral Mapping Program, the DEQ GIS Mapping Portal, the Yellowstone County website, and the State Historical Preservation Office.

Public Involvement

The public comment period for this permit action will occur from March 28, 2025, through April 28, 2025.

Other Governmental Agencies with Jurisdiction

The proposed project would be located on private land. All applicable state and federal rules must be adhered to, which, at some level, may also include other state, or federal agency jurisdiction.

This environmental review analyzes the proposed project submitted by the Applicant.

Need for Further Analysis and Significance of Potential Impacts

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the seven significance criteria set forth in ARM 17.4.608, which are as follows:

- The severity, duration, geographic extent, and frequency of the occurrence of the impact;
- The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;
- Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts – identify the parameters of the proposed action;
- The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;
- The importance to the state and to society of each environmental resource or value

that would be affected.

- Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
- Potential conflict with local, state, or federal laws, requirements, or formal plans.

Conclusions and Findings

The severity, duration, geographic extent and frequency of the occurrence of the impacts associated with the proposed action would be limited. NWE proposes to construct and operate the proposed action on a 36-acre site located on private land, two miles southeast of Laurel, Montana. The estimated construction disturbance would be about 20.4 to 25.4 acres. Once operational, the disturbed acreage is estimated at 10.4 acres.

DEQ has not identified any significant impacts associated with the proposed action from any lighting resources. The lighting impact analysis for the proposed action demonstrates the level of change would not be significant as set forth in ARM 17.4.608. The lighting impacts of the proposed action, with consideration for impacts from the construction stormwater permit, and septic permit would not have cumulative impacts.

DEQ has not identified any significant impacts associated with the proposed action relative to the GHG Assessment. The assessment of GHG emissions from the proposed action demonstrates the level of change would not be significant as set forth in ARM 17.4.608.

Approving the proposed action would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If NWE submits another permit application, DEQ is neither committed to approve that application nor any other future application. DEQ would conduct a new environmental review for any subsequent air quality permit action sought by NWE. DEQ would make a decision on any subsequent application based on the criteria set forth in the Clean Air Act of Montana.

DEQ's issuance of an Air Quality Permit to NWE for this proposed operation does not set a precedent for DEQ's review of other applications, including the level of environmental review. The decision regarding the appropriate level of environmental review is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

DEQ does not believe the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an environmental assessment is deemed the appropriate level of environmental review for the proposed action pursuant to MEPA.

As discussed in this supplemental EA, DEQ has not identified any significant impacts on any environmental resource associated with the proposed activities.

Issuance of a Montana Air Quality Permit to the Applicant does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions If the Applicant submits another modification or amendment, DEQ is not committed to issuing those revisions. DEQ would conduct an environmental review for any subsequent permit modifications sought by the Applicant that require environmental review. DEQ would make permitting decisions based on the criteria set forth in the Clean Air Act of Montana.

Issuance of the permit to the Applicant does not set a precedent for DEQ's review of other applications for permits, including the level of environmental review. The level of environmental review decision is made based on case-specific consideration of the criteria set forth in ARM 17.4.608.

Finally, DEQ does not believe the proposed air quality permitting action would have any growth-inducing or growth inhibiting impacts that would conflict with any local, state, or federal laws, requirements, or formal plans.

Based on consideration of the criteria set forth in ARM 17.4.608, the proposed action is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of environmental review pursuant to MEPA.

Environmental Assessment and Significance Determination Prepared By:

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Environmental Assessment Reviewed By:

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Date: March 26, 2025

References

NWE lighting design submittal to DEQ (NWE #1) for external lighting fixtures dated May 19, 2023, and received by DEQ on May 21, 2023.

Thompson. 2023. Email communications about lighting submittal, B. Thompson, NorthWestern Energy to C. Henrikson, May 17, through June 1, 2023.

Thompson2. 2023. Email submittal with additional nighttime renderings of proposed facility, B Thompson, NorthWestern Energy to C Henrikson, May 26, 2023.

Thompson3. 2025. Email communications about fuel usage during construction, and HVAC units in operation at the site, NorthWestern Energy to C. Henrikson, February 2025.

2021 BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends, https://www.blm.gov/

2022 BLM https://www.blm.gov/content/ghg/?year=2022

Abbreviations and Acronyms

AQB – Air Quality Bureau
ARM - Administrative Rules of Montana
BACT – Best Available Control Technology
BMP - Best Management Practices
CAA – Clean Air Act of Montana
CFR - Code of Federal Regulations
CO - Carbon Monoxide
DEQ – Department of Environmental Quality
DNRC – Department of Natural Recourses and Conservation
EA – Environmental Assessment
EIS – Environmental Impact Statement
EPA - U.S. Environmental Protection Agency
FCAA- Federal Clean Air Act
MAQP – Montana Air Quality Permit
MCA – Montana Code Annotated
MEPA – Montana Environmental Policy Act
MTNHP - Montana Natural Heritage Program
NO_X - Oxides of Nitrogen
PM - Particulate Matter
PM_{10} - Particulate Matter with an Aerodynamic Diameter of 10 Microns and Less
$PM_{2.5}$ - Particulate Matter with an Aerodynamic Diameter of 2.5 Microns and Less
PPAA - Private Property Assessment Act
Program - Sage Grouse Habitat Conservation Program
PSD - Prevention of Significant Deterioration
SHPO - Montana State Historic Preservation Office
SOC - Species of Concern
SO_2 - Sulfur Dioxide
TPY – Tons Per Year
U.S.C. - United States Code
VOC - Volatile Organic Compound

Public Comments from Draft Supplemental EA Issued on June 1, 2023

Comments were received on the Draft Supplemental EA issued on June 1, 2023, with a subsequent 30-day comment period. A brief summary of those comments, and the DEQ's responses are shown directly below. Five of the comments were received the day after the comment period expired. There were also three commenters who submitted comments prior to the issuance of the June 1, 2023, supplemental EA which are included in the record. DEQ logged comments for 396 total commenters.

For keeping track of the topics generally covered on the June 1, 2023, Supplemental EA, comments are identified through the following numbering format, "#_LGS_2023_Month_Day Received". DEQ was only taking comments on the lighting analysis as required by the District Court. Approximately 83 percent of the comments use the word "lighting" in the comment text. Other issues were raised but were previously covered in the original Final EA.

A summary table of comments from the 396 commenters has been compiled to capture the topics raised. That summary is presented here. Comments related to Greenhouse Gases have been updated to reflect the Montana Supreme Court's decision. DEQ will further update its responses to existing and future comments in the final supplemental EA, as appropriate.

File Name (#_LGS_2023_Month_Day Received)	Count of Commenters	Most Notable Issue Identified within Comment	Addressing 2023 Lighting Supplemental?	DEQ Response
1_LGS_2023_06_05	1	General complaint	Mentioned lighting and stinky methane plant, property value impacts	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
2_LGS_2023_06_22	2	Asking for environmental review	Mentioned lighting, air pollution, noise pollution, light pollution in the EIS.	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
3_LGS_2023_06_22	3	Asking for environmental review	Asking for proper review before next permit, daughters family home and business	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
4_LGS_2023_06_26	4	Asking for EIS, more review of noise, lighting	Bad idea for more air pollution	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
5_LGS_2023_06_26	5	Don't add more pollution	No	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
6_LGS_2023_06_26	6	Montana Constitution	No	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

7_LGS_2023_06_26	7	Toxic Emissions/SO2	No	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
8_LGS_2023_06_26	8	All of the emissions	Mentioned Lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
9_LGS_2023_06_26	9	Toxic Emissions	No	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
10_LGS-2023_06_26	10	Formaldehyde	No	See the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
11_LGS_2023_06_26	11	Russian Sympathizers	No	No Comment
12_LGS_2023_06_26	12	Clean and Healthful, noise	No	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
13_LGS_2023_06_27	13	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
14_LGS_2023_06_27	14	Noise, light climate change	Lighting	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

15_LGS_2023_06_27	15	Climate/high cost	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
16_LGS_2023_06_27	16	All pollutants. IPCC reference	No	See the Original August 23, 2021 Final EA. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
17_LGS_2023_06_28	17	Cost, bright lights	Mentioned lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
18_LGS_2023_06_28	18	Held vs Montana	Climate Analysis, HB 971	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
19_LGS_2023_06_28	19	Extreme lights, safety concerns	Mentioned lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
20_LGS_2023_06_28	20	Noisy and brightly lit	Mentioned lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
21_LGS_2023_06_29	21	Pollutants, greenhouse gases	Mentioned lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

22_LGS_2023_06_29	22	Birds and animals, circadian rhythms	Mentioned lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
23_LGS_2023_06_29	23	Cursory nature of review, 769,000 tons, reference to titanic	No	See this Supplemental EA and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
24_LGS_2023_06_30	24	Clean and Healthful, brightly lit	Used phrase from MEIC, brightly lit	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
25_LGS_2023_06_30	25	Requesting EIS include climate impacts, DEQ's evaluation of the Laurel plant's greenhouse-gas emissions is required under the newly enacted MEPA amendments. DEQ's refusal to consider the Laurel plant's climate-change impacts violates Montana's Constitution. DEQ must sufficiently analyze the impacts of lighting on human health. DEQ must examine the impacts of noise from the LGS.	Mentions lighting	See page 7 of this Supplemental EA for the start of the lighting analysis and the Original August 23, 2021 Final EA. Additionally, see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
26_LGS_2023_06_30_314	339	314 Form letters on unhealthy air, noise, lighting, formaldehyde	Unhealthy air, formaldehyde	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

27_LGS_2023_06_30	340	Toxic methane	No	See the Original August 23, 2021 Final EA. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
28_LGS_2023_07_01	341	Hazardous air pollutants	No	See the Original August 23, 2021 Final EA. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
29_LGS_2023_07_02	342	Greenhouse gases, noise, lighting, SO2 etc.	Mentioned lighting	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
30_LGS_2023_07_03	343	Toxic gases, release of CO2	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
31_LGS_2023_07_03	344	Methane pollution	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
32_LGS_2023_07_03	345	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
33_LGS_2023_07_03	346	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
34_LGS_2023_07_03	347	It is bad news	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

35_LGS_2023_07_03	348	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
36_LGS_2023_07_03	349	Greenhouse gases and other pollutants	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
37_LGS_2023_07_03	350	Stop the emissions	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
38_LGS_2023_07_03	351	Carcinogen and greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
39_LGS_2023_07_03	352	Methane and leaks, Clean and Healthful	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
40_LGS_2023_07_03	353	Methane, air toxics, formaldehyde	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
41_LGS_2023_07_03	354	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
42_LGS_2023_07_03	355	Toxic gases	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

43_LGS_2023_07_03	356	Greenhouse gases, all emissions	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
44_LGS_2023_07_03	357	Need to work on green energy goals	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
45_LGS_2023_07_03	358	No need for gas plant	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
46_LGS_2023_07_03	359	Environmental Disaster	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
47_LGS_2023_07_03	360	Climate change	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
48_LGS_2023_07_03	361	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
49_LGS_2023_07_03	362	Health impacts, methane	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
50_LGS_2023_07_03	363	Oppose pollution	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

51_LGS_2023_07_03	364	Clean and Healthful environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
52_LGS_2023_07_03	365	EIS requested, noise and lighting concerns	Mentioned Lighting	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
53_LGS_2023_07_03	366	Clean and Healthful environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
54_LGS_2023_07_03	367	Need to transition to clean energy	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
55_LGS_2023_07_03	368	Clean and Healthful environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
56_LGS_2023_07_03	369	Global warming	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
57_LGS_2023_07_03	370	Climate Chaos	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
58_LGS_2023_07_03	371	Global warming	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

59_LGS_2023_07_03	372	Greenhouse gases, all pollutants	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
60_LGS_2023_07_03	373	Protect the environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
61_LGS_2023_07_03	374	Vote no on anything benefitting NorthWestern	No	No comment included
62_LGS_2023_07_03	375	Climate Change	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
63_LGS_2023_07_03	376	Climate Change, Clean and Healthful Environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
64_LGS_2023_07_03	377	Greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
65_LGS_2023_07_03	378	No more fossil fuels	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
66_LGS_2023_07_03	379	Air pollution, Clean energy	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

67_LGS_2023_07_03	380	Fossil fuels are not the future	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
68_LGS_2023_07_03	381	Climate Change, toxic air	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
69_LGS_2023_07_03	382	Climate change	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
70_LGS_2023_07_03	383	Poisoning of Montana	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
71_LGS_2023_07_03	384	Carbon free should be goal	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
72_LGS_2023_07_03	385	Why invest in methane equipment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
73_LGS_2023_07_03	386	Light pollution, toxic emissions, CO2	Mentioned Lighting	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
74_LGS_2023_07_05	387	Opposed to plant	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
75_LGS_2023_07_05	388	Opposed to plant	No	See DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

76_LGS_2023_07_05	389	Should be using renewable energy	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
77_LGS_2023_07_05	390	Human driven climate change	No	See page 29 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
78_LGS_2023_07_05	391	Methane, greenhouse gases	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
79_LGS_2023_07_03	392	NWE taking us backward	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
80_LGS_2023_07_03	393	Climate Change, Clean and Healthful Environment	No	See page 27 of this Supplemental EA for the start of the GHG Assessment. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
May11	394	Local resident, proximity concerns	No	See original August 23, 2021 EA. And also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
May11_2	395	Local resident, proximity concerns	No	See original August 23, 2021 EA. And also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.
MEIC_May11_	396	This is same info presented in comment #25 from MEIC during comment period	Yes	See page 7 and page 27 of this Supplemental EA for the start of the lighting analysis and GHG Assessment, respectively. Also see DEQ Response Sup_#1 thru DEQ Response Sup_#7 beginning on page 50 below.

One large grouping of letters was received from members of the Northern Plains Resource Council and these letters generally raise all the topics previously covered in the original EA, and also raise questions on lighting. A copy of one of these letters is included as it is representative of the majority of issues discussed.

The Montana Environmental Information Center (MEIC) also provided comments and exhibit references during the comment period, and DEQ has chosen to provide comment even where the issues have previously been analyzed and accepted by the Supreme Court in the original EA.

Typical Sample Letter Received During Supplemental EA Comment Period:

To whom it may concern,

I am writing in reference to permit application MAQP #5261-00, the Supplemental Draft Environmental Assessment associated with the previously issued air quality permit for NorthWestern Energy's Laurel Generating Station.

For decades, Laurel and Billings-area residents have fought to improve the air quality in Yellowstone County given the harmful health impacts that resulted from out-of-control pollution. Despite some improvements in the surrounding areas, DEQ has already found that the air in the Laurel area is still considered unhealthy. Building a methane-fired plant in Laurel would do serious harm to the Yellowstone Valley community, degrading already compromised air quality and public health.

See DEQ Response Sup_#1 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 50 below.

If completed, the Laurel plant will be designated a Major Source of Hazardous Air Pollutants (HAPs). The Environmental Protection Agency says, "Hazardous air pollutants, also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects."
DEQ's current air quality permit (#5261-00) indicates this plant will emit 49.4 tons of formaldehyde each year, which is almost five times greater than the minimum threshold to warrant the Laurel Generating Station's designation as a Major Source of HAPs. The National Cancer Institute documents that high levels of formaldehyde exposure can cause myeloid leukemia and cancers of the paranasal sinuses and nasal cavity. The dangers posed by these carcinogenic toxins will be amplified by the 100+ tons of particulate matter (PM) that will also emanate from this plant annually.

See DEQ Response Sup_#2 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 51 below.

Montanans deserve a robust analysis of how formaldehyde and the plant's other pollutants are likely to co mingle with the PMs resulting in a fine dust of carcinogenic toxins sitting along the banks and valley of the Yellowstone River, endangering both full time residents and the many visitors who recreate in the area.

See DEQ Response Sup_#3 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 52 below.

During periods of startup or shutdown, this permit allows the plant to be exempted from air pollution limits regardless of how long the process takes. This on and off cycle could happen dozens of times daily, leading to acute increases in toxic air pollution. These daily emissions spikes would not be monitored nor face any limitations. According to the American Lung Association, emissions from a methane plant can cause serious respiratory disorders. This unchecked and harmful pollution is simply too great a cost for Montanans to bear.

See DEQ Response Sup_#4 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 53 below.

The Laurel Plant would also disrupt the community with excessive noise and light pollution, which is not simply a quality of life issue, but also a health risk. Scientific and medical analysis has demonstrated the harm that excessive artificial light can have on the circadian rhythms of humans. This is due to a curbing of melatonin production in the human body, which can lead to insomnia, negative impacts to immune systems, and even increased risk of hormone-related cancers such as breast and prostate cancers. The Environmental Protection Agency documents the health problems related to noise pollution, which include stress-related illnesses, high blood pressure, speech interference, hearing loss, and sleep deprivation.

See DEQ Response Sup_#5 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 54 below

The climate impacts of this plant would also be significant and harmful to residents, further exacerbating health risks while violating Montanans' right to a clean and healthful environment. The Laurel Generating Station would primarily be fueled by methane gas, which is an extremely potent climate pollutant. This plant would add to the extraction, transport, and burning of methane in addition to the known leaking of this climate pollutant within every stage of its supply chain. The wildfires, extreme flooding, droughts, and other natural disasters that are growing in frequency and intensity due to climate pollution all have associated health risks ranging from respiratory illnesses to immediate bodily harm and death resulting from extreme weather-related accidents.

See DEQ Response Sup_#6 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 54 below.

The DEQ should immediately reconsider this permit, implement a new review, and conduct a full Environmental Impact Statement to adequately assess the negative impacts this project would present to Montanans' health and environment.

See DEQ Response Sup_#7 below in Section Titled DEQ Responses to June 2023 Draft EA Comments which begins on page 54 below.

DEQ Responses to June 2023 Draft EA Comments Raised Directly Above

DEQ Response Sup_#1 (General Topic: SO_2 Related)

As previously presented in the August 23, 2021, Department Decision (Noted as DEQ_Pub_Com_1) and re-inserted here, this topic was previously addressed.

The air quality classification for the immediate area is "Unclassifiable or Better Than National Standards" (40 CFR 81.327) for all pollutants, apart from sulfur dioxide (SO_2). The site location is within the Laurel SO_2 nonattainment area (NAA) for the 1971 primary SO_2 National Ambient Air Quality Standards (NAAQS). This NAA is a 2-kilometer (km) (1.2 miles, mi) radius circle centered on the geographic center of the CHS Laurel Refinery. The proposed facility does not constitute a significant increase in SO_2 due to the use of clean burning natural gas as the primary fuel for the RICE. The Department expects that a future redesignation effort will show compliance with the 1971 SO_2 standard. While the 1971 24-hour SO_2 standard is still the official federal designation status for the Laurel area, the standard has likely not been exceeded since the large SO_2 reductions which occurred at large stationary sources starting around 1990 and continuing through today. These reductions have recently been highlighted in Montana's Regional Haze Progress Report showing Yellowstone County reductions of SO_2 approaching 25,000 tons per year from base year 1990.

Additional Background

SO_2 emissions for the proposed project are the result of the 18 engines (RICE) burning pipe-line quality natural gas, effectively operating up to 8,760 hours per year including start-up and shutdown cycles. Natural gas is inherently low in sulfur concentrations and when analyzing fossil fuels for air quality purposes related to sulfur, natural gas is often identified as a "clean burning fuel". The "clean burning fuel" description for natural gas can also be used to describe its characteristics relative to other combustion products including for particulate matter (PM). However, for this discussion, the response is directed at the question regarding concern around SO_2.

As described previously, there is a very small SO_2 nonattainment area which surrounds the CHS Laurel refinery. This designation was based on the 1971 primary SO_2 National Ambient Air Quality Standards (NAAQS). This nonattainment area is still on the books today and therefore requires ambient air quality evaluations for projects that meet the criteria for construction in nonattainment areas. However, the proposed NWE Laurel Generating Station, has proposed

SO_2 emissions of only 14.1 tons per year. This proposed SO_2 increase with the project does not require an ambient air quality analysis for SO_2 because the project increases are below the significance levels for an ambient air analysis. This would be consistent with Appendix W of 40 CFR 51, Guideline on Air Quality Models, January 2017. The SO_2 emissions for the project are constrained by the permit conditions requiring only the use of pipeline quality natural gas with the inherent low sulfur content. PSD regulations apply to a new stationary source if it is deemed "major." A stationary source that is "listed" according to ARM 17.8.801(22)(a)(i) is considered major if it has the potential to emit more than 100 tpy of any pollutant subject to regulation under the Federal Clean Air Act. Non-listed sources are subject to PSD permitting requirements at 250 tpy. The NWE Laurel Generating Station is not listed, therefore the trigger threshold for SO_2 emissions for PSD requirements would be 250 tpy. With a proposed increase of only 14.1 tpy, the NWE Laurel Generating Station not subject to the PSD nonattainment regulations.

DEQ Response Sup_#2 (General Topic: Air Toxics including Formaldehyde)

As previously presented in the August 23, 2021, Department Decision (See DEQ_Pub_Com_3 starting on page 20 of that document) questions on air toxics such as formaldehyde were previously discussed. New text is added here as the comment focuses on formaldehyde as one of the air toxics.

Additional Department Response Added Below

DEQ stated throughout the permitting process that hazardous air pollutants, including formaldehyde, were expected to be released from the Laurel Generating Station. The air quality permit identifies up to 49.4 tons per year of formaldehyde as potentially being released from the total of the 18 RICE. Formaldehyde is a by-product of the combustion of natural gas and is considered to be a species representing "incomplete combustion" just as other species of unburned volatile organic compounds from natural gas combustion. It also is comparable to the formation of carbon monoxide (CO) when combusting natural gas. CO is an incomplete combustion by-product of VOCs and represents molecules which did not proceed to being converted to carbon dioxide (CO_2). EPA controls the destruction of species such as CO and VOCs through technologies which ensure proper combustion controls are in place to avoid the formation of incomplete combustion species. These controls are documented in the Best Available Control Technology review which was conducted for this permit. This control technology review identifies the controls which are necessary to minimize these undesirable species. EPA addresses concerns around formaldehyde within some of the applicable National Emission Standards for Hazardous Air Pollutants (NESHAPs). One such standard is covered by 40 CFR 63, Subpart ZZZZ where formaldehyde is specifically addressed. The permit reference requiring compliance with existing limitations on formaldehyde is in Section II.A.12.

II.A.12 NWE shall comply with all applicable standards and limitations associated with the RICE, and the reporting, recordkeeping and notification requirements contained in 40 CFR 63, Subpart ZZZZ (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ.

EPA continues to evaluate the need for additional regulations related to formaldehyde emissions as evidenced through recent proposed regulations particularly in the wood products industry.

Under the Clean Air Act of Montana, formaldehyde is also regulated to the degree which it exceeds 10 tons per year of emissions and thus would require a facility such as LGS to obtain a Title V Operating Permit for hazardous air pollutants, and for when the release of formaldehyde in combination with other VOCs exceeds 25 tpy. The requirement to have either a Title V Operating Permit or Montana Air Quality Permit makes the conditions federally enforceable to the degree that formaldehyde is regulated within either New Source Performance Standards or within NESHAP standards. Formaldehyde is effectively being regulated by the applicable requirements for the Laurel Generating Station most directly under 40 CFR 63 Subpart ZZZZ which has been incorporated into the proposed MAQP in Section II.A.12.

DEQ Response Sup_#3 (General Topic: Co-mingling of Pollutants)

The Clean Air Act of Montana mirrors the Federal Clean Air Act and accordingly regulates criteria pollutants by species, it does not evaluate "co-mingling" of pollutants. Previous responses addressing ambient air quality are covered in DEQ_Pub_Com_1 and DEQ_Pub_Com_3). This is because criteria pollutants each have National Ambient Air Quality Standards (NAAQS) for each pollutant. Proposed emissions are evaluated against what concentrations will result against the NAAQS. As mentioned in DEQ Response_Sup_#2 above, formaldehyde is minimized through BACT conditions which require proper combustion practices (and through add-on controls such as catalyst) to minimize the concentrations of formaldehyde. It is also minimized through requirements in 40 CFR 63, Subpart ZZZZ. Formaldehyde is being regulated through NESHAPs in the following industries:

- Plywood and composite wood products
- Vehicle emissions
- Wet formed fiber glass mat production
- Mineral wool production
- Wool fiberglass manufacturing
- Manufacture of amino/phenolic resins
- Wood furniture manufacturing operations
- Rubber tire manufacturing
- Natural gas transmission and storage facilities
- Synthetic organic chemical manufacturing industry
- Organic liquid distribution operations
- Taconite iron ore processing
- Emissions for polyvinyl chloride and copolymers production
- Oil and natural gas production facilities

Similarly, the release of particulate matter is minimized through any determined BACT controls for PM, PM_{10} and $PM_{2.5}$ as presented in the BACT analysis within the permit (see numbered

page 51) for PM species. The EPA RACT, BACT, LAER Clearinghouse (RBLC) for similar engines identified no add-on particulate matter control equipment for PM species for similar engines. Natural gas in the most recent permitting actions has been considered "clean burning fuel" for the purpose of minimizing PM releases. That is also the case here, where natural gas historically was considered clean burning because of the low generation of PM species and low sulfur content.

DEQ Response Sup_#4 (General Topic: Startup and Shutdown conditions)

As previously presented in the August 23, 2021, Department Decision, Startup and Shutdown are addressed in DEQ_Pub_Com_5, see page 25.

Additional Department Response Added Below

As identified in the air quality application for the RICE, one of their benefits is to balance the changing demand loads due to the unpredictable nature of wind and solar. By design, the RICE need to be able to start-up and shut-down very quickly to maintain the stability of the grid. As compared to a coal-fired boiler, RICE reach an operating equilibrium much more quickly but during these transition periods, pollution control design characteristics are less effective because of the temperatures of the exhaust gases. As an example, catalysts only work within certain temperatures, and when exhaust temperatures are outside of those ranges, catalysts do not work effectively. These start-up and shutdown conditions are effectively incorporated into the analysis through modeling against the NAAQS. To minimize total emissions, the number of events including startup and shutdown are tracked to ensure total emissions are within limits established by the air quality permit. That is indeed the case for the Laurel Generating Station, specific to the criteria pollutants.

DEQ Response Sup_#5 (General Topic: Noise and Lighting)

Noise

DEQ previously presented a noise analysis in the August 23, 2021, Final EA. The District Court did not find any fault in the presented analysis. DEQ has not seen any information since which would change those earlier conclusions. Noise is covered in the Original EA beginning on Section 10. Aesthetics (Page 12 of the August 23, 2021 EA), and also in the section titled **"**Comments Received from MEIC, Sierra Club and Earthjustice with Department Responses**".**

Lighting

DEQ presented its conclusions of the lighting information submitted by Northwestern Energy within the supplemental EA issued on June 1, 2023. DEQ also posted the additional information submitted by Northwestern in its entirety when the Supplemental EA was posted to DEQ's permit webpage. It is pretty clear that very few of the commenters had read the lighting analysis within the supplemental EA. The renderings based on qualified consultants indicates

the external lighting design goes far beyond what has been documented within other EA's performed at other Montana industrial sites, and the incorporation of many Dark Sky Compliant characteristics, invalidates claims that the facility will be "brightly lit". The information presented in the Supplemental EA also demonstrates that the baseline lighting for most of the area is already compromised by commercial and industrial lighting well in excess of the minimal lighting that would be incorporated into the Laurel Generating Station. The Supplemental EA on lighting is also now available for public comment in this draft EA.

DEQ Response Sup_#6 (General Topic: Climate Change)

Following the Montana Supreme Court's Decision (Cause No. DV-21-1307), DEQ has incorporated a Greenhouse Gas (GHG) Assessment into this supplemental draft EA. The GHG Assessment begins on numbered page 27, above in this document. DEQ has selected an approach to incorporate direct emissions which are released on site at the proposed facility.

DEQ Response Sup_#7 (General Topic: Additional Review and EIS)

The Original August 23, 2021, Decision EA and Supplemental EA, addressed the request for additional review including the request to perform an EIS. DEQ's response is repeated here for reference.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

Response to Comments for Commenter #25

Comment #25_LGS_2023_06_30 was received from a group including MEIC (and others.) DEQ believes those comments are similar in content to many of the other letters received but has opted to include the summary of those comments with an appropriate DEQ response.

MEIC Comments

I. Under MEPA, DEQ is required to take a "hard look" at all of the Laurel Generating Station's environmental impacts in an EIS.

Response: In keeping with the District Court's decision. DEQ has provided a supplemental Environmental Assessment to address the court's decision on the lack of an adequate lighting analysis. The additional information requested by DEQ from NorthWestern Energy, and included in DEQ's supplemental EA provided a robust analysis of the potential lighting impacts from the Laurel Generating Station. The design details for external lighting clearly show that the

proposed Laurel Generating Station would not significantly change the baseline lighting of the area. Comments indicating phrases such as “brightly lit”, do not fit the design details which include Dark Sky Policy characteristics. The lighting analysis is available in this draft supplemental EA starting on page 7 above. See DEQ Response Sup_#7 on why an EA is appropriate.

II. DEQ’s EIS must evaluate the Laurel Generating Station’s climate impacts.

Response: DEQ is providing a GHG Assessment in this draft supplemental EA. That section begins on page 27 of this document.

A. DEQ’s evaluation of the Laurel plant’s greenhouse-gas emissions is required under the newly enacted MEPA amendments.

Response: DEQ is providing a GHG Assessment in this draft supplemental EA. That section begins on numbered page 27 of this document.

B. DEQ’s refusal to consider the Laurel plant’s climate-change impacts violates Montana’s Constitution.

Response: DEQ is providing a GHG Assessment in this draft supplemental EA. That section begins on numbered page 27 of this document. DEQ also does not believe that the Constitutional phrase “Clean and Healthful” provides any specific authority to disapprove of issuing Montana Air Quality Permits pursuant to conducting a MEPA analysis.

III. DEQ must sufficiently analyze the impacts of lighting on human health.

Response: DEQ has provided the required lighting analysis in the Supplemental EA issued on June 1, 2023, and is again available for comment in this draft supplemental EA starting on numbered page 7 of this document. DEQ rejects MEIC’s position that the agency must convert its analysis on lighting impacts into “tangible effects on human health.” The Montana Supreme Court has previously accepted DEQ’s MEPA analysis that focused on the objective measures of aesthetic impacts. *See, e.g., Belk v. DEQ*, 2022 MT 38, ¶ 31 (affirming DEQ’s consideration of noise effects over geographic distance); *Mont. Env't Info. Ctr. v. DEQ*, 2025 MT 3, ¶¶ 19–21 (same). The Montana Supreme Court has also rejected efforts from groups seeking to force DEQ to convert its aesthetic analysis into some other subjective impact. *Belk*, ¶ 29 (rejecting arguments that DEQ was required to consider economic impacts to properties surrounding the project in its noise impact analysis). MEIC, additionally, fails to cite anything within ARM 17.4.609 that would require DEQ to conduct such an expansive analysis.

IV. DEQ must examine the impacts of noise from the LGS.

Response: DEQ previously disclosed noise impacts in the August 23, 2021, Final EA. The District Court did not find the analysis was lacking.

Finally, DEQ did review the twenty-one (21) exhibits submitted with comment #25. These exhibits ranged from information on lighting to papers commenting on the social cost of carbon. The exhibit documents are part of the administrative record for this permitting action.

Other previously addressed comments may also be found in the Final EA and Final Permit (MAQP #5261) on DEQ's website at Air Permitting and Operator Assistance | Montana DEQ