Appendix B9

Environmental Analysis – Ramboll

3-UASI25-001-Phase 1 Environmental

Canyon Peak Power Arapahoe County 1041/USR Application
UASI25-001

Stanley Consultants

RAMBOLL

ENVIRONMENT
& HEALTH

Prepared for
Canyon Peak Power, LLC

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Canyon Peak Power Station Environmental Impact Analysis (EIA) for Arapahoe County 1041 USR Permit

Contents

1 INTRODUCTION

Ramboll US Consulting was retained by Canyon Peak Power (CPP) to provide permitting support services of an approximately 21-acre Project area at the Brick Center Substation located 9 miles south of Bennett, Arapahoe County, Colorado (5050 N County Rd 129, Bennett, CO 80102) (Figure 1, Appendix A). The 21-acre Project area is planned to be leased by Canyon Peak Power, LLC (Canyon Peak) for use as a greenfield natural gas-fired peaking power generation facility for the Canyon Peak Power (CPP) facility. Ramboll will support the CPP facility development by pulling together the environmental aspects of the 1041 permit.

A field assessment was performed on October 22, 2024, by trained staff. A meander survey was conducted during the site visit to characterize existing Project area conditions, identify historic conditions, identify the presence of federal and state-listed threatened and endangered (T&E) species, if any, and identify presence of wetlands conditions such as hydric soils, hydrology, or hydrophytic vegetation. A photo log can be found in Appendix B.

This document includes Application Submittal Requirements III.C.12 (Environmental Impact Analysis) and III.C.14 (Areas of Paleontological, Historic or Archaeological Importance). Application Submittal Requirements III.C.1-11 and III.C.13-22 were prepared by CPP or CPP's consultants and are provided under separate cover as part of this application. The location of individual sections not prepared by Ramboll can be found in Canyon Peak Power's 1041 USR Application Submittal Checklist.

2 PROJECT DESCRIPTION

The Canyon Peak Power (CPP) Project is a natural gas-fired peaking power plant consisting of six (6) combustion turbines. Located in Arapahoe County, Colorado, the facility will connect to the existing Brick Center substation through a 115 kV distribution system, generating approximately 156 megawatts of power to be delivered to CORE Electric Cooperative. The 21-acre property is adjacent to the existing substation, with additional land designated as a temporary laydown area during construction and for developing a gas meter interconnect. A general site layout can be found on Figure 2 within Appendix A.

In addition to the turbines, the project incorporates systems for emission controls, monitoring and compliances. Safety measures include fire suppression systems and essential auxiliary equipment to support plant operations. A dedicated control room will manage the facility's operations and is initially anticipated to be staffed by two (2) operators per shift, with two (2) shifts of twelve (12) hours each.

3 ENVIRONMENTAL IMPACT ANALYSIS (EIA)

3.1 Air Quality (12a)

Section 3.1 analyzes how the project conforms with 12a i-iii of the Arapahoe County Board of Commissioners' Regulations Governing Areas and Activities of State Interest in Arapahoe County (1041 Regulations), adopted on June 2, 2004, and readopted and amended on December 12, 2006.

3.1.1 Existing Conditions

The Project is situated in the Denver Metro North Front Range (DMNFR). Air quality conditions within the DMNFR vary, with specific challenges related to different pollutants. The area generally meets standards for particulate matter less than 10 microns in diameter (PM10) and carbon monoxide (CO), indicating good air quality for these pollutants. However, the region struggles with ozone pollution, particularly in warmer months when sunlight interacts with emissions from vehicles, industrial sources, and other activities. This has led to the DMNFR being classified as a severe nonattainment area for the 2008 8-hour ozone standard, meaning that the ozone levels exceed the acceptable limits. As a result, oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are closely monitored and regulated to help improve air quality. Overall, while the area performs well for some pollutants, ozone remains a significant concern. Reference maps for air quality are provided in Appendix E.

3.1.2 Environmental Impacts

Emissions sources associated with the CPP Project include six (6) combustion turbines, a fuel gas heater, an emergency firewater pump and its associated diesel storage tank. The six combustion turbines are General Electric (GE) LM2500XPRESS natural gas fired, simple cycle combustion turbines.

The LM2500XPRESS combustion turbine engine is a two-shaft aeroderivative design with a gas generator separate from the power turbine. This mechanically decoupled design allows the power turbine to operate at a continuous speed allowing for startup to full load in less than 10 minutes. Emissions from the LM2500XPRESS turbines include criteria air pollutants, formaldehyde and hazardous air pollutants (HAPs). A new natural gas-fired fuel gas heater will warm the gas before combustion, with emissions calculated from the burner rating and operational hours. The emergency diesel-fired firewater pump, designed to provide the fire protection needs of the CPP facility, will emit nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), and particulate matter, following U.S. Environmental Protection Agency (EPA) Tier III standards. Emissions from the diesel storage tank, installed to fuel the emergency firewater pump, were estimated using methodologies from the AP-42 guidelines.

CPP filed a minor stationary air permit with the Colorado Department of Public Health and Environment (CDPHE) and has included a copy in Appendix E of this 1041 application. The facility seeks to obtain a minor source air permit via establishment of enforceable limits on emissions of NOx and VOC below the major source thresholds of 25 tons per year (tpy) each, which is below Nonattainment New Source Review (NNSR). The Project includes Dry Low Emission (DLE), selective catalytic reduction (SCR) and catalytic oxidation (CatOx) systems for the turbines that will control air emissions to the extent feasible. The CPP facility will also be managed by close monitoring and adherence to regulatory standards, minimizing the environmental impacts.

Possible construction-related dust generation shall be controlled by the periodic application of water to disturbed areas within the Project area. Equipment will be properly maintained and inspected to limit exhaust gas emissions. CPP will implement best management practices ("BMPs") to minimize

construction phase nuisances, including regular inspections and maintenance of vehicles and equipment, use of low-sulfur diesel fuel, and avoidance of engine idling to the maximum extent feasible to mitigate temporary air quality impacts.

3.2 Visual Quality (12b)

Section 3.2 analyzes how the project conforms with 12b i-iv of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.2.1 Existing Conditions

The regional landscape within and surrounding the Project location is characterized by open, expansive high plains and topographically variable, dissected landscape of eastern Colorado. Land cover at the Project area is characterized by herbaceous vegetation and developed open space, and no tree canopy is present (USGS National Land Cover Database, 2021). Additionally, no streams, rivers, lakes, waterfalls, or distinct topographic features are present at the Project location (Arapahoe County Open GIS Data, 2022; EPA NHD, 2021). Arapahoe County data shows no parks or recreation on or adjacent to the project location, with the nearest recreation being Kiowa Creek, 3.1 miles away. Due to its flat topography, the area lacks observable viewsheds, scenic vistas, unique landscapes, or land formations (Figures 1, 2, and 3, Appendix A). Adjacent to the Project area is the existing Brick Center Substation to the west and solar arrays surround the Project area (Figure 3, Appendix A). A site visit was conducted on October 22, 2024, to confirm visual resources at the Project Location (Appendix B).

3.2.2 Environmental Impacts

The Project will include six combustion turbines with an exhaust stack that is anticipated to be 80 feet tall. There are anticipated to be minimal visual effects associated with introducing CPP's facility in the Project area. A visual impact analysis concluded that the area is relatively flat open space with no natural streams, waterfalls, tree canopy, parks, trails, or other natural features that would provide scenic vistas or viewsheds that would be impacted by the facility.

The Project will include six combustion turbines anticipated to be 80 feet tall, an expansion to the existing switchyard at the Brick Center Substation, a gas meter yard, and a subsurface natural gas pipeline along the western edge of the parcel (Figure 2, Appendix A). Minimal impact on visual resources and aesthetics is anticipated because the generation facility will be co-located with and seen in the context of the existing switchyard, resulting in weak visual contrast. Although the Project is adjacent to residences, it is located adjacent to an existing substation, thus minimizing the visibility and impacts on these communities. Lastly, the Project will integrate with the surrounding landscape, as it is situated near existing solar arrays, ensuring minimal contrast with the existing industrial landscape.

3.3 Surface Water Quality (12c)

Section 3.3 analyzes how the project conforms with 12c i-iii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.3.1 Existing Conditions

According to Arapahoe County Open GIS Data (2022) and EPA National Hydrologic Database (NHD; 2021), there are no streams, lakes, waterbodies, sinks, or flowlines located within or immediately adjacent to the Project area (Arapahoe County Open GIS Data, 2022; EPA NHD, 2021). The project site is located in the South Platte River Watershed. Runoff from the site is received by Kiowa Creek. Figure 4 (Appendix A) shows the absence of surface water features at the Project area. The site is currently zoned 'A-1' (Agricultural). The absence of mapped surface water features at or adjacent to the Project area suggests that the project will not have an immediate or long-term impact on the quantity or quality of surface water at the Project area (Figure 4, Appendix A).

An engineering drainage report was completed for the project in November 2022, which evaluated existing drainage patterns of the Project area. Existing drainage patterns on the site generally drain from north to south to roadside ditches along the southwest end of the project site. Water then flows to the west and into a concrete channel along the southeast edge of the site where it outlets to the southeast corner of the site. The concrete channel is used as a water quality volume BMP and for the 100-year storm flood control. Existing slopes on the site are between 1 to 3 percent. The current site's impervious area is 2.83 acres.

The site is not located within a special flood hazard zone as shown per Flood Insurance Rate Maps (Community Panel 08005C0265K, dated 12-17-2010 and Panel 08005C0575K, dated 12-17-2012) published by the Federal Emergency Management Agency (FEMA). The site is also outside of the Kiowa Creek Master Drainage Plan's Existing and Proposed 100-year Flood Plain.

3.3.2 Environmental Impacts

There is no significant water use proposed by the project, except for water transported on-site with a water truck during construction and operation.

The November 2024 engineering drainage report defines the proposed drainage areas for the site. The study found that the proposed design would be in accordance with Arapahoe County requirements per the Arapahoe County Stormwater Management Manual, dated July 5, 2011. The basic drainage concept is to convey all flows from the site to the stormwater detention pond located in the southeast corner. The detention pond will be sized to contain the 100-year, 1-hour storm.

The design includes gravel coverage and concrete pads to support equipment, increasing the total impervious area to 5.78 acres. Runoff will be managed through overland flow, conveyance ditches, and a storm sewer system leading to a detention pond. While the existing concrete channel will be replaced to accommodate the new layout, a new concrete channel will maintain flow from the west to a culvert beneath the west access road. Another culvert will be added under the east access road, and a vegetated channel will direct runoff from south to north into a storm sewer line connected to the detention pond. The pond will continue to use the existing outfall, ensuring no significant changes or impacts to downstream surface water conditions.

Best management practices (BMPs) employed during construction to minimize erosion, sedimentation, and turbidity impacts on surface waters. A Grading, Erosion, and Sediment Control Plan (GESC) will be developed and implemented to meet Arapahoe County requirements. The GESC will limit impacts to the drainage ditch during construction and operations. In addition, Stormwater Pollution Prevention Plan (SWPPP) will be developed and implemented for the Project to meet the construction stormwater discharge permit requirements of the Colorado Department of Public Health and Environment (CDPHE).

3.4 Groundwater Quality and Quantity (12d)

Section 3.4 analyzes how the project conforms with 12d i-ii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.4.1 Existing Conditions

The proposed project does not coincide with mapped alluvial aquifers or managed aquifer recharge areas mapped by the Colorado Geological Survey. Based on Arapahoe County Open GIS Data, the nearest shallow alluvial aquifer is the South Platte River Alluvium which trends north-south and terminates approximately 0.3 miles east of the Project area (Figure 4, Appendix A). There are no groundwater wells on-site or proposed to be installed as part of Project. The nearest water wells,

which are designated for water level measurements, over one mile away from the Project area and have groundwater levels of approximately 37-39 feet below ground surface (Colorado Division of Water Resources Water Level, 2024).

3.4.2 Environmental Impacts

The CPP facility will not require any groundwater resources, water wells, or municipal water lines. Therefore, the project will not impact groundwater volumes, depths, or capacities.

The CPP facility does not require water for operations. Only water required by code is potable water and a source of fire water. And the Project does not require a water well and does not intend to drill a new water well. The Plant has limited potable water usage, and the fire water tank will be filled from a permitted water source. Water in the Fire Water Tank is only intended for a fire event, so refilling of the tank is not a regular occurrence. Any water required to be replaced in the Fire Water Tank is for general service water needs, which will be very limited.

With the Project's water needs limited, tapping into the existing water aquifers via a new well does not seem necessary. The Project believes water needs for the Plant can be achieved by importing water from locally permitted water suppliers. The Project will use permitted water sources during construction for dust suppression and hydrostatic testing. Water will be transported to the site periodically to meet this need.

The Project will require potable water for operators per IBC requirements, uses include handwashing and sanitary uses (see Septic System). As noted in previous sections, the Project will only require 2 operators per shift. The Project intends to install a potable water tank to supply potable water to the Controls Trailer for handwashing and bathroom facilities. The Project believes that importing potable water from permitted local water suppliers is the best option from an environmental and economic perspective. The potable water tank will be located next to the Controls Trailer. The sizing of the potable water tank will be based on septic system sizing requirements will some additional capacity. For drinking water, the Plant will employ a bottled water system to ensure employee water supply safety and ensure operators can stay properly hydrated.

The project will not be constructed atop of any shallow groundwater aquifers. Trenching and foundation work will not impact groundwater resources. Techniques and BMPs to avoid and minimize groundwater impacts will include properly maintaining equipment, storing fuels and petroleum away from excavated areas and cleaning up any spills. Because of these techniques, the absence of shallow aquifers, and the depth of trenching and excavation, it is assumed that there will be no impact to groundwater quantality, quality, water depth from either construction or the permanent installation.

3.5 Wetlands and Riparian Areas (12e)

Section 3.5 analyzes how the project conforms with 12e i-iii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.5.1 Existing Conditions

Ramboll reviewed the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, the United States Geological Survey (USGS) 2022 Greeley, Colorado 7.5-Minute topographic map series, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS), and aerial imagery, to identify potential wetlands and waters of the US within the Project area.

The NWI mapper tool indicated no evidence of wetland or water features within the Project area (Figure 4, 5, Appendix A). In addition, the topography data shows an 8-foot elevation change within

the project boundary from west to east (Arapahoe County 2022) and no evidence of wetland or water features located on or near the Project area.

The NRCS Web Soil Survey indicates two soil categories, Adena-Colby silt loams, (1-5 percent slopes), and Weld-Deertrail silt loams, (0-3 percent slopes) (Figure 6, Appendix A). These soils are not listed as hydric soil (i.e., soils that can support wetlands) (NRCS 2024). Hydric soils are generally mapped within the same swaths of land indicated as wetland areas on the NWI map and are one of three indicators that must be present for an area to be identified as a wetland.

During the October 2024 Ramboll confirmed desktop analyses and found no evidence of wetlands or Waters of the United States (WOTUS) within the Project area including no wetland plants or signs of any wetland hydrologic features.

3.5.2 Environmental Impacts

Because there are no wetlands features on or adjacent to the Project area, the Project will not have an immediate or long-term impact on any wetlands, riparian areas, or WOTUS.

3.6 Terrestrial and Aquatic Animals and Habitat (12f)

Section 3.6 analyzes how the project conforms with 12f i-iii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.6.1 Existing Conditions

Ramboll referenced several resources to evaluate the documented and potential presence and habitats of state-listed species within and near the Project area. Specifically, the Colorado Parks and Wildlife (CPW) website (CPW, 2023) provides a list of potential species along with their preferred habitat types, ranges, and other details. According to CPW's range maps, many of these species are not found in this region of the state and are unlikely to inhabit such disturbed environments.

The Colorado Natural Heritage Program (CNHP) maintains statewide GIS layers illustrating Potential Conservation Areas, Networks of Conservation Areas, and Statewide Elements by Quad (CNHP, 2024 and 2011). The Statewide Elements by Quad map layer shows the current, potential, or historical presence of species and natural communities within each quadrangle. To protect sensitive data, specific locations have been generalized to 7.5-minute USGS quadrangles (CNHP, 2024). Within the Project area, one Statewide Element was identified; the quad indicates that the Black-tailed Prairie Dog (*Cynomys ludovicianus*) has a current, potential, or historical presence (Figure 7, Appendix A).

During the October 22, 2024, site visit, Ramboll observed white tail deer (*Odocoileus virginianus*), ring-necked pheasant (*Phasianus colchicus*), as well as scat from coyote (*Canis latrans)* and cottontail rabbit (*Sylvilagus nuttallii*) within the Project area and the adjacent properties. No ground nesting birds or black-tailed prairie dogs were observed on the Project area. None of these species observed are listed as sensitive. A complete list of observed species can be found on Table 3 of Appendix C.

3.6.1.1 Federally Threatened and Endangered Species

Ramboll referenced the USFWS Information for Planning and Consultation (IPaC) database on October 21, 2024, to evaluate the potential presence and habitat of federally listed species within the Project area boundary. According to the IPaC database, seven federally threatened, endangered, or candidate species could occur on or near the Project area (Table 1). Of the species identified on IPaC, four are classified as birds, fish, and insects. According to the database, no critical habitats are identified on or near the Project area (USFWS, 2024). During the site visit, Ramboll observed a Monarch butterfly traveling through the Project area which, as discussed further below, is currently an ESA Candidate species. No other evidence of listed state or federal T&E species or their habitats was observed.

Ramboll examined the Project area for Monarch butterfly habitat that could be impacted during construction and found none. During reconnaissance of the adjacent project area, Ramboll identified Monarch habitat approximately 0.6 miles north of the project along a creek. However, Ramboll did not find any hydrologic or habitat connectivity between the project area and the creek with the Monarch habitat. Therefore, no impact is anticipated between the project area and the creek due to the observed lack of connectivity.

Table 1. USFWS IPaC list of federally threatened, endangered, or candidate species that may occur in the Project area.

Scientific Name	Common Name	Federal Status	Habitat Description	Habitat Present	Findings
Birds					
Charadrius melodus	Piping Plover	T	If project involves dewatering activities or use in the N. Platte, S. Platte, and Laramie River Basins, then species in Nebraska may be affected with water-related use.	The project does not involve water-related activities. No critical habitat on the Project area	No impact
Grus americana	Whooping Crane	E	If project involves dewatering activities or use in the N. Platte, S. Platte, and Laramie River Basins, then species in Nebraska may be affected with water-related use.	The project does not involve water-related activities. No critical habitat on the Project area	No impact
Fishes					
Scaphirhynchus albus	Pallid Sturgeon	E	If project involves dewatering activities or use in the N. Platte, S. Platte, and Laramie River Basins, then species in Nebraska may be affected with water-related use.	The project does not involve water-related activities	No impact
Insects					
Danaus plexippus	Monarch butterfly	C	Breeding requires obligate milkweed host plant (USFWS 2020b)	While a monarch butterfly was observed during the site visit, no habitat was observed on the Project area.	No impact
Flowering Plants					

Scientific Name	Common Name	Federal Status	Habitat Description	Habitat Present	Findings
Platanthera praeclara	Western Prairie Fringed Orchid	T	Sedge meadows and wet native prairies (USFWS 1996).	None, no wetlands or wet prairies were observed on or near the Project area.	No impact
Spiranthes diluvialis	Ute Ladies'-tresses	T	Small, sporadic microhabitat represented by calcareous, wet mesic, temporarily inundated meadow in shallow wetlands with vegetation falling into the facultative wet or obligate wet classification (USFWS 1992).	None, no wetlands were observed on or near the Project area. No critical habitat on the Project area	No impact

3.6.2 Environmental Impact

It is our opinion that the Project area does not support federal or state T&E species or their associated habitat. Additionally, no prairie dog colonies were observed on the Project area.

Under the Endangered Species Act, candidate species, such as the Monarch butterfly, do not receive statutory protection. However, the USFWS encourages proactive conservation efforts to prevent the future listing of candidate species. While a Monarch butterfly was observed on the Project area during the October 22, 2024, visit, no habitat was observed within the Project area. The nearest habitat was identified approximately 0.6 miles to the north within a drainage. The lone Monarch observed was likely passing through the Project area and not using it for food or habitat. During construction, Ramboll recommends ensuring that work does not harm any Monarchs that might be traveling through the Project area by implementing a training for construction personnel to provide awareness on monarch butterflies that could be traveling through the site.

Although ground nests were not observed on site, it is our opinion that ground-nesting birds likely use the site during the migratory bird nesting season. Ramboll recommends either avoiding work during the migratory bird breeding season, which runs from April 1 to August 31, or continually mowing during this period to eliminate habitat and prevent impacts on grass/ground-nesting birds that could use the site. If nesting birds are observed, Ramboll advises halting work until the birds have fledged and the nests are no longer in use.

3.7 Terrestrial and Aquatic Plant Life (12g)

Section 3.7 analyzes how the project conforms with 12g i-ii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.7.1 Existing Conditions

As discussed in 3.6, Ramboll referenced several resources to evaluate the documented and potential presence and habitat of state-listed species within and near the Project area. Specifically, a list of potential species along with their preferred habitat type, range, and other details can be found on CPW website (CPW, 2023). According to the CPW's range maps, many of these species are not found in this area of the state, and they are unlikely to use such a disturbed habitat. CNHP has statewide GIS layers illustrating Potential Conservation Areas, Networks of Conservation Areas, and Terrestrial Ecological System Patches (CNHP, 2024 and 2011). One Terrestrial Ecological System was found within the Project area (Figure 7, Appendix A).

The Terrestrial Ecological System in the Project area is Shortgrass Prairie (Figure 7, Appendix A). This system, dominated by blue grama, buffalo grass, and other short to mid-height species, once covered much of Colorado east of the mountain front below 6,000 feet. Today, nearly 50% of historic shortgrass prairie has been converted to agriculture or other developments, marking the largest loss among Colorado's ecological systems. These ecological systems consist of plant and animal communities linked by similar processes and identifiable as distinct units. The Shortgrass Prairie ecological system has been assigned an average score of 1.7 (Poor), based on a patch approach derived from a generalized landcover dataset (USGS, 2004). The scoring ranges from 0 to 10, with 10 indicating the highest quality (CNHP, 2011).

During the October 22, 2024, site visit, Ramboll observed mowed grassland on the western portion of the Project area and heavily degraded short grass prairie habitat on the eastern portion of the Project area. Between the two grassland habitats is a concrete substation and compacted gravel staging area. The mowed grassland was predominately composed of smooth brome (*Bromus inermis*), intermediate wheat (*Thinopyrum intermedium*), and kochia (*Bassia scoparia*). The degraded shortgrass prairie was predominately composed of crested wheatgrass (*Agropyron cristatum*), intermediate wheat, and blue grama grass (*Bouteloua gracilis*) with scattered native and nonnative species such as purple love grass (*Eragrostis pectinacean*), stinkgrass (*Eragrostis cilianensis*), purple threeawn (*Aristida purpurea*), sand dropseed (*Sporobolus cryptandrus*), kochia, prickly pear cactus (*Opuntia polyacantha*), and rubber rabbitbrush (*Ericameria nauseosa*). A complete list of observed species can be found on Table 3 of Appendix C.

3.7.1.1 Federally Threatened and Endangered Species

The USFWS IPaC database, referenced on October 21, 2024, identified seven federally threatened, endangered, or candidate species that could potentially occur within the Project area (Table 1). Of these, two are considered terrestrial plant species, while no aquatic plant species were identified. According to the database, no critical habitats are present on or near the Project area (USFWS, 2024). During the site visit, no evidence of listed state or federal threatened and endangered species or their habitats was observed.

3.7.2 Environmental Impacts

It is our opinion that the Project area does not support federal or state T&E species or their associated habitat. The shortgrass prairie identified within the Project area is heavily degraded and is expected to be impacted by the proposed project. To mitigate impacts to the existing vegetation, Ramboll recommends using native seed mixes to stabilize the ground and provide habitat for the Project area following construction.

3.8 Soils, Geologic Conditions, and Natural Hazards (12h)

Section 3.8 analyzes how the project conforms with 12h i-iii of the Arapahoe County Board of Commissioners' 1041 Regulations.

3.8.1 Existing Conditions

The Project area geology consists of recent alluvium and unconsolidated deposits of Quaternary Age, eolian deposits overlying, and occasionally exposed, portions of the Late Cretaceous/Quaternary Age Denver Formation. The Denver Formation consists of sedimentary rocks comprised of sandstone, shale, mudstone, conglomerate, and local coal beds.

The NRCS Web Soil Survey indicates two soil categories, Adena-Colby silt loams, (1-5 percent slopes), and Weld-Deertrail silt loams, (0-3 percent slopes) (Figure 6, Appendix A). These soils are not listed as hydric soil (i.e., soils that can support wetlands) (NRCS, 2024).

The project site contains Hydrologic Soil Group (HSG) C. Type C soils have moderate infiltration rates and moderate to high runoff potential. According to a geotechnical study conducted by HP Geotech in 2007, the Project area consists of topsoil underlain by stiff to hard clay to a depth of 10 feet. Interbedded stiff to hard sandy clay to medium dense to dense clayey sand was encountered beneath this to a typical depth of 30 feet. Between 24 to 32 feet, dense silty sand was encountered in two of the borings above the claystone bedrock. Claystone bedrock was encountered at a depth of 29 to 32 feet to the termination depth of 41 feet. The claystone bedrock was sandy with a firm to hard consistency. An additional geotechnical study will be conducted in 2024 to confirm existing and site-specific conditions.

Several public databases were interrogated to understand natural hazards. The Colorado State Forest Service Wildfire Risk Viewer was reviewed for wildfire risk themes including fire intensity scale and burn probability. According to the Risk Viewer, Project will be located an area ranging from lowest to low fire intensity and in low burn probability (Colorado State Forest Service 2023). The Colorado Earthquake and Fault Map (Colorado Geological Survey, 2019) shows no earthquake events or quaternary faults near the Project area. No landslides are mapped within or adjacent to the Project area (Statewide Landside Inventory Map, 2022), suggesting minimal mudslide, rock fall, or landslide risk. The Project area is not located within Danger Scale areas mapped by the Colorado Avalanche Information Center.

3.8.2 Environmental Impacts

The proposed construction for the gas facility includes transformer pads, bus and switch support structures, H-frame termination structures, a control building with trench, pads, and a detention pond. A gravel surfaced road will provide access. Grading for Project area development of the substation yard may vary between 0.7 5 and 2 percent slope. Foundations will include spread footings and mats and drilled piers are recommended for deep foundations (Table 2). The geotechnical study did not identify any surface and subsurface characteristics to prevent project to be engineered and constructed.

Table 2. Pad size and structure loads at the Project area.

Substation Equipment Structure Loads (Unfactored)					
Equipment	Axial Load (kips)	Pad Size (ft^2)	Wall Load (lbs/lin. Ft)	Lateral Load (kips)	Overturning Moment (ft-kips)
Power transformer	200	12x27			
Bus & Switch	1 to 5			1.5	20
Control Building		16x80	300		
H-Frame Term. Structure	10			10	300

The Project's construction activities will create short-term, localized impacts to soil resources. These impacts could result in the potential reduction of surficial soil quality. Surface disturbance during construction may increase the potential for erosion, such as removal of protective vegetation and topsoil exposing subsoil to potential wind and water erosion. To minimize adverse impacts and confirm subsurface conditions, observation will be conducted during excavation, earthwork, and foundation phases. Additionally, the contractor shall mitigate soils compacted by movement of construction vehicles and equipment. A Grading, Erosion and Sediment Control (GESC) plan and SWPPP will be developed and implemented for the Project for construction stormwater drainage control, dust abatement, and earthwork BMPs.

The project is not located in areas of wildfire, earthquake, landslide, or avalanche. The project will be constructed to withstand damage from natural hazards including wildfire. The Project will include suppression systems and a fire loop with hydrants around the perimeter of the combustion turbines along with gallon fire water storage tank and pumps sufficient to meet NFPA850 and local requirements.

4 ADDITIONAL 1041 SECTION

4.1 Paleontological, Historical or Archeological (14)

Section 4.1 analyzes how the project conforms with Application Submittal Requirement 14 of the Arapahoe County Board of Commissioners' 1041 Regulations.

Ramboll reviewed the Colorado State Historic Preservation Compass database for paleontological, archaeological or historical sites. There are no recorded sites within the boundaries of the proposed Project area.

There are two archaeological sites within one mile, the closest being a historic structure (Site No. 5AH.173) that was demolished prior to 1978 just south of the Project area, and a burial/open camp prehistoric site (Site No. 5AH.120) within 0.5 miles. 5AH.120 was recorded as containing human remains. This site may be eligible for listing in the National Register of Historic Places (NRHP). No previous surveys have included the proposed Project area. There is an unrecorded residence (built in 1927) located across a vacant field east of the proposed project, however the viewshed has been blocked by the solar array fields established in 2024.

There is an existing substation within the Project area, as well as associated power lines, berms, concrete drainage ditch and equipment. Per Google Earth aerials, in 2019 the proposed Project area was used as a construction staging area, resulting in further ground disturbance. The staging has continued intermittently to present, as well as storage of fencing and power line poles. The northeastern corner of the project property is the only area that seems to have had minimal disturbance. No artifacts or features were observed during the site visit, or from further review of site visit photos.

Due to the presence of an archaeological site containing human remains within ½ mile, prior to construction and pending consultation with the State Historic Preservation Office (SHPO), Ramboll recommends an inadvertent discovery clause (Appendix D), as well as archeological monitoring of earth works during construction.

5 FINDINGS AND CONCLUSION

An Environmental Impact Analysis (EIA) of the Canyon Peak Power (CPP) Project has been completed, including a site visit, highlighting the key environmental aspects of its development. CPP is a natural gas-fired power generation facility that will generate about 156 megawatts of power using six combustion turbines. The facility will connect to existing Brick Center substation through a 115 kV distribution system, providing grid reliability and further decarbonizing and diversifying the power supply for the CORE Electric Cooperative service area.

The visual quality assessment found that the project area consists of open high plains and herbaceous vegetation, with no tree canopy, streams, lakes, or parks nearby. The flat landscape lacks scenic vistas. A site visit confirmed these conditions. The facility's turbines, which are 80 feet tall, will blend into the existing landscape with the adjacent Brick Center Substation and solar arrays. Additionally, the project is situated away from residential areas, minimizing visibility and impacts on communities.

In terms of air quality, the project is situated in the DMNFR, an area that struggles with ozone pollution. Current ozone levels are already above acceptable limits. In accordance with the minor source review permit (Appendix E), the Project will implement various emission controls and mitigation measures to reduce environmental impacts, including Dry Low Emission (DLE) technology, selective catalytic reduction (SCR), and catalytic oxidation (CatOx) systems on combustion turbines to limit NOx, VOCs, and other pollutants. Additionally, the project will monitor emissions, control construction dust, and use BMPs like equipment maintenance, low-sulfur fuel, and minimizing engine idling to mitigate air quality impacts.

With respect to surface water quality, the project site is located within the South Platte River Watershed, with no streams, lakes, or surface water features within or near the area. Runoff from the site flows into roadside ditches and ultimately to Kiowa Creek Sporting Club, with a detention pond designed to handle up to the 100-year, 1-hour storm, in compliance with Arapahoe County and CDPHE stormwater requirements. The site is not within a floodplain, and best management practices, including a SWPPP and GESC, will minimize impacts during construction and operation. The absence of mapped surface water and water management measures will minimize impacts to surface water quality or quantity.

The proposed project is located away from mapped alluvial aquifers, with the nearest being about 0.3 miles east, and there are no groundwater wells within the Project area. The facility will not require groundwater resources or wells, and trenching will be above any groundwater according to nearby wells. Best practices will be implemented to prevent contamination and spills. Therefore, the project is expected to have no impact on groundwater quality or quantity.

To assess wetlands, maps and aerial imagery were reviewed to assess wetlands in the project area and found no evidence of wetland or water features. Topographic data indicates only an eight-foot elevation change, and the soil types present are not hydric, meaning they cannot support wetlands. A site visit in confirmed the absence of wetland plants or hydrologic features. Therefore, the project will not impact wetlands or riparian areas.

The plants, animals, and habitats evaluation found that while seven federally listed species could potentially occur, no critical habitats are present. A Monarch butterfly was observed during the site visit, but no suitable habitat for it or other threatened species was found. The project area consists of heavily degraded shortgrass prairie with mainly non-native grasses, and it is not expected to impact federal or state threatened species. To protect Monarchs, construction personnel should be trained,

and work should be scheduled outside the migratory bird breeding season (March to August), with halts in activities if nesting birds are discovered.

The Project area consists of Quaternary alluvium with soils identified as silt loams. A geotechnical study revealed moderate swell potential in the soils, with bedrock encountered at up to 41 feet. Construction will involve grading and installation of various structures, potentially causing short-term impacts to soil quality and increased erosion risk due to vegetation removal. To mitigate these effects, a GESC plan will be implemented. Wildfire risk is low, and the includes fire suppression systems.

No recorded paleontological or archaeological sites were found within the Project area. However, two sites are located nearby: a demolished historic structure and a prehistoric burial site with human remains. While the Project area may be eligible for the National Register of Historic Places, it hasn't been previously surveyed. Recent ground disturbance from construction activities showed no artifacts. Due to the nearby burial site, an inadvertent discovery clause (Appendix D) and archaeological monitoring during construction are recommended.

6 REFERENCES

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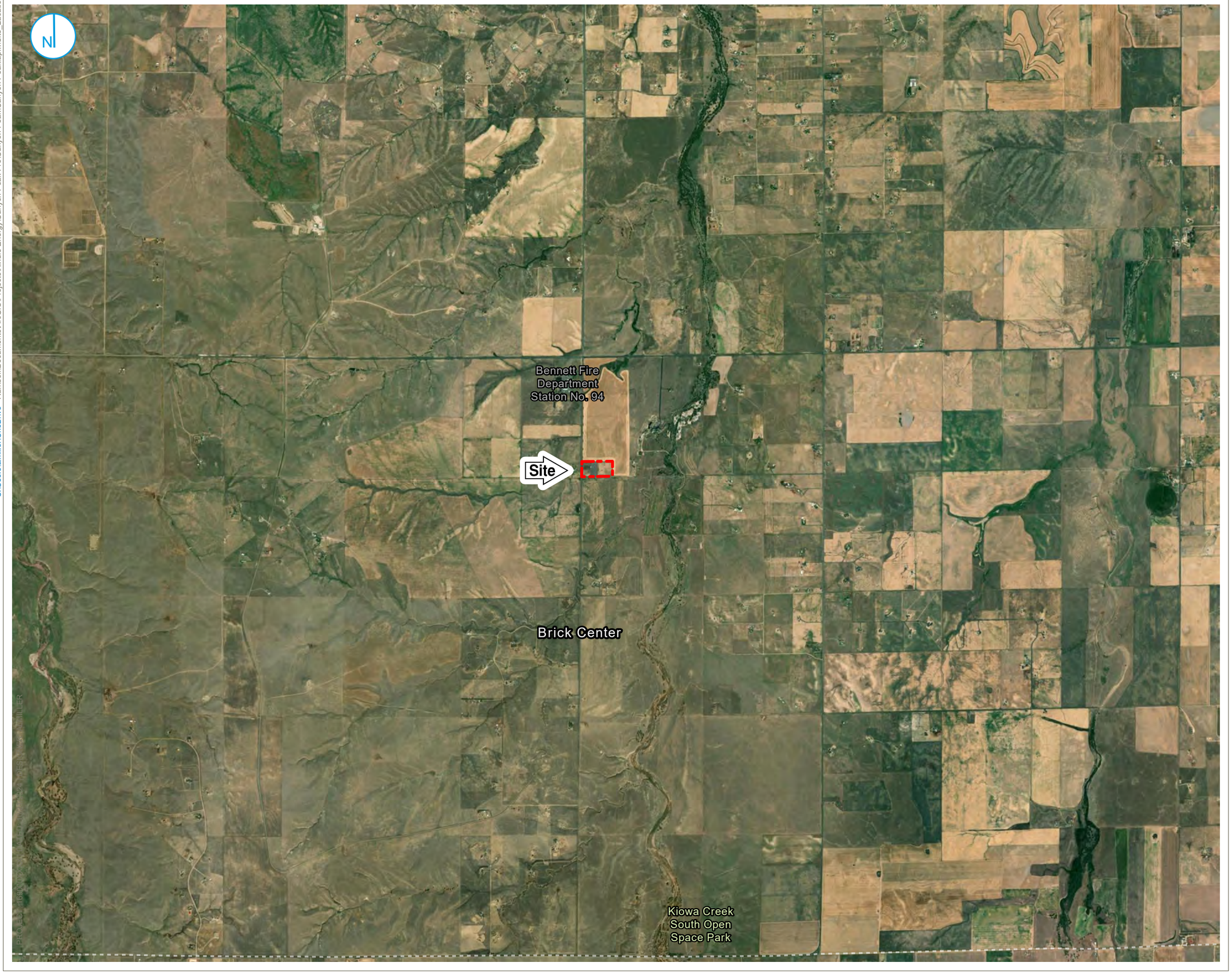
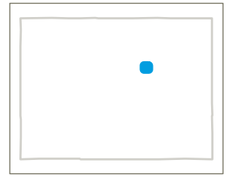
APPENDIX A



Project Boundary

0 0.25 0.5
Miles

SITE LOCATION

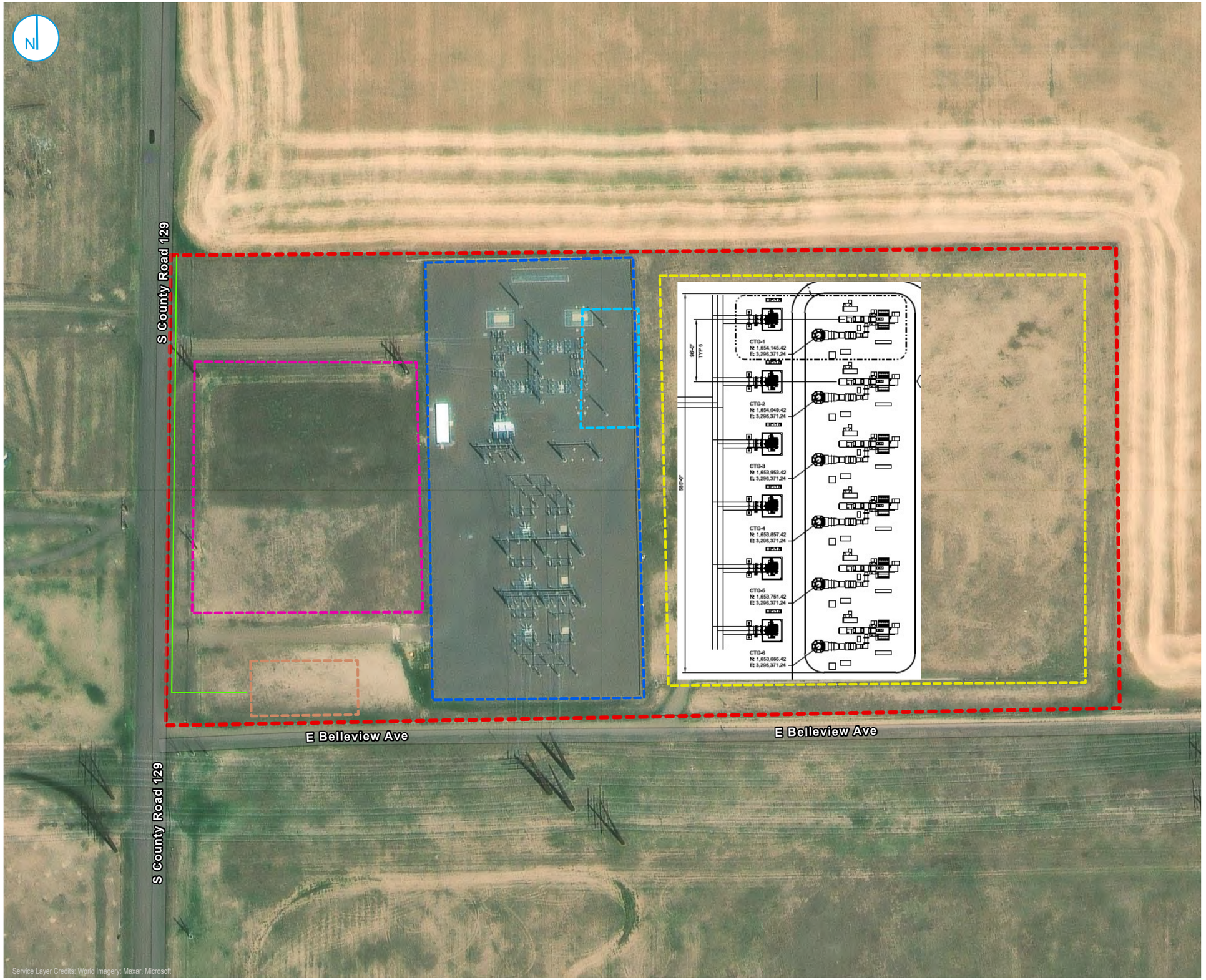


Canyon Peak Power
Arapahoe County, Colorado

Map Scale: 1:49,168 | Map Center: 104°26'57"W 39°37'16"N

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



- Project Boundary
- Proposed Natural Gas Lateral
- Existing Switchyard
- Switchyard Expansion
- Gas Meter Yard
- Construction Lay Down Area
- Power Generation Development Area

0 125 250 Feet

SITE LAYOUT

Canyon Peak Power
Arapahoe County, CO

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

Project Boundary

Parks and_Public Space (Arapahoe County GIS)

0 5,000 10,000 Feet

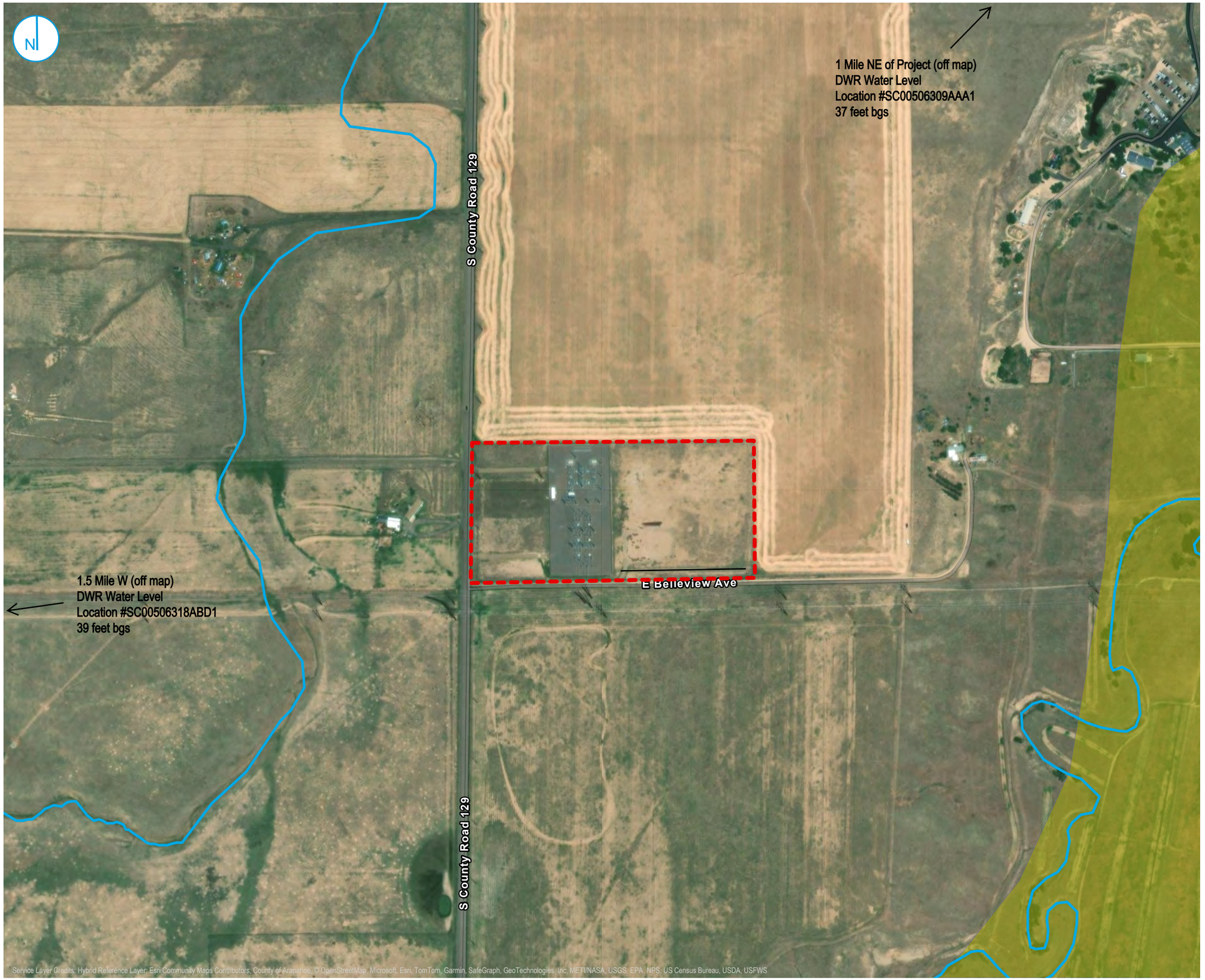
VISUAL RESOURCES

Canyon Peak Power
Arapahoe County, CO

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



Project Boundary
Rivers (Arapahoe County Open GIS Data, 2022)
Alluvial Aquifers (Colorado Geological Survey, 2021)
Approximate On-Site Drainage Ditch Location

0 500 1,000 Feet

WATER RESOURCES

Canyon Peak Power
Arapahoe County, CO

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 169000XXXX | DATED: 10/25/2024 | DESIGNER: LGIANNETTA

Project Boundary

NWI Wetlands

Freshwater Emergent Wetland

Riverine

Other

Notes

No FEMA Floodplains are within the Project Boundary or surrounding area.

0 50 100

Feet

NATIONAL WETLANDS INVENTORY (NWI), AND FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOODPLAIN

Canyon Peak Power

Arapahoe County, Colorado

FIGURE 5

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

C:\Users\LGIANNETTA\OneDrive - Ramboll\Documents\ArcGIS\Projects\CPP\CPP.aprx\Ramboll_ANSI_B_Landscape

Project Boundary
Soil Map Units

0 150 300 Feet

SOIL MAP UNITS
NRCS WEB SOIL SURVEY

Canyon Peak Power
Arapahoe County, CO

FIGURE 6

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 169000XXXX | DATED: 10/25/2024 | DESIGNER: LGIANNETTA

Project Boundary

Ecological System

Shortgrass Prairie

Statewide Elementent Species

Black-tailed Prairie Dog

Notes

Note 1: This ecosystem patch average score is 1.7. Patch scores range from 0 to 10, with 10 being the highest. The scores are categorized as follows: Poor (0-2.4), Fair (2.5-4.9), Good (5.0-7.4), and Very Good (7.5-10).

Note 2: The Statewide Elements by Quad map layer indicates the current, potential, or historical presence of species and natural communities within each quad. To protect the sensitive nature of this information, the specific locations of species and natural communities have been generalized to 7.5-minute USGS quadrangles.

0 50 100
Feet

COLORADO NATURAL HERITAGE PROGRAM ECOLOGICAL SYSTEM AND STATEWIDE ELEMENTS

Canyon Peak Power
Arapahoe County, Colorado

FIGURE 7

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

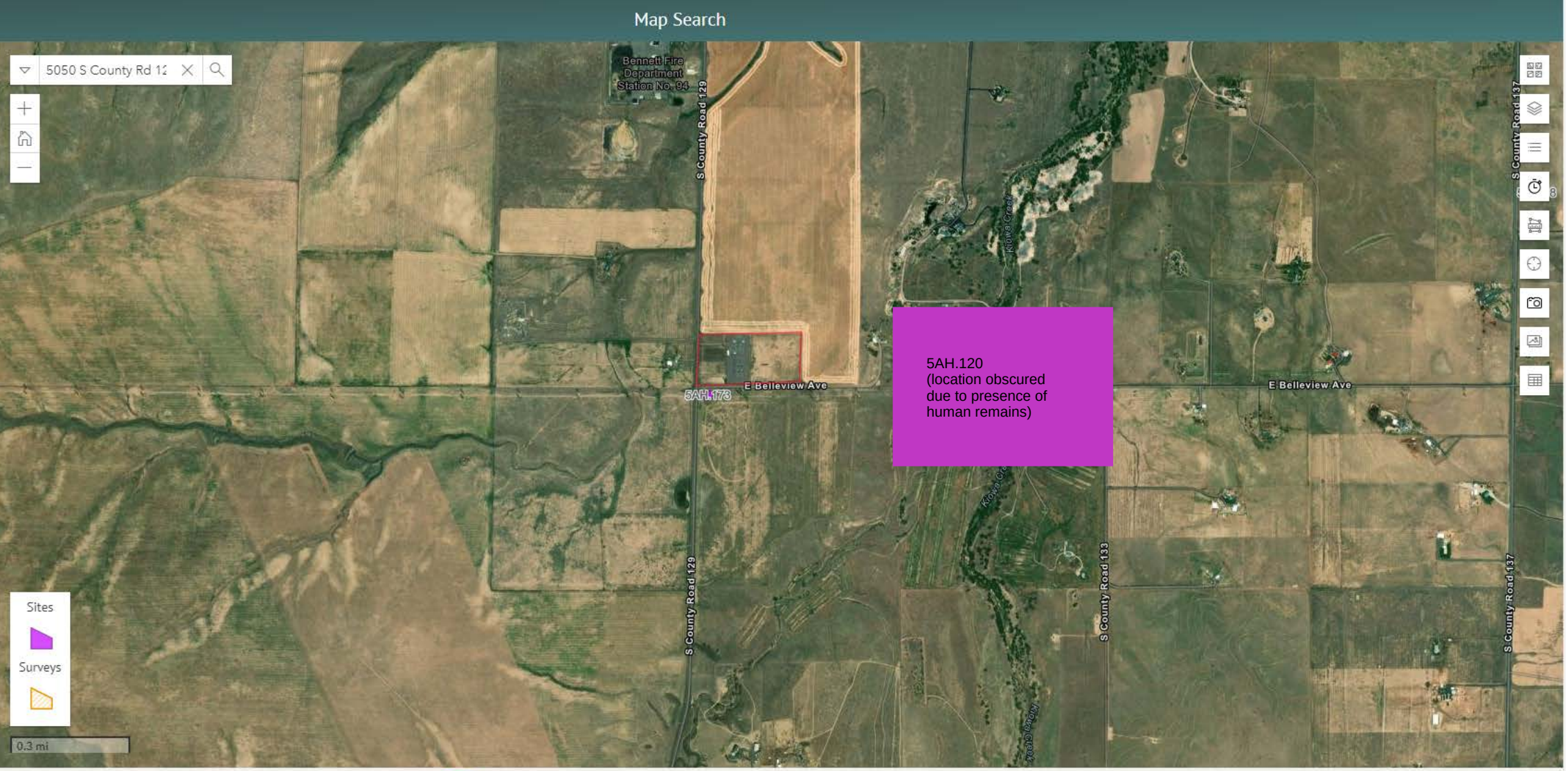


FIGURE 8
ARCHEOLOGICAL MAP

APPENDIX B

Photo 1: Representative photo of the western portion of the site.

Photo 2: Representative photo of the western portion of the site.

Photo 3: View to the east. Note the adjoining property of farmhouse and solar array.

Photo 4: Representative photo of the eastern portion of the site.

Photo 5: Representative photo of the site.

Photo 6: Representative photo of the eastern portion of the site.

Photo 7: Representative photo of the culverts.

Photo 8: Representative photo of the drainage ditch located on the southern potion of the site .

Photo 9: Representative photo of the southern adjacent property.

Photo 10: Representative photo of the western adjacent property.

Photo 11: Representative photo of the eastern adjacent property.

Photo 12: Representative photo of the northern adjacent property.

APPENDIX C

Table 3. List of species observed at the Project site during the October 22, 2024 field assessment.

Scientific Name	Common Name	Type	Federal Conservation Status	Native Status
Agropyron cristatum	crested wheatgrass	grass	n/a	Nonnative
Andropogon gerardi	big bluestem	grass	n/a	Native
Aristida purpurea	purple threeawn	grass	n/a	Native
Artemisia carruthii	Carruth's Sagewort	subshrub	n/a	Native
Bassia scoparia	Kochia	forb	n/a	Nonnative
bouteloua curtipendula	side oats gama	grass	n/a	Native
Bouteloua dactyloides	buffalo grass	grass	n/a	Native
bouteloua gracilis	blue grama	grass	n/a	Native
Bromus inermis	Smooth brome	grass	n/a	Nonnative
Canis latrans	coyote	animal	n/a	Native
Cirsium arvense	Canada thistle	forb	n/a	List B Noxious
Danaus plexippus	Monarch butterfly	insect	Candidate	Native
Eragrostis cilianensis	stinkgrass	grass	n/a	nonnative
Eragrostis pectinacea	purple love grass	grass	n/a	Native
Ericameria nauseosa	rubber rabbitbrush	shrub	n/a	Native
Ericoma hymenoides	sand ricegrass	grass	n/a	Native
Eriogonum effusum	spreading buckwheat	shubshrub	n/a	Native
Grindelia quarrosa	curly cup gumweed	forb	n/a	Native
Gutierrezia sarothrae	broom snakeweed	subshrub	n/a	Native
Helianthus annus	annual sunflower	forb	n/a	Native
Heterotheca hirsutissima	false golden aster	forb	n/a	Native
Koeleria macrantha	junegrass	grass	n/a	Native
Odocoileus virginianus	white tail deer	animal	n/a	Native
Opuntia polyacantha	prickly pear cactus	cactus	n/a	Native
Panicum virgatum	switchgrass	grass	n/a	Native
Pascopyrum smithii	western wheatgrass	grass	n/a	Native
Phasianus colchicus	ring-necked pheasant	animal	n/a	Nonnative
Portulaca oleracea	common purslane	forb	n/a	Nonnative
Schizachyrium scoparium	little bluestem	grass	n/a	Native
Sporobolus cryptandrus	sand dropseed	grass	n/a	Native
Sylvilagus nuttallii	cottontail rabbit	animal	n/a	Native
Symphyotrichum ericoides	white heath aster	forb	n/a	Native
Symphyotrichum falcatum	White prairie aster	forb	n/a	Native
Thinopyrum intermedium	intermediate wheat	grass	n/a	Nonnative
Yucca glauca	soapweed	shrub	n/a	Native

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
Phone: (303) 236-4773 Fax: (303) 236-4005

In Reply Refer To: 10/21/2024 16:45:10 UTC
Project Code: 2025-0008645
Project Name: CP_project area

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

PROJECT SUMMARY

Project Code: 2025-0008645
Project Name: CP_project area
Project Type: Acquisition of Lands
Project Description: NA
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.6228592,-104.45204132314211,14z

Counties: Arapahoe County, Colorado

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

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

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

---

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

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus*	Threatened

Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
This species only needs to be considered under the following conditions:

- Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/6039

Whooping Crane *Grus americana*	Endangered

Population: Wherever found, except where listed as an experimental population
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/758

FISHES

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus*	Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:

- Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

Species profile: https://ecos.fws.gov/ecp/species/7162

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

FLOWERING PLANTS

NAME	STATUS
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/2159

Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1669

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Mandi Miller
Address: 320 Laramie St
City: Cheyenne
State: WY
Zip: 82001
Email amandamill33@gmail.com
Phone: 8287078056

APPENDIX D

Inadvertent Discovery of Human Remains or Paleontological/Archaeological Resources

This plan outlines the processes to follow if human remains, prehistoric or historic artifacts, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered during ground disturbing activities associated with the project. This plan is compliant with the Colorado Revised Statutes (CRS) 24-80-401-411 (Part 4 – Historical, Prehistorical, and Archaeological Resources).

If human remains or suspected human remains are encountered during construction:

- Immediately cease all ground-disturbing activities in the vicinity of the discovery.
- Immediately notify Sheriff of Arapahoe County if human remains or suspected human remains are identified.
- If possible, set up a 30-meter (100-foot) buffer around the discovery and restrict access by installing temporary fencing.

The coroner will conduct and inquiry to determine if the skeletal remains are human and if the remains are of forensic value. If the remains are human but of no forensic value, the coroner will contact the state archaeologist to inform them of the discovery.

A qualified archaeologist should examine the human remains to determine the approximate age of the remains and to evaluate the integrity of their archaeological context before ground-disturbing activities can resume.

Thorough documentation of the archaeological context of the human remains will be completed by a qualified archaeologist. The state archaeologist will notify the Commission of Indian Affairs if the on-site inquiry discloses that the human remains are Native American. Consultation and further instruction shall follow.

If paleontological, prehistoric, or historic artifacts, such as fossilized animal and plant material, pottery or ceramics, projectile points, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area:

- The project shall cease all activities involving subsurface disturbance in the vicinity of the discovery.
- If possible, a 30-meter (100-foot) buffer will be created around the discovery and access restricted by installing temporary fencing.
- The applicant shall contact the Colorado State Historic Preservation Office. Project activities shall not resume without written authorization.

Contact Agency	Address	Phone Number
Arapahoe County Coroner	13101 E Broncos Pkwy, Centennial, CO 80112	(720) 874-3625
Arapahoe County Sheriff's Office	13101 E Broncos Pkwy, Centennial, CO 80112	(303) 795-4711
State Historic Preservation Office	1200 Broadway, Denver, CO 80203	(303) 866-3392

APPENDIX E

RAMBOLL

ENVIRONMENT
& HEALTH

Colorado Department of Public Health and Environment
Air Pollution Control Division
Stationary Sources Program
APCD-SS-B1
4300 Cherry Creek Drive South Denver, CO 80246

APPLICATION FOR SYNTHETIC MINOR CONSTRUCTION PERMIT
CANYON PEAK POWER
ARAPAHOE COUNTY, COLORADO

To Whom It May Concern:

September 19, 2024

Ramboll
1999 Broadway
Suite 2225
Denver, CO 80202
USA

T +1 303.382.5460
www.ramboll.com

Canyon Peak Power LLC (Canyon Peak) is proposing to construct a greenfield natural gas-fired power generation facility in Arapahoe County, Colorado. Due to the uncertainty in the market availability of power generation technologies, Canyon Peak is seeking approval for installation of either of the following power generation technologies at this proposed facility:

1. Six GE LM2500XPRESS combustion turbines; OR
2. Four Siemens SGT-800 combustion turbines

As discussed with the Colorado Department of Public Health and the Environment (CDPHE) during the pre-application meeting on July 11, 2024, it was decided that two separate permit applications will be submitted for the Canyon Peak Power Project (one for each technology) with the option of withdrawing one of the two applications as the technology availability and manufacturer's ability to meet the project timeline become more conclusive.

THE FOLLOWING INFORMATION AND DATA COVERS:

OPTION 1 – INSTALLATION OF SIX (6) GE LM2500XPRESS COMBUSTION TURBINES

By means of this application, Canyon Peak seeks an air permit for construction of *six (6) GE LM2500XPRESS natural gas fired, simple cycle combustion turbines* at the proposed facility. Canyon Peak is seeking to obtain a minor source air permit via establishment of enforceable limits to permit emissions of NO_x and VOC to less than the major source thresholds of 25 tons per year (tpy) each, to avoid Nonattainment New Source Review (NNSR).

This submission includes an application narrative with a regulatory discussion as well as the required Air Pollution Emission Notice (APEN) and APCD Form 102 in accordance with the 5 Code of Colorado Regulations (CCR) 1001-5, Regulation No. 3 (Colo. Reg. 3), Part B, Section II. The APEN fee has been paid online through the CDPHE payment portal.

Please contact Sim Deshpande at (508) 314-0828 or at sdeshpande@ramboll.com if you have any questions related to this application.

Sincerely,

Eric S. Hodek
Principal
D +1 (303) 382-5467
ehodek@ramboll.com

Prepared for:
Canyon Peak Power LLC

Submitted to:
Colorado Department of Public Health and Environment (CDPHE)
Air Pollution Control Division (APCD)

Prepared by:
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1940109307

APPLICATION FOR AN AIR PERMIT TO CONSTRUCT

CANYON PEAK POWER
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ACRONYMS AND ABBREVIATIONS

AP-42	EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition
APCD	Air Pollution Control Division
APEN	Air Pollution Emission Notice
CDPHE	Colorado Department of Public Health and Environment
CO	Carbon Monoxide
DMNFR	Denver Metro North Front Range
HAP	Hazardous Air Pollutants
lb/hr	Pound per Hour
lb/yr	Pound per Year
MMscf/yr	Million standard cubic feet per year
NAAQS	National Ambient Air Quality Standards
NO_x	Nitrogen Oxides
NNSR	Nonattainment New Source Review
NSPS	New Source Performance Standards
PM	Particulate matter
PM_{10}	Inhalable particulate matter with diameters of 10 microns or less
$PM_{2.5}$	Fine particulate matter with diameters of 2.5 microns or less
PSD	Prevention of Significant Deterioration
SO_2	Sulfur Dioxide
tpy	Tons per Year
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds
40 CFR	Title 40 of the United States Code of Federal Regulations
CFR	Code of Federal Regulations

1. INTRODUCTION

Canyon Peak Power LLC (Canyon Peak) is proposing to construct a greenfield, natural gas-fired power generation facility in Arapahoe County, Colorado. Due to the current uncertainty in the market availability of power generation technologies, Canyon Peak is seeking approval for installation of either of the following power generation technologies at this proposed facility:

- Six (6) GE LM2500XPRESS combustion turbines; OR
- Four (4) Siemens SGT-800 combustion turbines.

As discussed with the Colorado Department of Public Health and the Environment (CDPHE) during the pre-application meeting on July 11, 2024 , it was decided that two separate permit applications will be submitted for this project (one for each technology option) with the option of withdrawing one of the applications as technology availability and manufacturers' ability to meet the project timeline become more conclusive.

By means of this application, Canyon Peak seeks an air permit for construction of ***six (6) GE LM2500XPRESS natural gas fired, simple cycle combustion turbines*** at the proposed facility. The facility is a greenfield site located southeast of Denver near the town of Bennett in Arapahoe County, Colorado. A site location map for the proposed plant is presented in Figure 1-1.

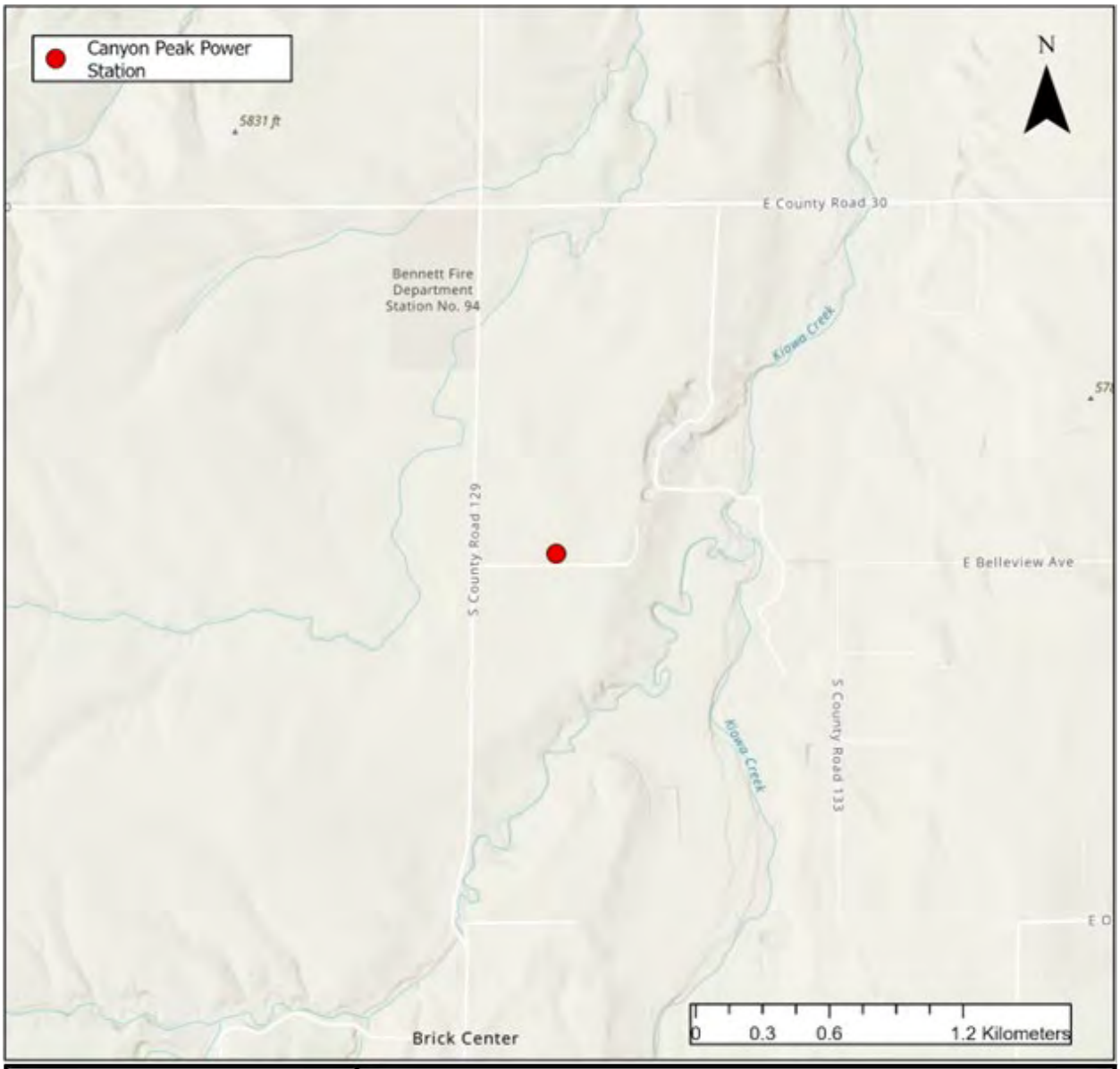
This facility is located in the Denver Metro North Front Range (DMNFR) area which is designated as attainment/maintenance for particulate matter less than 10 microns in diameter (PM_{10}) and carbon monoxide (CO). Under that designation, all SIP-approved requirements for PM_{10} and CO will continue to apply until the end of the maintenance period. The DMNFR is classified as severe nonattainment for the 2008 8-hr ozone standard and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1. As such, oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) are regulated as nonattainment pollutants. The area is designated as attainment/unclassified for all other criteria air pollutants.

With this permit application, Canyon Peak is seeking to obtain a minor source air permit to establish enforceable limits on emissions of NOx and VOC below the major source thresholds of 25 tons per year (tpy) each, to avoid Nonattainment New Source Review (NNSR). There are no affected states within 50 miles of the proposed project. Rocky Mountain National Park, a Federal Class I designated area, is within 100 kilometers of the proposed plant.

Enclosed are the required application materials consisting of project and process descriptions, emission calculations (Appendix A), environmental justice (EJ) analysis (Appendix C), and APCD forms (Appendix B).

Air quality modeling determinations and corresponding files will be submitted to the Permit Modeling Unit under separate cover.

Figure 1-1 Site Location Map



2. PROJECT DESCRIPTION

The project primarily consists of the installation of installation of six (6) General Electric (GE) LM2500XPRESS simple cycle combustion turbines at a greenfield location identified by Canyon Peak Power as the "Canyon Peak Site". Each GE LM2500XPRESS gas turbine generator package is approximately a 27 MW unit equipped with a LM2500+G4 engine, a dry low NOx emissions (DLE) combustion system with a selective catalytic reduction (SCR) system, and a catalytic oxidation (CatOx) emission control system. These units will operate solely on pipeline natural gas. The auxiliary equipment consists of a 7 MMBtu/hr natural gas-fired fuel gas heater, a 355-hp emergency firewater pump engine and its associated 572-gallon diesel storage tank.

2.1 Six (6) LM2500XPRESS Combustion Turbines

Each LM2500XPRESS Gas Turbine Generator package is considered a unit. Each unit will consist of three main modules: (i) The Turbine Module, (ii) the Generator Module, and (iii) the Control House Module. The LM2500XPRESS combustion turbine engine is a two-shaft aeroderivative design with a gas generator separate from the power turbine. This mechanically decoupled design allows the power turbine to operate at a continuous speed allowing for startup to full load in less than 10 minutes. The main deck of the generator module contains the generator, generator ventilation, generator lube oil system and switchgear. The control house module includes a lighted and insulated control house. Each unit is equipped with an 80-foot stack to release the combustion exhaust gases into the atmosphere. The turbines will fire pipeline quality natural gas. Additionally, each unit will be equipped with a 40 CFR Part 60 / 75 continuous emissions monitoring system providing monitoring of CO emissions, NO_x emissions, and fuel flow. The extractive sampling system will also include an O_2 analyzer for diluent and reporting purposes. Each CEMS will be in a prefabricated climate-controlled enclosure with a sample handling system, analyzers, calibration gases and a data acquisition and handling system.

Emission controls for the turbines include:

- Dry Low Emission (DLE) system and SCR for NOx control
- CatOx for CO and VOC control
- Use of pipeline-quality natural gas to minimize emissions of SO_2, PM_{10} and $PM_{2.5}$

Performance data for the GE units are summarized in Table 2-1 below.

Table 2-1 GE LM2500XPRESS Performance and Emissions (At Maximum Heat Input)

Parameter	Value (1)
Load (%)	100%
Fuel Consumption, MMBtu/hr (HHV)	295.5 MMBtu/hr
NOx, ppmvd at 15% O_2	2.5 ppmvd
CO, ppmvd at 15% O_2	4.0 ppmvd
VOC, ppmvd at 15% O_2	2.5 ppmvd
SO_2, lb/hr	0.4 lb/hr
PM_{10}, lb/hr	4.1 lb/hr
$PM_{2.5}$, lb/hr	4.1 lb/hr
(1) See Appendix A for details.	

2.2 Fuel Gas Heater

The project includes a 7 MMBtu/hr natural gas-fired fuel gas heater. Emissions for the heater were estimated based on vendor data and AP-42 Chapter 1.4 emission factors. Due to its small size, the heater is not subject to any federal or state emissions standards.

2.3 Emergency Firewater Pump

The project includes the addition of a 355-horsepower, diesel-fired emergency firewater pump. The firewater pump engine will use ultra-low sulfur diesel (ULSD) fuel and will be United States Environmental Protection Agency (USEPA)-certified to meet the New Source Performance Standards (NSPS) in 40 CFR 60, Subpart IIII and will meet the National Emissions Standards for Hazardous Air Pollutants (NESHAP), Subpart ZZZZ.

2.4 Ultra-Low Sulfur Diesel Storage Tank

An above ground storage tank will be installed to store ultra-low sulfur diesel fuel to be used in the emergency firewater pump. The tank will have a working volume of 572 gallons.

3. EMISSIONS SUMMARY

This section summarizes emissions information for the six combustion turbines, the fuel gas heater, the emergency firewater pump and the small diesel tank proposed at Canyon Peak Power. Detailed emissions calculations are shown in Appendix A.

3.1 Six Simple Cycle Combustion Turbines (FINs TBD)

As noted previously, Canyon Peak is proposing to install six (6) General Electric (GE) LM2500XPRESS simple cycle, natural gas-fired combustion turbines at the Canyon Peak Power facility.

Emissions of criteria air pollutants and formaldehyde from the combustion turbines are estimated based on the performance data from the manufacturer. Other Hazardous Air Pollutant (HAP) emissions are estimated using factors from AP-42 Fifth Edition Chapter 3.1. Greenhouse Gas (GHG) emissions are calculated in accordance with 40 CFR Part 98, Subpart C §98.33. Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as carbon dioxide equivalents (CO_2e) in 40 CFR 98, Table A-1.

3.2 Fuel Gas Heater

A new 7 MMBtu/hr natural gas-fired heater will be installed to warm the natural gas prior to being combusted in the combustion turbines. In addition to vendor data, emission factors from AP-42 Chapter 1.4 Natural Gas Combustion, dated July 1998 for small boilers (< 100 MMBtu/hr) were used in the calculations.

Emissions from the heater were estimated using the maximum design burner rating of 7 MMBtu/hr and the proposed annual hours of operation were used to estimate the annual emissions. For conservatism, it was assumed that the fuel gas heater follows the operational schedule of the power generation units (combustion turbines).

3.3 Emergency Firewater Pump

A new diesel-fired 355 horsepower (HP) emergency firewater pump will be constructed to provide the fire protection needs of the proposed Canyon Peak Power facility.

The annual emissions from the 355 HP emergency firewater pump are based on 100 hours per year per the annual operating limit for emergency engines under 40 CFR 60, Subpart IIII. Emissions of NO_x, CO, VOC, PM, PM_{10} and $PM_{2.5}$ are based on United States Environmental Protection Agency's Tier III emission standards for engines of model year 2014 or later[1], as the proposed firewater pump will be a Tier III certified engine. Emissions for hazardous air pollutants and other air toxics are based on AP-42 Chapter 3, Table 3.3-2. Emissions of sulfur dioxide (SO_2) are based on an emission factor developed from the low sulfur content of the diesel (15 ppmw). Emissions of GHGs are based on the emission factors presented in 40 CFR 98, Table C-1 and C-2 and the emissions of GHGs as CO_2e were developed based on the GHG species' global warming potentials presented in 40 CFR 98, Table A-1.

3.4 Diesel Storage Tank

A new, fixed roof, 572-gallon diesel storage tank will be constructed to store the diesel used in the emergency firewater pump. Emissions for the tank were estimated using the methodologies presented in AP-42, Chapter 7. The diesel storage tank is categorically exempt from filing an Air Pollutant Emissions Notice requirements as stated in 5 CCR 1001-5 Regulation No. 3 Part

[1] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OA05.pdf

B.II.D.1.fff.(ii)(A) and the storage of petroleum liquid requirements as stated in 5 CCR 1001-9 Regulation No. 7 Part B.IV.B.1.a.(i).

Table 3-1 summarizes annual emissions from all emission sources proposed at the Station. Detailed emissions calculations can be found in Appendix A.

Table 3-1 Project Air Pollutant Emission Rates *

EPN/Emission Source **	VOC		NO_x		CO		SO_2		TSP		PM_{10}		$PM_{2.5}$	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT-1	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
CT-2	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
CT-3	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
CT-4	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
CT-5	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
CT-6	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99
Fuel Gas Heater (FGH)	0.04	0.05	0.07	0.10	0.26	0.36	0.01	0.02	0.03	0.05	0.03	0.05	0.03	0.05
Firewater Pump (FWP)	2.34	0.12	2.34	0.12	2.04	0.10	0.0038	0.0002	0.12	0.01	0.12	0.01	0.12	0.01
Diesel Tank	2.3E-05	1.0E-04	--	--	--	--	--	--	--	--	--	--	--	--
Total	17.97	21.77	20.27	24.95	27.46	35.30	2.54	3.52	4.12	5.55	30.42	41.97	30.42	41.97
Major Source Threshold (NSR)		25		25		250		250		250		250		250
Major Source Threshold (Title V)		25		25		100		100		--		100		100

*Minor differences between values in this table and those presented in APCD-200 form are due to rounding. See Appendix A for details.

** CT-1 through CT-6 are the six identical GE LM2500XPRESS Gas Turbine

Table 3-2 HAP Emissions Summary (tpy)

HAP	Emissions (tons/year)			
	6 CTs	FGH	FWP	Total
1,3-Butadiene	1.07E-03	0.00E+00	4.86E-06	1.07E-03
Acetaldehyde	9.94E-02	0.00E+00	9.53E-05	9.95E-02
Acrolein	1.59E-02	0.00E+00	1.15E-05	1.59E-02
Benzene	2.98E-02	2.02E-05	1.16E-04	3.00E-02
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	1.15E-05	0.00E+00	1.15E-05
Ethylbenzene	7.95E-02	0.00E+00	0.00E+00	7.95E-02
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.41E+00	7.21E-04	1.47E-04	1.41E+00
Hexane	0.00E+00	1.73E-02	0.00E+00	1.73E-02
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene Oxide	7.21E-02	0.00E+00	0.00E+00	7.21E-02
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	3.23E-01	3.27E-05	5.08E-05	3.23E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinylidene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (m,p,o)	1.59E-01	0.00E+00	3.53E-05	1.59E-01
Polycyclic Organic Matter (Total POM)	9.11E-04	6.31E-06	2.09E-05	9.38E-04
Polycyclic Aromatic Hydrocarbons (PAHs)	9.11E-04	0.00E+00	0.00E+00	9.11E-04
Metals				
Arsenic	4.87E-04	1.92E-06	0.00E+00	4.87E-04
Beryllium	2.92E-05	1.15E-07	0.00E+00	2.92E-05
Cadmium	2.68E-03	1.06E-05	0.00E+00	2.68E-03
Chromium	3.41E-03	1.35E-05	0.00E+00	3.41E-03
Chromium VI	3.41E-03	0.00E+00	0.00E+00	3.41E-03
Cobalt	2.05E-04	8.08E-07	0.00E+00	2.05E-04
Lead	1.22E-03	4.81E-06	0.00E+00	1.22E-03
Manganese	9.26E-04	3.66E-06	0.00E+00	9.26E-04
Mercury	6.33E-04	2.50E-06	0.00E+00	6.33E-04
Nickel	5.12E-03	2.02E-05	0.00E+00	5.12E-03
Selenium	5.85E-05	2.31E-07	0.00E+00	5.85E-05
Total HAPs	**2.21**	**0.02**	**4.81E-04**	**2.23**

4. FEDERAL AND STATE REGULATORY APPLICABILITY

This section summarizes the applicable federal and state regulations[2] to the proposed Canyon Peak Power facility located in Arapahoe County, Colorado. Federal and state applicability is evaluated for the proposed sources at the facility.

4.1 State Regulatory Requirements

4.1.1 5 CCR 1001-3: Regulation 1 – Emission Control for Particulate Matter, Smoke, Carbon Monoxide, and Sulfur Oxides

The proposed facility will be subject to the requirements stipulated in Regulation 1 of 5 CCR 1001-3 and will comply with the requirements provided in Section II.A.1 and 2.

4.1.2 5 CCR 1001-4: Regulation 2 – Odor Emission

The facility is subject to the requirements stipulated in Regulation 2 of 5 CCR 1001-4. According to Section I.B of the regulation, for facilities located in areas not used predominantly for residential or commercial purposes, it is a violation if odors are detected after the odorous air has been diluted with fifteen (15) or more volumes of odor free air. Consistent with Section I.C.1 of the regulation, as a manufacturing source, the facility is required to have an affirmative defense to violations of Section I.B. of the regulation.

4.1.3 5 CCR 1001-5: Regulation 3 – Stationary Source Permitting and Air Pollutant Emission Notice Requirements

The State of Colorado has been granted authority to implement and enforce the permitting requirements specified by the federal Clean Air Act. The general requirements for permits and permit revisions are codified under the state air quality control commission regulations, Regulation Number 3, Stationary Source Permitting and Air Pollutant Emission Notice Requirements. Arapahoe County is located in the DMNFR area designated as nonattainment for ozone under the 8-Hour 2008 and 2015 National Ambient Air Quality Standard (NAAQS). The DMNFR nonattainment area is designated as "severe" nonattainment for the 2015 standard, and the proposed facility has PTE less than 25 tpy for each of the ozone precursors, NO_X and of VOC. As such, the facility will be a minor source under Nonattainment New Source Review (NNSR). Table 4-1 presents an applicability analysis of the various sub-sections of Regulation 3.

The facility is a minor source of criteria air pollutants for which the area is designated as attainment or unclassifiable as defined in 40 CFR 52.21(b)(4) incorporated in Reg. 3. Review under Prevention of Significant Deterioration (PSD) regulations is not required. As promulgated in 40 CFR 70.3, the facility will be a minor source of a regulated pollutant and therefore, it is not subject to the Title V Operating Permits program as implemented in 5 CCR 1001-5, Colo. Reg. 3, Part C and Part D.

A summary of the facility uncontrolled and controlled emissions of all criteria pollutants are provided in Table 3-1. Detailed calculations are provided in Appendix A.

EJ analysis was also submitted directly to the CDPHE EJ portal. The analysis and CDPHE approval is included as Appendix C.

Air quality modeling determinations and corresponding files are being submitted directly to the APCD Modeling Group under separate cover.

4.1.4 5 CCR 1001-6: Regulation 4 – Sale and Installation of Wood-Burning Appliances and the Use of Certain Wood-Burning Appliances during High Pollution Days

Not applicable; the facility does not sell, install, or utilize wood-burning appliances.

[2] 5 CCR Regulations 5, 13, 14 and 17 have been repealed and are no longer effective.

4.1.5 5 CCR 1001-8: Regulation 6 – Standards of Performance for New Stationary Sources
See the discussion presented in Section 4.2.

4.1.6 5 CCR 1001-9: Regulation 7 – Control of Ozone via Ozone Precursors and Control of Hydrocarbons via Oil and Gas Emissions
The facility is located in the DMNFR nonattainment area and will be a minor source of VOC and NOx; therefore, Regulation 7 is applicable to the facility.

The proposed emergency firewater pump will be diesel fuel-fired, and thus will not be subject to Part E, Section I.

4.1.7 5 CCR 1001-10: Regulation 8 – Control of Hazardous Air Pollutants
See the discussion presented in Section 4.2.

4.1.8 5 CCR 1001-11: Regulation 9 – Open Burning, Prescribed Fire, and Permitting
Not applicable; the facility does not propose to engage in any open burning or prescribed fire.

4.1.9 5 CCR 1001-19: Regulation 15 – Control of Emissions of Ozone-Depleting Compounds
The facility will comply, as applicable, with the requirements stipulated in Regulation 15, including the standards, criteria, and requirements set forth in 40 CFR Part 82, Subpart F.

4.1.10 5 CCR 1001-22: Regulation 18 – Control of Emissions of Acid Deposition Precursors
See the discussion presented in Section 4.2.

4.1.11 5 CCR 1001-23: Regulation 19 – The Control of Lead Hazards
Not applicable; the facility will not generate emissions containing lead compounds.

4.1.12 5 CCR 1001-25: Regulation 21 – Control of Volatile Organic Compounds from Consumer Products and Architectural and Industrial Maintenance Coatings
Not applicable; the facility will not generate emissions containing volatile organic compounds from consumer products and architectural and industrial maintenance coatings.

4.1.13 5 CCR 1001-30: Regulation 26 – Control of Emissions From Engines and Major Stationary Sources
The facility is located in the DMNFR nonattainment area and is a synthetic minor source of NOx. However, the Part B Section II.A and II.A.6 requirements for major sources of NOx are not applicable because the new turbines did not exist as of the dates in Sections II.A.1 or II.A.6.a.

4.2 Federal Regulatory Applicability

4.2.1 New Source Review (NSR) Applicability
See discussion presented in Section 4.1.3 above.

4.2.2 New Source Performance Standards (NSPS)
The following subparts of the NSPS, codified at 40 CFR 60, are evaluated for potential applicability to the proposed power station.

4.2.2.1 NSPS Subpart A – General Provisions
Sources subject to source specific NSPS are also subject to the general provisions of NSPS Subpart A that contain the initial notification requirements, initial startup notifications, performance tests, general monitoring, recordkeeping, and reporting requirements.

4.2.2.2 NSPS Subpart Db or Dc – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units or Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
NSPS Db applies to any steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per

hour (MMBtu/hr)). The proposed fuel gas heater is rated at 7 MMBtu/hr and does not meet this size range criteria and as such, is not subject to NSPS Db.

NSPS Dc applies to a steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). The proposed fuel gas heater is rated at 7 MMBtu/hr and does not meet this size range criteria and as such, is not subject to NSPS Dc.

4.2.2.3 NSPS Subpart Kb – Volatile Organic Liquid Storage Vessels

NSPS Subpart Kb is applicable to storage vessels for which construction, modification or reconstruction commenced after July 23, 1984, with storage capacities greater than or equal to 75 m3 (19,812 gallons) and that store volatile organic liquids (VOL). This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m3 storing liquid with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa. The proposed ultra-low sulfur diesel storage tank at the station has a storage capacity less than 75 m^3 with a true vapor pressure less than 15.0 kPa, and is therefore, not subject to NSPS Subpart Kb.

4.2.2.4 NSPS Subpart KKKK – NSPS for Stationary Combustion Turbines

40 CFR 60, Subpart KKKK applies to stationary combustion turbines that commence construction after February 18, 2005, and that have a heat input at peak load that is equal to or greater than 10 MMBtu per hour, based on the higher heating value of the fuel. Each combustion turbine will have a peak load heat input of greater than 50 MMBtu/hr and less than 850 MMBtu/hr. For natural gas-fired turbines, NO_x emission limit of 25 ppm at 15 percent oxygen (O_2) or 1.2 pound per megawatt-hour (lb/MWh) would apply. Canyon Peak Power will use continuous emissions monitoring system (CEMS) to monitor compliance with the NOx limit.

40 CFR Part 60, Subpart KKKK specifies that the proposed combustion turbines can either comply with an SO_2 emission limit of 0.9 lb/MWh gross output or must not burn in any fuel which contains total potential sulfur emissions in excess of 0.060 lb SO_2/MMBtu heat input. Pipeline natural gas is the only fuel proposed for these combustion turbines and as such compliance with the SO_2 limit should not be an issue.

Note that NSPS Subpart GG is not applicable to combustion turbines that are subject to NSPS Subpart KKKK.

4.2.2.5 NSPS Subpart TTTT – NSPS for Greenhouse Gas Emissions for Electric Generating Units

40 CFR Part 60, Subpart TTTT applies to stationary combustion turbines that commence construction after January 8, 2014 but on or before May 23, 2023, or commences reconstruction after June 18, 2014, but on or before May 23, 2023 and have a base heat input rating greater than 250 MMBtu/hr and serve a generator capable of selling 25 MW of electricity to a utility power distribution system.

The proposed GE LM2500XPRESS simple cycle combustion turbines are not affected sources under this rule because they fall outside the applicability window since they will be constructed after May 23, 2023.

4.2.2.6 NSPS Subpart TTTTa – Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units

40 CFR Part 60, Subpart TTTTa applies to stationary combustion turbines that commence construction or reconstruction after May 23, 2023 and have a base heat input rating greater than

250 MMBtu/hr and serve a generator capable of selling 25 MW of electricity to a utility power distribution system.

The proposed GE LM2500XPRESS simple cycle combustion turbines are affected sources under this rule and are subject to the CO_2 emission standards in Table 1 of Subpart TTTTa.

4.2.2.7 NSPS Subpart IIII – NSPS for Stationary Compression Ignition Internal Combustion Engines

40 CFR Part 60, Subpart IIII applies to stationary compression-ignition internal combustion engines manufactured in 2007 or later. The proposed emergency firewater pump engine, model year 2009 or later, will be subject to 40 CFR Part 60, Subpart IIII. Per 40 CFR Part 60, Subpart IIII, Canyon Peak must operate the engine in compliance with the emergency engine emission standards set forth in 40 CFR 60.4204 for non-methane hydrocarbons plus NO_x, CO and PM. Canyon Peak Power will comply with 40 CFR Part 60, Subpart IIII by purchasing a USEPA Tier III engine certified by the manufacturer and equipped with a non-resettable hour meter, by installing and configuring the engine per the manufacturer's specifications, and by operating and maintaining the engine consistent with the manufacturer's instructions.

4.2.3 National Emission Standards for Hazardous Air Pollutants (NESHAP)

4.2.3.1 NESHAP Subpart A – General Provisions

Sources subject to source specific NESHAP are also subject to the general provisions of NESHAP Subpart A that contain the initial notification requirements, initial startup notifications, performance tests, general monitoring, recordkeeping, and reporting requirements.

4.2.3.2 NESHAP Subpart YYYY – Stationary Combustion Turbines

Subpart YYYY provides HAP emission limitations, operating limitations, and compliance requirements for stationary combustion turbines located at major sources of HAPs. The proposed facility is not a major source of HAPs and therefore, is not subject to Subpart YYYY.

4.2.3.3 NESHAP Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE)

Subpart ZZZZ provides HAP emission limitations and operational limitations for stationary RICE including emergency engines located at major or area sources of HAP. The diesel-fired emergency firewater pump is subject to Subpart ZZZZ and will comply with the NESHAP via compliance with NSPS Subpart IIII.

4.2.3.4 NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Subpart DDDDD establishes emission limitations and work practice standards for HAP emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. The proposed facility is not a major source of HAPs and therefore, is not subject to Subpart DDDDD.

4.2.4 Chemical Accident Prevention – 40 CFR 68

The Clean Air Act (CAA) requires affected sources to develop a Risk Management Plan (RMP). The RMP rule is applicable to stationary sources that have processes that processes, stores, or uses a chemical listed under 112(r) of the CAA in excess of its threshold quantity, then that process is subject to the applicable provisions of the RMP rule. The proposed facility will use an aqueous ammonia (<=19% by weight) storage tank for the SCR reagent in the catalytic conversion of NOx emissions to nitrogen and oxygen that is not subject to RMP requirements.

4.2.5 Acid Rain Program – 40 CFR 72 - 78

Clean Air Act (CAA) Title IV authorizes the EPA under the Acid Rain Program (40 CFR 72 through 78) to achieve reductions of SO_2 and NOx emissions (acid rain). The proposed facility will be subject to the requirements listed under this rule and will comply as required.

4.2.6 Stratospheric Ozone Protection – 40 CFR 82

Title VI of the CAA requires phase out of ozone depleting substances (ODS). The proposed facility will not manufacture any ODS and will not own or operate equipment containing ODS. As such, requirements of 40 CFR 82, Subpart F will not apply.

APPENDIX A
EMISSION CALCULATIONS

Canyon Peak Power LLC

GE LM2500XPRESS Gas Turbines

Facility-Wide Emissions Summary

EPN/Emission Source	VOC		NO_x		CO		SO_2		TSP		PM_{10}		$PM_{2.5}$		Benzene		Toluene		Ethylbenzene		Xylene		Formaldehyde		HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT-1 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
CT-2 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
CT-3 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
CT-4 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
CT-5 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
CT-6 / GE LM2500XPRESS Gas Turbine	2.60	3.60	2.98	4.12	4.19	5.81	0.42	0.58	0.66	0.92	5.04	6.99	5.04	6.99	3.59E-03	4.97E-03	0.04	0.05	0.01	0.01	0.02	0.03	0.17	0.24	0.27	0.37
Fuel Gas Heater (FGH)	0.04	0.05	0.07	0.10	0.26	0.36	0.01	0.02	0.03	0.05	0.03	0.05	0.03	0.05	1.44E-05	2.02E-05	2.33E-05	3.27E-05	--	--	--	--	5.15E-04	7.21E-04	0.01	0.02
Firewater Pump (FWP)	2.34	0.12	2.34	0.12	2.04	0.10	0.0038	0.0002	0.12	0.01	0.12	0.01	0.12	0.01	2.32E-03	1.16E-04	1.02E-03	5.08E-05	--	--	7.06E-04	3.53E-05	2.93E-03	1.47E-04	2.93E-03	1.47E-04
Diesel Tank (DT)	2.3E-05	1.0E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	**17.97**	**21.77**	**20.27**	**24.95**	**27.46**	**35.30**	**2.54**	**3.52**	**4.12**	**5.55**	**30.42**	**41.97**	**30.42**	**41.97**	**0.02**	**0.03**	**0.23**	**0.32**	**0.06**	**0.08**	**0.12**	**0.16**	**1.02**	**1.41**	**1.61**	**2.23**
Major Source Threshold (NSR)		25		25		250		250		250		250		250		--		--		--		--		--		--
Major Source Threshold (Title V)		25		25		100		100		--		100		100		10.00		10.00		10.00		10.00		10.00		25.00

Canyon Peak Power LLC
GE LM2500XPRESS Gas Turbines
Facility-Wide Emissions Summary

Pollutant	Annual Emissions, tons/year					Major Source Threshold [2] (tons/year)
	Six Combustion Turbines	Fuel Gas Heater	Firewater Pump	Diesel Tank	Facility Total [1]	
NO_X	24.74	0.10	0.12	--	24.95	25
CO	34.84	0.36	0.10	--	35.30	250
PM_{filt}	5.50	0.05	0.01	--	5.55	250
PM_{10}	41.92	0.05	0.01	--	41.97	250
$PM_{2.5}$	41.92	0.05	0.01	--	41.97	250
SO_2	3.50	0.02	1.89E-04	--	3.52	250
VOC	21.61	0.05	0.12	1.02E-04	21.77	25
CO_2	290,700.2	1,147.7	20.3	--	291,868	--
CH_4	5.5	0.022	8.22E-04	--	5.50	--
N_2O	0.5	0.002	1.64E-04	--	0.55	--
CO_2e	291,000.4	1,148.9	20.3	--	292,170	100,000
Max. Single HAP	1.4	0.017	0.000147	--	1.41	10
Total HAPs	2.21	0.02	4.81E-04	--	2.23	25

(1) Facility total emissions include emissions from the six combustion turbines, one 7 MMBtu/hr fuel gas heater, one emergency firewater pump and one 572-gallon diesel storage tank.

(2) Since the Station is proposed to be located in a severe ozone non-attainment area, major source threshold is 25 tons for NOx and VOC. All other pollutants are evaluated against the 250 tons/year threshold. The area is attainment/unclassifiable for the 1-hour NO2 standard; as such, NOx is also evaluated against the 250 tpy PSD threshold.

Canyon Peak Power LLC
GE LM2500XPRESS Gas Turbines
Emissions Summary

Natural Gas Heat Input (100% Load)	295.50	MMBtu/hr
Natural Gas Heat Input (50% Load)	187.60	MMBtu/hr

Per turbine			
Number of Combustion Turbines (CTs)	**6**		
Annual Operating Hours per CT (Normal Ops)	**2,770**	hr/year/CT	4872.79385
Number of Startups/Shutdowns per year	**200**	events/year/CT (100 SU and 100 SD)	
Duration of Startups/Shutdown	**0.167**	hr/event (10 mins per event)	
Total SU/SD hours per year	33.33	hr/year/CT	
Total SU/SD hours + normal ops hours per year per CT	2,803	hr/year/CT	
Total for 6 turbines			
Total Annual Operating Hours for all CTs	16,820	hr/year	(normal ops + SU/SD)

EMISSION FACTORS	100% Load	50% Load		
Parameter/Pollutant	Nat. Gas.			
NO_X Emissions, lb/MMBtu	0.00899	0.00903	GE Data - with SCR	
CO Emissions, lb/MMBtu	0.00889	0.00888	GE Data - with Ox Cat	
PM_{filt} Emissions, lb/MMBtu	0.00190	0.00190	AP-42	(Filt PM)
PM10 Emissions, lb/MMBtu	0.01673	0.02505	GE Data	(Filt + Cond PM)
PM2.5 Emissions, lb/MMBtu	0.01673	0.02205	assumed to be sa	(Filt + Cond PM)
SO2 Emissions, lb/MMBtu	0.00141	0.00141	AP-42	
VOC Emissions, lb/MMBtu	0.00855	0.00863	GE Data	

EMISSION FACTORS	Startup	Shutdown	
NOX Emissions, lb/event	6.73217	2.17073	SCR Controlled emission rate
CO Emissions, lb/event	20.18549	23.17507	Ox. Cat Controlled emission rate
PMfilt Emissions, lb/event	2.15915	0.62197	assumed to be = PM10 (i.e., includes CPM)
PM10 Emissions, lb/event	2.15915	0.62197	PM10 (Front and Back + SCR contribution)
PM2.5 Emissions, lb/event	2.15915	0.62197	PM2.5 (Front and Back + SCR contribution)
SO2 Emissions, lb/event	0.07296	0.05915	SO2 lb/event for SCR controlled scenario
VOC Emissions, lb/event	1.34802	0.65529	Ox. Cat Controlled emission rate

Parameter/Pollutant	Normal Ops	SU/SD	Total	NANSR Major Source Threshold	PSD Major Source Threshold	NANSR Triggered?	PSD Review Triggered?
NO_X Emissions, tpy	22.07	2.67	24.74	25	250	No	No
CO Emissions, tpy	21.83	13.01	34.84		250		No
PM_{filt} Emissions, tpy	4.67	0.83	5.50		250		No
PM10 Emissions, tpy	41.08	0.83	41.92		250		No
PM2.5 Emissions, tpy	41.08	0.83	41.92		250		No
SO2 Emissions, tpy	3.46	0.040	3.50		250		No
VOC Emissions, tpy	21.01	0.60	21.61	25		No	

Canyon Peak Power LLC

GE LM2500XPRESS Gas Turbines

GHG Emissions Summary

Natural Gas Heat Input (100% Load)	295.50	MMBtu/hr
Natural Gas Heat Input (50% Load)	187.60	MMBtu/hr

Per turbine			
Number of Combustion Turbines (CTs)	**6**		
Annual Operating Hours per CT (Normal Ops)	**2,770**	hr/year/CT	
Number of Startups/Shutdowns per year	**200**	events/year/CT (100 SU and 100 SD)	
Duration of Startups/Shutdown	**0.167**	hr/event (10 mins per event)	
Total SU/SD hours per year	33.33	hr/year/CT	
Total SU/SD hours + normal ops hours per year per CT	2,803	hr/year/CT	
Total for 6 turbines			
Total Annual Operating Hours for all CTs	16,820	hr/year	(normal ops + SU/SD)

EMISSION FACTORS [1, 2]	Value	Units
CO_2	53.06000	kg/MMBtu
CH_4	1.00E-03	kg/MMBtu
N_2O	1.00E-04	kg/MMBtu
CO_2e	53.11480	kg/MMBtu

EMISSIONS	Value	Units
CO_2	290,700.2	tons/year
CH_4	5.5	tons/year
N_2O	0.5	tons/year
CO_2e	291,000.4	tons/year

(1) Emission factors for CO2, CH4 and N2O are taken from 40 CFR 98, Table C-1 and Table C-2. Values are converted from kg/MMBtu to lb/MMBtu.

(2) Global Warming Potentials taken from 40 CFR 98, Table A-1.

CO_2	1
CH_4	25
N_2O	298

Canyon Peak Power LLC
Natural Gas-Fired Fuel Gas Heater
Emissions Summary

Natural gas heat content	1,020	MMBtu/MMscf
Heater size (per unit)	7	MMBtu/hr
Gas usage (per unit)	6.86E-03	MMscf/hr
Annual operation (per unit)	2,803	hours/yr
Total units	1	

Pollutant	Emission Factor		Source of Emission Factor	Hourly Emission Rate (per unit)	Annual Emissions (per unit)	Annual Emissions (all units)
				lb/hr	tons/yr	tons/yr
NOx	1.00E-02	lb/MMBtu	Vendor Provided Data	0.07	0.10	0.10
CO	3.70E-02	lb/MMBtu		0.26	0.36	0.36
$PM/PM_{10}/PM_{2.5}$	4.80E-03	lb/MMBtu		0.03	0.05	0.05
SO_2	1.60E-03	lb/MMBtu		0.01	0.02	0.02
VOC	5.00E-03	lb/MMBtu		0.04	0.05	0.05
CO_2	117.0	lb/MMBtu	40 CFR 98, Table C-1 and C-2. GWP from Table A-1	819	1,148	1,148
CH_4	2.20E-03	lb/MMBtu		1.54E-02	2.16E-02	2.16E-02
N_2O	2.20E-04	lb/MMBtu		1.54E-03	2.16E-03	2.16E-03
CO_2e				820	1,149	1,149
Total HAPs				1.30E-02	0.02	0.02
Arsenic	2.00E-04	lb/MMscf	AP-42, Chapter 1.4, Tables 1.4-3 and 1.4-4	1.37E-06	1.92E-06	1.92E-06
Beryllium	1.20E-05	lb/MMscf		8.24E-08	1.15E-07	1.15E-07
Cadmium	1.10E-03	lb/MMscf		7.55E-06	1.06E-05	1.06E-05
Chromium	1.40E-03	lb/MMscf		9.61E-06	1.35E-05	1.35E-05
Cobalt	8.40E-05	lb/MMscf		5.76E-07	8.08E-07	8.08E-07
Manganese	3.80E-04	lb/MMscf		2.61E-06	3.66E-06	3.66E-06
Mercury	2.60E-04	lb/MMscf		1.78E-06	2.50E-06	2.50E-06
Nickel	2.10E-03	lb/MMscf		1.44E-05	2.02E-05	2.02E-05
Selenium	2.40E-05	lb/MMscf		1.65E-07	2.31E-07	2.31E-07
2-Methylnaphthalene	2.40E-05	lb/MMscf		1.65E-07	2.31E-07	2.31E-07
3-Methylcholanthrene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
7,12-Dimethylbenz(a)anthracer	1.60E-05	lb/MMscf		1.10E-07	1.54E-07	1.54E-07
Acenaphthene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Acenaphthylene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Anthracene	2.40E-06	lb/MMscf		1.65E-08	2.31E-08	2.31E-08
Benz(a)anthracene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Benzene	2.10E-03	lb/MMscf		1.44E-05	2.02E-05	2.02E-05
Benzo(a)pyrene	1.20E-06	lb/MMscf		8.24E-09	1.15E-08	1.15E-08
Benzo(b)fluoranthene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Benzo(g,h,i)perylene	1.20E-06	lb/MMscf		8.24E-09	1.15E-08	1.15E-08
Benzo(k)fluoranthene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Chrysene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Dibenzo(a,h)anthracene	1.20E-06	lb/MMscf		8.24E-09	1.15E-08	1.15E-08
Dichlorobenzene	1.20E-03	lb/MMscf		8.24E-06	1.15E-05	1.15E-05
Fluoranthene	3.00E-06	lb/MMscf		2.06E-08	2.89E-08	2.89E-08
Fluorene	2.80E-06	lb/MMscf		1.92E-08	2.69E-08	2.69E-08
Formaldehyde	0.08	lb/MMscf		5.15E-04	7.21E-04	7.21E-04
Hexane	1.80	lb/MMscf		0.01	0.02	0.02
Indeno(1,2,3,-cd)pyrene	1.80E-06	lb/MMscf		1.24E-08	1.73E-08	1.73E-08
Naphthalene	6.10E-04	lb/MMscf		4.19E-06	5.87E-06	5.87E-06
Phenanthrene	1.70E-05	lb/MMscf		1.17E-07	1.64E-07	1.64E-07
Pyrene	5.00E-06	lb/MMscf		3.43E-08	4.81E-08	4.81E-08
Toluene	3.40E-03	lb/MMscf		2.33E-05	3.27E-05	3.27E-05
Lead	5.00E-04	lb/MMscf		3.43E-06	4.81E-06	4.81E-06

Canyon Peak Power LLC
Emergency Diesel-Fired Firewater Pump
Emissions Summary

Description	Value	Units
Engine Rating	355	HP
Annual Operating Hours	100	hr/year
Fuel Type	Diesel	
Diesel S Content [1]	15	ppmw
Density of Diesel	7	lb/gal
Heating Value of Diesel [2]	138000	Btu/gal
Conversion Factor [3]	7000	Btu/hp-hr
FWP Annual Fuel Use - Diesel	249	MMBtu/year

Pollutant	Emission Factor	Emission Factor Units of Measure	Reference	Emissions (tons/year)
PM_{10}	3.29E-04	lb/hp-hr	(4)	0.0058
$PM_{2.5}$	3.29E-04	lb/hp-hr	(5)	0.0058
SO_2	1.06522E-05	lb/hp-hr	(6)	0.0002
NOx	6.58E-03	lb/hp-hr	(4)	0.1168
CO	5.76E-03	lb/hp-hr	(4)	0.1022
VOC Total	6.58E-03	lb/hp-hr	(7)	0.1168
CO_2	163.05	lb/MMBtu	(8)	20.259
CH_4	0.0066	lb/MMBtu	(8)	0.001
N_2O	0.0013	lb/MMBtu	(8)	0.000
CO_2e	163.612	lb/MMBtu	(9)	20.329

(1) Per 40 CFR 60.4207(b), maximum sulfur content of ultra low Sulfur diesel nonroad diesel as specified in 40 CFR 80.510(b)(1)(i).
(2) Higher Heating Value (HHV) of diesel obtained from 40 CFR 98.

(3) Average brake-specific fuel consumption (BSFC) is based on AP-42 Section 3.3, Table 3.3-1.
(4) Emission factors for Nox, PM, VOC and CO obtained from Tier III emission standards for engine within size range 225 kW to 450 kW. Factors converted from g/kW-hr to lb/hp-hr
(5) PM2.5 assumed to be equal to PM10.
(6) SO2 emission factor = BSFC (7,000 Btu/hp-hr) / HHV (138,000 Btu/gal) x density of diesel (7 lb/gal) x concentration of Sulfur (15 ppmw) / 1,000,000 x 64 lb SO2 / 32 lb S
(7) Nox and VOC emissions are each depicted at a rate of 4.0 g/kW-hr (EPA Tier III) for conservative permitting purposes. However, being a Tier III unit, the firewater pump's emissions of Nox+NMHC
(8) Emission factors for CO2, CH4 and N2O are taken from 40 CFR 98, Table C-1 and Table C-2. Values are converted from kg/MMBtu to lb/MMBtu.
(9) Global Warming Potentials taken from 40 CFR 98, Table A-1.

CO_2	1
CH_4	25
N_2O	298

Canyon Peak Power LLC
Diesel Fire Water Pump Fuel Tank Emissions Calculations
Emissions Summary

Parameter Description[a]	Equation	Value
Tank Contents		Diesel Fuel
Tank Height (H) (ft)		6.00
Tank Diameter (D) (ft)		4.10
Tank Effective Diameter (D_E) (ft)	For horizontal tanks $D_E = \sqrt{[LD/(\pi/4)]}$	5.60
Tank Dome Roof Radius (R_R), ft	Dome Roofs: Assumed $R_R = D$ Flat Roofs: N/A	N/A
Tank Shell Height (H_S), ft	[Use height of horizontal tank]	6.0
Effective Height (H_E), ft	For horizontal Tanks: $H_E = (\pi/4)D_E$	4.4
Nominal Capacity, ft^3		76.5
Nominal Capacity (gal)		572
Liquid Height (H_L), ft	Assumed = $0.9H_S$	5.4
Tank Cone Roof Slope (S_R), ft/ft	0.0625 - Unknown Slope	0.0625
Tank Roof Height (H_R), ft	$HR = S_R R_S$	0.375
Roof Outage (H_{RO}), ft	Dome Roofs: $H_{RO} = H_R [(1/2)+(1/6)(H_R/R_S)^2]$ Cone Roofs: $H_{RO} = 1/3H_R$ Flat Roofs: $H_{RO} = 0$	0.1250
Vapor Space Outage (H_{VO}), ft	Vertical tanks (used for rectangular tank): $H_{VO} = H_S - H_L + H_{RO}$ Horizontal tanks: $H_{VO} = H_E/2$	2.2
Vapor Space Volume (V_V), ft^3	For horizontal tank: H_{VO} x (π/4 D_E^2)	54.1
Ideal Gas Constant (R), psia ft^3/lb-mole R	Constant	10.731
Daily Maximum Ambient Temperature (T_{AX}), R [b]	AP-42, Table 7.1-7	523.2
Daily Minimum Ambient Temperature (T_{AN}), R [b]	AP-42, Table 7.1-7	497.6
Daily Average Ambient Temperature (T_{AA}), R	$T_{AA} = (T_{AX} + T_{AN})/2$	510.4
Paint Solar Absorptance (α), dimensionless [c]	AP-42, Table 7.1-6	0.89
Liquid Bulk Temperature (T_B), R	$T_B = T_{AA} + 6a - 1$	514.7
Daily Total Solar Insolation Factor (I), Btu/ft^2 d [b]	AP-42, Table 7.1-7	1,491.0
Daily Average Liquid Surface Temperature (T_{LA}), R	$T_{LA} = 0.4T_{AA} + 0.6T_B + 0.005 αI$	519.6
Vapor Molecular Weight (M_V), lb/lb-mole	Vapor Molecular weight of diesel fuel	130
Vapor Pressure at T_{LA} (P_{VA}), psia	Raoult's Law or Antoine Equation	0.0047
Vapor Density (W_V), lb/ft^3	$W_V = M_V P_{VA}/RT_{LA}$	0.00011
Daily Ambient Temperature Range (T_A), R	$T_A = T_{AX} - T_{AN}$	25.6
Daily Vapor Temperature Range (T_V), R	$T_V = 0.7T_A + 0.02 aI$	44.5
Vapor Pressure at T_{AN} (P_{VN}), psia	Raoult's Law or Antoine Equation	0.0030
Vapor Pressure at T_{AX} (P_{VX}), psia	Raoult's Law or Antoine Equation	0.0073
Daily Vapor Pressure Range (P_V), psia	$P_V = P_{VX} - P_{VN}$	0.0042
Breather Vent Pressure Setting Range (P_B), psia	$P_B = P_{BP} - P_{BV}$ (Assumed = 0.06)	0.06
Atmospheric Pressure (P_A), psia	Constant	14.7
Vapor Space Expansion Factor (K_E), dimensionless	$K_E = T_V/T_{LA} + (P_V - P_B)/(P_A - P_{VA})$	0.08
Vented Vapor Saturation Factor (K_S), dimensionless	$K_S = 1/(1 + 0.053P_{VA}H_{VO})$	1.0
Number of Days/Year in Operation	Constant	365
Standing Storage Losses (L_S), lb/year	$L_S = 365\ W_V V_V K_E K_S$	0.18
Liquid Density (lb/gal)	Density of diesel fuel	7.10
Potential Throughput (Q), gal	100 hours of operation at 100% load	1,801
Potential Throughput (Q), bbl	Throughput is in bbls (42 gal/bbl)	42.9
Maximum Liquid Height (H_{LX}), ft	Assumed = $0.9H_S$	5.4
Tank Maximum Liquid Volume (V_{LX}), ft^3	Assumed = 0.9*Nominal Capacity	68.8
Turnovers (N), dimensionless	$N = 5.614Q/V_{LX}$	3.5
Turnover Factor (K_N), dimensionless	For $N \leq 36$ $K_N = 1$,	1.0
	For $N > 36$ $K_N = (180 + N)/6N$	
Working Loss Factor (K_P), dimensionless	For Organic Liquids, $K_P = 1$	1.0
Working Losses (L_W), lb/year	$L_W = 0.001M_V P_{VA} Q K_N K_P$	0.03
Total Uncontrolled Losses (L_T), lb/year/tank	$T_L = L_S + L_W$	**0.20**
Total Uncontrolled Losses (L_T), ton/year/tank	2,000 lb/ton	**1.02E-04**
Total Uncontrolled Losses (L_T), lb/hr/tank	8,760 hr/yr	**2.34E-05**

Notes:

[a] Emissions calculated according to the methodology presented in AP-42, Section 7.1 with adjustments made to account for vapor space volume of the proposed horizontal diesel tank.

[b] Meteorological data from AP-42, Table 7.1-7 for Denver, CO was used.

[c] Paint solar absorptance from AP-42, Table 7.1-6 for green tanks in new condition.

Engine		LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500	LM2500
Model		+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L	+G4 DLE UPT G&L
Generator		ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB
Frequency	Hz	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Voltage	kV	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Power Factor		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Case		**Low-Low Day**	**Low-Low Day + heating**	**Cold Day**	**Cold Day + heating**	**ISO**	**Hot Day + Evap**	**Hot Day**	**Low-Low Day**	**Low-Low Day + heating**	**Cold Day**	**Cold Day + heating**	**ISO**	**Hot Day**	
Ambient Conditions															
Dry Bulb Temperature	°F	0.0	0.0	30.0	30.0	59.0	90.0	90.0	0.0	0.0	30.0	30.0	59.0	90.0	
Wet Bulb Temperature	°F	-1.4	-1.4	26.9	26.9	50.8	63.3	63.3	-1.4	-1.4	26.9	26.9	50.8	63.3	
Relative Humidity	%	60.0	60.0	70.0	70.0	60.0	25.0	25.0	60.0	60.0	70.0	70.0	60.0	25.0	
Elevation a.s.l.	ft	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	5774.9	
Barometric Pressure	psia	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	
Engine Inlet Conditioning		None	Heating	None	Heating	None	Evap. Cooling	None	None	Heating	None	Heating	None	None	
Compressor Inlet Temperature	°F	0.0	10.0	30.0	40.0	59.0	66.0	90.0	0.0	10.0	30.0	40.0	59.0	90.0	
Compressor Inlet RH	%	60.0	35.9	70.0	46.5	60.0	87.5	25.0	60.0	35.9	70.0	46.5	60.0	25.0	
Compressor Inlet Air Flow	lb/s	176.0	174.2	168.3	164.3	156.7	153.9	140.3	135.7	133.7	127.3	123.6	116.9	108.0	
Chilling/Heat Capacity	kBtu/h	0.0	1511.1	0.0	1450.3	0.0	0.0	0.0	0.0	1160.1	0.0	1091.5	0.0	0.0	
Chilling/Heat Capacity	RT	0.0	125.9	0.0	120.9	0.0	0.0	0.0	0.0	96.7	0.0	91.0	0.0	0.0	
Pressure Losses															
Inlet Pressure Loss	in H2O	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	
Exh. Pressure Loss	in H2O	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
Performance															
GTG Load	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	50.0	50.0	50.0	50.0	
Generator Output, Gross	**kW**	**30766.4**	**30948.8**	**29667.1**	**28605.6**	**26651.1**	**26028.2**	**22397.4**	**15383.2**	**15474.3**	**14833.6**	**14302.8**	**13325.6**	**11198.7**	
Rated Heat Rate, LHV, Gross	Btu/kWh	8480.8	8504.6	8568.2	8619.9	8751.6	8815.1	9148.7	11413.7	11258.5	11268.3	11349.9	11571.6	12994.3	
STD Aux Load	kW	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1	
Gen. Output, Unit Net	kW	30583.3	30765.7	29484.0	28422.5	26468.0	25845.1	22214.3	15200.1	15291.2	14650.5	14119.7	13142.5	11015.6	
Rated Heat Rate, LHV, Net	Btu/kWh	8531.6	8555.2	8621.4	8675.5	8812.1	8877.6	9224.1	11551.2	11393.3	11409.1	11497.0	11732.8	13210.3	

Generator Information															
Generator Name		ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB	ANDRITZ A03 clB
Generator Coolant		Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
Generator Capacity	kW	44085.7	44085.7	44263.5	44263.5	42501.6	37615.7	37615.7	44085.7	44085.7	44263.5	44263.5	42501.6	37615.7	
Generator Efficiency	%	98.5	98.5	98.5	98.5	98.4	98.4	98.3	97.8	97.8	97.7	97.7	97.5	97.1	
Gen. Coolant Temperature	°F	0.0	0.0	30.0	30.0	59.0	90.0	90.0	0.0	0.0	30.0	30.0	59.0	90.0	
Fuel		Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	Gas - Fuel Comp.	
Fuel LHV	Btu/lb	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	20512.2	
Heat Consumption, LHV	MMBtu/h	259.5	261.8	252.9	245.4	232.2	228.4	204.0	166.3	165.0	158.4	153.9	146.2	138.0	
Heat Consumption, HHV	MMBtu/h	291.9	294.2	295.5	287.2	272.5	267.8	244.1	186.2	187.6	184.5	178.5	168.2	163.0	
Fuel Flow	lb/s	3.5	3.5	3.4	3.3	3.1	3.1	2.8	2.3	2.2	2.1	2.1	2.0	1.9	
Fuel Temperature	°F	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	
NOx Control		DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	DLE	
Diluent Flow	lb/s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Maximum Emissions		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	
Max NOx, Ref 15% O2	ppm	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Max CO, Ref 15% O2	ppm	40.0	25.0	25.0	25.0	25.0	25.0	25.0	60.0	25.0	25.0	25.0	25.0	25.0	
Max UHC, Ref 15% O2	ppm	24.0	15.0	15.0	15.0	15.0	15.0	15.0	36.0	15.0	15.0	15.0	15.0	15.0	
Max VOC, Ref 15% O2	ppm	4.8	3.0	3.0	3.0	3.0	3.0	3.0	7.2	3.0	3.0	3.0	3.0	3.0	
Max SO2, Ref 15% O2	ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Formaldehyde	ppb	404.4	252.8	252.8	252.8	252.8	252.8	252.8	606.6	252.8	252.8	252.8	252.8	252.8	
Max NOx as NO2	lb/h	26.1	26.3	25.4	24.7	23.4	23.0	20.5	16.7	16.6	15.9	15.5	14.7	13.9	
Max CO	lb/h	25.4	16.0	15.5	15.0	14.2	14.0	12.5	24.4	10.1	9.7	9.4	8.9	8.4	
Max UHC (CH4)	lb/h	8.7	5.5	5.3	5.2	4.9	4.8	4.3	8.4	3.5	3.3	3.2	3.1	2.9	
Max VOC	lb/h	4.8	3.0	2.9	2.8	2.7	2.6	2.4	4.6	1.9	1.8	1.8	1.7	1.6	
Max SO2	lb/h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PM-10 Front half (filterable)	lb/h	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
PM-10 Back half (condensable)	lb/h	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Exhaust Parameter															
Exhaust Temperature	°F	923.0	949.3	969.2	976.6	991.3	997.4	1025.4	913.0	917.2	934.6	945.4	967.3	1069.1	
Exhaust Flow	lb/s	177.6	175.8	169.8	165.8	158.0	155.3	141.5	124.2	124.3	120.7	117.9	112.7	98.8	
Exhaust Flow	acfs	7303.3	7383.0	7363.7	7216.8	6965.2	6899.0	6354.3	4992.9	5102.1	5041.0	4949.5	4790.8	4501.4	
	acfm					417912.8845									
Stack Exhaust (Estimated)					fps	109.5									
Exhaust Temperature	°F	849.8	850.0	849.8	850.0	850.0	850.0	849.8	849.7	850.0	849.8	850.0	850.0	850.0	
Post Control NOx as NO2	lb/h	2.6	2.6	2.6	2.5	2.3	2.3	2.1	1.7	1.7	1.6	1.6	1.5	1.4	
Post Control NOx as NO2	lb/MMBtu	0.009	0.009	0.009	0.009	0.009	0.009	0.008	0.009	0.009	0.009	0.009	0.009	0.009	
Post Control CO	lb/h	2.6	2.6	2.5	2.4	2.3	2.2	2.0	1.6	1.6	1.6	1.5	1.4	1.4	
Post Control CO	lb/MMBtu	0.0087	0.0088	0.0084	0.0084	0.0083	0.0084	0.0082	0.0088	0.0087	0.0084	0.0085	0.0085	0.0084	
Post Control VOC	lb/h	2.5	2.5	2.4	2.3	2.2	2.2	1.9	1.6	1.6	1.5	1.5	1.4	1.3	
Post Control VOC	lb/MMBtu	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.009	0.008	0.008	0.008	0.008	0.008	
Post Control PM-10 Front half + back half	lb/h	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	
Post Control PM-10 Front half + back half	lb/MMBtu	0.0140	0.0139	0.0138	0.0142	0.0150	0.0152	0.0167	0.0219	0.0218	0.0221	0.0229	0.0243	0.0251	
Exhaust Energy (Ref T2)	MMBtu/h	152.2	153.7	149.1	145.2	138.6	137.0	125.0	104.9	104.4	101.3	99.2	95.7	91.6	

Fuel Composition														
Methane	% vol	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000	95.0000
Ethane	% vol	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000
Propane	% vol	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
i-Butane	% vol	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
i-Pentane	% vol	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400
n-Hexane	% vol	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100
Oxygen	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nitrogen	% vol	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Carbon Dioxide	% vol	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000
Carbon Monoxide	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hydrogen	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ammonia	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Exhaust Wght % Wet														
Argon AR	% mass	1.2616	1.2612	1.2582	1.2584	1.2525	1.2439	1.2513	1.2638	1.2640	1.2613	1.2615	1.2555	1.2520
Nitrogen N2	% mass	73.9963	73.9708	73.7975	73.8088	73.4630	72.9589	73.3873	74.1186	74.1330	73.9741	73.9842	73.6334	73.4329
Oxygen O2	% mass	15.1529	15.0008	14.9477	14.9962	14.9489	14.7843	15.0642	15.8236	15.8875	15.9145	15.9564	15.8859	15.3133
Carbon Dioxide CO2	% mass	5.3278	5.4290	5.4290	5.3973	5.3560	5.3627	5.2587	4.8813	4.8396	4.7864	4.7591	4.7330	5.0936
Water Vapor H2O	% mass	4.2540	4.3306	4.5601	4.5317	4.9722	5.6427	5.0313	3.9019	3.8651	4.0530	4.0281	4.4817	4.9010
Sulfur Dioxide SO2	% mass	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Carbon Monoxide CO	% mass	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0036	0.0036	0.0036	0.0035	0.0035	0.0024
UHC	% mass	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0008	0.0013	0.0013	0.0013	0.0013	0.0012	0.0008
NOx	% mass	0.0041	0.0042	0.0042	0.0041	0.0041	0.0041	0.0040	0.0060	0.0059	0.0059	0.0058	0.0058	0.0039
Exhaust Wght % Dry														
Argon AR	% mass	1.3177	1.3183	1.3184	1.3182	1.3181	1.3183	1.3175	1.3151	1.3148	1.3146	1.3144	1.3144	1.3166
Nitrogen N2	% mass	77.2839	77.3192	77.3235	77.3124	77.3068	77.3219	77.2752	77.1280	77.1135	77.0990	77.0895	77.0883	77.2173
Oxygen O2	% mass	15.8262	15.6799	15.6619	15.7081	15.7311	15.6685	15.8622	16.4661	16.5263	16.5867	16.6261	16.6312	16.1025
Carbon Dioxide CO2	% mass	5.5645	5.6748	5.6883	5.6535	5.6362	5.6834	5.5373	5.0795	5.0341	4.9886	4.9589	4.9550	5.3561
Water Vapor H2O	% mass	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sulfur Dioxide SO2	% mass	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Carbon Monoxide CO	% mass	0.0026	0.0026	0.0027	0.0026	0.0026	0.0027	0.0026	0.0038	0.0038	0.0037	0.0037	0.0037	0.0025
UHC	% mass	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0013	0.0013	0.0013	0.0013	0.0013	0.0009
NOx	% mass	0.0043	0.0044	0.0044	0.0043	0.0043	0.0044	0.0042	0.0062	0.0062	0.0061	0.0061	0.0061	0.0041
Exhaust Mole % Wet														
Argon AR	% vol	0.9013	0.9008	0.8974	0.8977	0.8910	0.8814	0.8896	0.9039	0.9042	0.9012	0.9014	0.8946	0.8906
Nitrogen N2	% vol	75.3839	75.3389	75.0593	75.0787	74.5245	73.7193	74.4067	75.5992	75.6241	75.3690	75.3863	74.8216	74.4859
Oxygen O2	% vol	13.5144	13.3754	13.3097	13.3544	13.2761	13.0779	13.3711	14.1295	14.1885	14.1950	14.2338	14.1317	13.5983
Carbon Dioxide CO2	% vol	3.4549	3.5197	3.5148	3.4947	3.4585	3.4491	3.3938	3.1692	3.1425	3.1041	3.0867	3.0613	3.2887
Water Vapor H2O	% vol	6.7389	6.8586	7.2121	7.1680	7.8433	8.8658	7.9323	6.1885	6.1310	6.4212	6.3824	7.0814	7.7303
Sulfur Dioxide SO2	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Carbon Monoxide CO	% vol	0.0025	0.0026	0.0026	0.0026	0.0025	0.0025	0.0025	0.0037	0.0037	0.0036	0.0036	0.0036	0.0024
UHC	% vol	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0023	0.0023	0.0022	0.0022	0.0022	0.0014
NOx	% vol	0.0025	0.0026	0.0026	0.0026	0.0025	0.0025	0.0025	0.0037	0.0037	0.0036	0.0036	0.0036	0.0024
Exhaust Mole % Dry														
Argon AR	% vol	0.9664	0.9671	0.9672	0.9670	0.9669	0.9671	0.9663	0.9635	0.9633	0.9630	0.9628	0.9628	0.9652
Nitrogen N2	% vol	80.8310	80.8866	80.8934	80.8759	80.8671	80.8909	80.8174	80.5863	80.5635	80.5406	80.5257	80.5238	80.7262
Oxygen O2	% vol	14.4910	14.3603	14.3442	14.3855	14.4060	14.3501	14.5232	15.0616	15.1152	15.1691	15.2042	15.2087	14.7375
Carbon Dioxide CO2	% vol	3.7045	3.7788	3.7880	3.7645	3.7528	3.7846	3.6862	3.3782	3.3477	3.3171	3.2972	3.2946	3.5643
Water Vapor H2O	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sulfur Dioxide SO2	% vol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Carbon Monoxide CO	% vol	0.0027	0.0028	0.0028	0.0028	0.0028	0.0028	0.0027	0.0040	0.0039	0.0039	0.0039	0.0039	0.0026
UHC	% vol	0.0016	0.0016	0.0017	0.0016	0.0016	0.0017	0.0016	0.0024	0.0024	0.0024	0.0024	0.0024	0.0016
NOx	% vol	0.0027	0.0028	0.0028	0.0028	0.0028	0.0028	0.0027	0.0040	0.0039	0.0039	0.0039	0.0039	0.0026
Generator Capacity	kW	44085.7												
Generator Efficiency	%	98.5												
Gen. Capacity Curve		18136.0												
Gen. Efficiency Curve		18134.0												
Gen. Coolant Temperature	°F	0.0												
Gearbox Losses		0.0												

LM2500-G4 Startup & Shutdown Estimated Emissions - Gas Fuel Operation
Emmissions Equipment Installed

Event	Duration (min)	Heat Input (MMBTU - HHV)	NOx (lb)	CO (lb)	VOC (lb)	PM10/PM2.5 (lb)	SOX as SO2 (lb)	HCOH (lb)	Benzene (AP-42)	Acrolein (AP-42)
Start: 10min GT Exhaust	10.0	17.1	3.2	20.2	0.8071	0.5	0.07	0.0208	0.0022	0.0002
Shutdown: GT Exhaust	9.0	20.8	3.8	23.2	0.9266	0.6	0.06	0.0254	0.0027	0.0002
Start: Stack w/ SCR+COR	25.0	88.5	6.7	16.4	1.3	2.2	0.04	0.2231	0.0070	0.0007
Shutdown Stack w/ SCR+COR	9.0	20.8	2.2	11.3	0.7	0.6	0.01	0.0094	0.0001	0.0001

***Must Meet GE Gas Fuel Spec (MID-TD-0000-1 LATEST REVISION)**
*** Fast Start per GE Procedures. Normal shutdown per GE procedures.**
Stack compliance for emissions is assumed to be 25 minutes with ammonia injection starting after full load is reached (10 minutes) and catalysts operating at designed temperatures.

NOTE 1: VOC's are defined as non-methane, non-ethane, 50% saturated. Mass rate reported as methane.
NOTE 2: Calculations executed using the gas below with margined heat input
NOTE 3: Fuel composition contains <5% C3+
NOTE 4: Scope includes GT Exhuast without SCR/COR and Stack with SCR/COR
NOTE 5: Intentonally blank
NOTE 6: Shutdown is defined to end when fuel is shut off. Excludes cooldown crank time.
NOTE 7: SOX is reported as SO2. For stack calculations, SOX is converted to sulfates and sulfate salts.
These are counted as PM and not included in SOX numbers here.

Gas Fuel Composition

	Volume %	Weight %
Hydrogen	0.0000	0.0000
Methane	95.0000	89.2636
Ethane	2.0000	3.5223
Ethylene	0.0000	0.0000
Propane	1.0000	2.5827
Propylene	0.0000	0.0000
Butane	0.0500	0.1702
Butylene	0.0000	0.0000
Butadiene	0.0000	0.0000
Pentane	0.0400	0.1690
Cyclopentane	0.0000	0.0000
Hexane	0.0100	0.0505
Heptane	0.0000	0.0000
Carbon Monoxide	0.0000	0.0000
Carbon Dioxide	1.2000	3.0932
Nitrogen	0.7000	1.1485
Water Vapor	0.0000	0.0000
Oxygen	0.0000	0.0000
Hydrogen Sulfide	0.0000	0.0000
Ammonia	0.0000	0.0000

LHV, BTU/lb	20512
HHV, BTU/lb	22753
NOx Scalar	0.990
Specific Gravity	0.5895
MWI, (Btu/SCF)/SQRT(R)	52.07
LHV, BTU/scf	930.1
HHV, BTU/scf	1026.4
Fc, SCF/MMBtu HHV	1028.8
Fd, SCF/MMBtu HHV	8653.3

Canyon Peak Power LLC
Hazardous Air Pollutant Emissions Summary

Per combustion turbine		
Natural Gas (100% Load)	295.50	MMBtu/hr
Natural Gas (50% Load)	187.60	MMBtu/hr
Annual Fuel Use - Natural Gas	828,375	MMBtu/year/CT
Annual Limit	2,803	hr/year/CT

Description	Value	Units
Engine Rating	355	HP
Annual Operating Hours	100	hr/year
Fuel Type	Diesel	
Diesel S Content	15	ppmw
Density of Diesel	7	lb/gal
Heating Value of Diesel	138000	Btu/gal
Conversion Factor	7000	Btu/hp-hr
FWP Annual Fuel Use - Diesel	249	MMBtu/year

HAP	Emission Factors for Natural Gas-Fired Stationary Combustion Turbines (AP-42 Section 3.1) lb/MMBtu	Emission Factors for Diesel Fired Engines (AP-42 Section 3.3) lb/MMBtu	Emissions (tons/year)				Major Source Threshold (tons/year)
			6 CTs	FGH (AP-42, Chapter 1.4, Tables 1.4-3 and 1.4-4)	FWP	Total	
1,3-Butadiene	4.30E-07	3.91E-05	1.07E-03	0.00E+00	4.86E-06	1.07E-03	10
Acetaldehyde	4.00E-05	7.67E-04	9.94E-02	0.00E+00	9.53E-05	9.95E-02	10
Acrolein	6.40E-06	9.25E-05	1.59E-02	0.00E+00	1.15E-05	1.59E-02	10
Benzene	1.20E-05	9.33E-04	2.98E-02	2.02E-05	1.16E-04	3.00E-02	10
Carbon Tetrachloride	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Chlorobenzene	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Chloroform	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Dichlorobenzene	0	0	0.00E+00	1.15E-05	0.00E+00	1.15E-05	10
Ethylbenzene	3.20E-05	0	7.95E-02	0.00E+00	0.00E+00	7.95E-02	10
Ethylene Dichloride	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Formaldehyde	5.68E-04	1.18E-03	1.41E+00	7.21E-04	1.47E-04	1.41E+00	10
Hexane	0	0	0.00E+00	1.73E-02	0.00E+00	1.73E-02	10
Methylene Chloride	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Propylene Oxide	2.90E-05	0	7.21E-02	0.00E+00	0.00E+00	7.21E-02	10
Tetrachloroethylene	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Toluene	1.30E-04	4.09E-04	3.23E-01	3.27E-05	5.08E-05	3.23E-01	10
Trichloroethylene	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Vinyl Chloride	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Vinylidene Chloride	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	10
Xylenes (m,p,o)	6.40E-05	2.84E-04	1.59E-01	0.00E+00	3.53E-05	1.59E-01	10
Polycyclic Organic Matter (Total POM)	2.20E-06	1.68E-04	9.11E-04	6.31E-06	2.09E-05	9.38E-04	10
Metals							
Arsenic	1.96E-07	--	4.87E-04	1.92E-06	0.00E+00	4.87E-04	10
Beryllium	1.18E-08	--	2.92E-05	1.15E-07	0.00E+00	2.92E-05	10
Cadmium	1.08E-06	--	2.68E-03	1.06E-05	0.00E+00	2.68E-03	10
Chromium	1.37E-06	--	3.41E-03	1.35E-05	0.00E+00	3.41E-03	10
Chromium VI	1.37E-06	--	3.41E-03	0.00E+00	0.00E+00	3.41E-03	10
Cobalt	8.24E-08	--	2.05E-04	8.08E-07	0.00E+00	2.05E-04	10
Lead	4.90E-07	--	1.22E-03	4.81E-06	0.00E+00	1.22E-03	10
Manganese	3.73E-07	--	9.26E-04	3.66E-06	0.00E+00	9.26E-04	10
Mercury	2.55E-07	--	6.33E-04	2.50E-06	0.00E+00	6.33E-04	10
Nickel	2.06E-06	--	5.12E-03	2.02E-05	0.00E+00	5.12E-03	10
Selenium	2.35E-08	--	5.85E-05	2.31E-07	0.00E+00	5.85E-05	10
Total HAPs			**2.21**	**0.02**	**4.81E-04**	**2.23**	**25**

Note: ULSD for the FWP will need a storage tank whose HAP emissions are assumed to be small, total VOC from storage tanks was added to the total HAP emissions to compare against Major Source Threshold of 25 tons per year total HAPs.

APPENDIX B
APCD FORMS

COLORADO
Air Pollution Control Division
Department of Public Health & Environment

Permit Application/Registration Checklist
Form APCD-100

- A complete permit application must include the documentation outlined in this form unless otherwise noted.
- If the permit application does not include the required documentation, **it may be rejected.**
- Filing fees for permit applications that are rejected due to incompleteness **will not be refunded.**
- Certain types of emission sources may require additional forms. Refer to the Division's APENs and air permits webpage to see whether any APEN supplement forms are required for your source.
- If the application is for a major NANSR or PSD permit, send eight (8) total copies.

Company Name: Canyon Peak Power LLC

Facility/Site Name(s): Canyon Peak Power

What type of permit coverage is requested by this application?

- [x] Traditional construction permit
- [ ] General permit (e.g. GP01, GP03, etc.)

Are you requesting (an) individual or facility-wide permit(s)?

- [ ] Individual permit(s) covering (a) single emissions point(s).
- [x] Facility-wide permit covering multiple emissions points.

Check one box in each section of the following table to certify that the referenced documentation is included with the permit application. Do not check more than one box per section unless otherwise noted.

Section	Description of Required Permit Application Element
A	[x] The relevant filing fee(s) are being submitted with this application, or were already submitted.
B	[x] This application contains the relevant Air Pollutant Emission Notice(s). (APCD Form Series 200)
C	[x] This application contains relevant emission calculations and supporting documentation.
D	[x] This application contains company contact information documentation. (Form APCD-101) [ ] There is only a single point of contact for this application. (Form APCD-101 is not required.)

(Checklist continued on next page)

Required Permit Application Element Checklist (continued):

E

Environmental Justice Documentation

☑ A complete Environmental Justice (EJ) Summary for this project was submitted prior to this application, and was reviewed and verified by the Division. This application contains the complete and verified EJ Summary. A complete EJ Summary must include **all** of the following documents:

- Environmental Justice Report generated by the Division's Environmental Justice Report Tool.
- Environmental Justice Summary Supplemental Information form responses.
- Letter(s) of Concurrence issued by the Division based on the information above.

☐ This application is exempt from EJ Summary requirements for the following reason(s), per Colorado Regulation Number 3, Part B, Section III.B.5.e. (check all that apply):

- ☐ This application is only for an administrative permit amendment. (Section III.B.5.e.(i))
- ☐ This application requests an overall decrease or no change in the facility-wide annual emission limits of NOx, VOC, $PM_{2.5}$, and BTEX pollutants. (Section III.B.5.e.(ii))
- ☐ This application is for a modification at an existing source of emissions, and an up-to-date EJ Summary was already verified by the Division on _____. (Section III.B.5.e.(iii))

F

Ambient Air Impact Analysis Documentation

☐ This application is exempt from modeling determination requirements for the following reason(s), per the document Permitting Section Addendum to the Modeling Guideline (2/21/2024) (check all that apply):

- ☐ "No Emission Increases or 'Pure Decreases' in a Permit Modification" (Section 2.1)
- ☐ "Only VOC Increases" (Section 2.2)
- ☐ "APEN-exempt and Permit-exempt Emission Sources" (Section 2.3)
- ☐ "Land Development Projects Requesting Coverage Under a General Permit (GP03)" (Section 2.4)

☐ A request for modeling determination for the project(s) included in this application has been submitted, and the Division determined that additional modeling was not required. This application contains the version of the modeling determination request that was **reviewed and approved by the Division**. (Form APCD-114)

☑ This application is for a traditional construction permit, and a modeling analysis for the project(s) included in this application has been submitted, but not yet approved by the Division.

☐ A modeling analysis for the project(s) included in this application has been approved by the Division. This application contains any relevant documentation of this approval, including the submitted modeling analysis and the Division's modeling review comments which document compliance with the NAAQS and the conditions of approval for the proposed project(s).

☐ This application is for a traditional construction permit, and a NAAQS monitoring plan is being submitted with this application, or has already been submitted. If this monitoring plan has already been reviewed and approved by the Division, this application contains the plan itself and documentation of plan approval.

(Checklist continued on next page)

Required Permit Application Element Checklist (continued):

G	**General Permit Monitoring Compliance Documentation** ☑ This application is: **A)** requesting coverage under a traditional construction permit, **and/or B)** the emission source(s) contained in this application are **not** located in a Disproportionately Impacted (DI) Community. (For the following three options) This application is requesting coverage under a general permit, the emission source(s) contained in this application are located in a Disproportionately Impacted (DI) Community, and: ☐ This source will comply with source-specific monitoring requirements as outlined in Regulation Number 3, Part B, Section III.J.2. ☐ This source will pay community monitoring fees as outlined in Regulation Number 3, Part B, Section III.J.3. ☐ This source will comply with well production facility monitoring requirements as outlined in Regulation Number 3, Part B, Section III.J.4. ☐ This source is not subject to Regulation Number 3, Part B, Sections III.J.2., III.J.3, or III.J.4.
H	☑ This application contains a facility-wide emissions inventory. (Form APCD-102 for oil & gas sources, or form APCD-102a for non-oil & gas sources)
I	☑ This application contains a process description, flow diagram, and plot plan of the emissions unit and/or facility, as relevant.
J	☐ This application contains the relevant Operating & Maintenance (O&M) Plan documentation. (APCD Form Series 300) ☑ This application is: **A)** for a true minor source of emissions, **and/or B)** for an emissions source that is not associated with the oil & gas industry, **and/or C)** requesting coverage under a general permit. (APCD Form Series 300 is not required.)

Applicant Certification:

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct.

Signature of Legally Authorized Person (not a vendor or consultant)

September 18, 2024
Date

Jon Baylor
Name (print)

Senior Vice President - Development
Title

Send the application with all required information/documentation (including this form) and any applicable fees to:

CDPHE - Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Form APCD-101

COLORADO
Department of Public Health & Environment

Company Contact Information Form

Ver. September 10, 2008

Company Name: Canyon Peak Power LLC

Source Name: Canyon Peak Power

Permit Contact[1]:	Sim Deshpande		
Address:	3 Carlisle Road Suite 210		
	Street		
	Westford	MA	01886
	City	State	Zip
Phone Number:	978.449.0304		
Fax Number:	n/a		
E-mail:	sdeshpande@ramboll.com		

Compliance Contact[2]:	Lisa Carty, VP – Environmental		
Address:	c/o Kindle Energy LLC, 500 Alexander Park Drive, Suite 300		
	Street		
	Princeton	NJ	08540
	City	State	Zip
Phone Number:	303.842.2115		
Fax Number:	n/a		
E-mail:	lisa.carty@kindle-energy.com		

Billing Contact: *(Permit Fees)[3]*	Shawn Donovan, Director – Environmental		
Address:	c/o Kindle Energy LLC, 500 Alexander Park Drive, Suite 300		
	Street		
	Princeton	NJ	08540
	City	State	Zip
Phone Number:	609.436.9020		
Fax Number:	n/a		
E-mail:	shawn.donovan@kindle-energy.com		

Billing Contact: *(Annual Fees)[4]*	Dinah Anderson Evans, Office Manager		
Address:	c/o Kindle Energy LLC, 500 Alexander Park Drive, Suite 300		
	Street		
	Princeton	NJ	08540
	City	State	Zip
Phone Number:	609.250.7212		
Fax Number:	n/a		
E-mail:	dinah.anderson@kindle-energy.com		

Check how would you like to receive your permit fee invoice?

Mail: ☐ E-mail: ☒ Fax: ☐

Footnotes:

[1] The permit contact should be the point of contact for technical information contained in the permit application. This may be a company representative or a consultant.

[2] The compliance contact should be the point of contact for discussing inspection and compliance at the permitted facility.

[3] The billing contact (Permit fees) should be the point of contact that should receive the invoice for fees associated with processing the permit application & issuing the permit. (Reg. 3, Part A, Section VI.B)

[4] The billing contact (Annual fees) should be the point of contact that should receive the invoices issued on an annual basis for fees associated with actual emissions reported on APENs for the facility. (Reg. 3, Part A, Section VI.C)

Form APCD-102a

Colorado Department of Public Health and Environment
Air Pollution Control Division

Facility Wide Emissions Inventory Form

Ver. September, 2019

Company Name: Canyon Peak Power LLC
Source Name: Canyon Peak Power
Source AIRS ID: TBD

			Uncontrolled Potential to Emit (PTE)																Controlled Potential to Emit (PTE)														
			Criteria (TPY)										HAPs (lbs/yr)						Criteria (TPY)										HAPs (lbs/yr)					
AIRS ID	Permit No.	Description	TSP	PM10	PM2.5	FUG. TSP	FUG. PM10	FUG PM2.5	SO2	NOx [a]	VOC [b]	CO [c]	Benzene	Toluene	EB	Xylene	n-Hex	HCHO [d]	TSP	PM10	PM2.5	FUG. TSP	FUG. PM10	FUG PM2.5	SO2	NOx	VOC	CO	Benzene	Toluene	EB	Xylene	n-Hex	HCHO
TBD	TBD	CT-1 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
TBD	TBD	CT-2 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
TBD	TBD	CT-3 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
TBD	TBD	CT-4 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
TBD	TBD	CT-5 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
TBD	TBD	CT-6 / GE LM2500XPRESS Gas Turbine		6.99	6.99	--	--	--	0.58	41.23	7.20	58.06	9.94	107.69	26.51	53.02	0.00	941.22	0.92	6.99	6.99	--	--	--	0.58	4.12	3.60	5.81	9.94	107.69	26.51	53.02	0.00	470.61
N/A	N/A	Firewater Pump (FWP)	0.01	0.01	0.01	--	--	--	0.00	0.12	0.12	0.10	0.23	0.10	0.00	0.07	0.00	0.29	0.01	0.01	0.01	--	--	--	0.00	0.12	0.12	0.10	0.23	0.10	0.00	0.07	0.00	0.29
		Permitted Sources Subtotal =	**0.01**	**41.92**	**41.92**	**0.00**	**0.00**	**0.00**	**3.50**	**247.48**	**43.33**	**348.48**	**59.87**	**646.23**	**159.05**	**318.17**	**0.00**	**5647.59**	**5.51**	**41.92**	**41.92**	**0.00**	**0.00**	**0.00**	**3.50**	**24.85**	**21.72**	**34.94**	**59.87**	**646.23**	**159.05**	**318.17**	**0.00**	**2823.94**
APEN Only - Permit Exempt Sources																																		
		APEN Only Subtotal =	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**
APEN Exempt / Insignificant Sources																																		
N/A	N/A	Diesel Tank (DT)	0.00	0.00	0.00	--	--	--	0.00	0.00	1.02E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N/A	N/A	Fuel Gas Heater (FGH)	0.05	0.05	0.05	--	--	--	0.02	0.10	0.05	0.36	0.04	0.07	0.00	0.00	34.63	1.44	0.05	0.05	0.05	--	--	--	0.02	0.10	0.049	0.36	0.04	0.07	0.00	0.00	34.63	1.44
		Insignificant Subtotal =	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.4**	**0**	**0**	**0**	**0**	**35**	**1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.10**	**0.0**	**0.4**	**0.0**	**0.1**	**0.0**	**0.0**	**35**	**1**
		Total, All Sources =	**0.1**	**42.0**	**42.0**	**0.0**	**0.0**	**0.0**	**3.5**	**247.6**	**43.4**	**348.8**	**60**	**646**	**159**	**318**	**35**	**5,649**	**5.6**	**42.0**	**42.0**	**0.0**	**0.0**	**0.0**	**3.52**	**24.95**	**21.77**	**35.3**	**60**	**646**	**159**	**318**	**35**	**2,825**

												Uncontrolled HAPs Summary (TPY) =	**0.0**	**0.3**	**0.1**	**0.2**	**0.0**	**2.8**										**Controlled HAPs Summary (TPY) =**	**0.0**	**0.3**	**0.1**	**0.2**	**0.0**	**1.4**
												Uncontrolled Total, All HAPs (TPY) =	**3.4**															**Controlled Total, All HAPs (TPY) =**	**2.0**					

Footnotes:

1. This form should be completed to include both existing sources and all proposed new or modifications to existing emissions sources
2. If the emissions source is new then enter "proposed" under the Permit No. and AIRS ID data columns
3. Add and/or replace HAPS and other Non-Criteria Reportable Pollutants as necessary. HAP abbreviations include:
   EB = Ethylbenzene
   HCHO = Formaldehyde
   224-TMP = 2,2,4-Trimethylpentane
   Acetal = Acetaldehyde
   Acro = Acrolein
   n-Hex = n-Hexane
   Meth = Methanol
4. APEN Exempt/Insignificant Sources should be included when warranted.

NOTES:

(a) Uncontrolled NOx emissions are based on an assumed SCR control efficiency of 90%.
(b) Uncontrolled VOC emissions are based on an assumed Oxidation Catalyst control efficiency of 50% for VOC.
(c) Uncontrolled CO emissions are based on an assumed Oxidation Catalyst control efficiency of 90% for CO.
(d) Uncontrolled HCHO emissions are based on an assumed Oxidation Catalyst control efficiency of 50% for HCHO.

General APEN – Form APCD-200

Air Pollutant Emission Notice (APEN) and
Application for Construction Permit

All sections of this APEN form must be completed for both new and existing sources, including APEN updates. The Permit Application/Registration Checklist (Form APCD-100) must also be completed and submitted with this APEN form, unless specifically exempted. Incomplete applications will be rejected and will require re-submittal. *Your application will be rejected if it is filled out incorrectly, is missing information, or lacks payment for applicable fees. The re-submittal will require new payment for applicable fees.*

There may be a more specific APEN for your source (e.g. boiler, mining operations, engines, etc.). A list of all available APEN forms can be found on the Air Pollution Control Division (APCD) website.

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 1 - Administrative Information

Company Name[1]: Canyon Peak Power LLC

Site Name: Canyon Peak Power

Site Location: Bennett, Colorado

Site Location County: Arapahoe

NAICS or SIC Code: 221100

Mailing Address: *(Include Zip Code)* 500 Alexander Park Drive, Suite 300
Princeton, NJ 08540

Contact Person: Sim Deshpande

Phone Number: (978)449-0304

Portable Source Home Base:

E-Mail Address[2]: sdeshpande@ramboll.com

[1] Use the full, legal company name registered with the Colorado Secretary of State. This is the company name that will appear on all documents issued by the APCD. Any changes will require additional paperwork.
[2] Permits, exemption letters, and any processing invoices will be issued by the APCD via e-mail to the address provided.

Permit Number: _____ **AIRS ID Number:** ___ / ___ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 2 - Requested Action

☑ **NEW permit OR newly-reported emission source** *(check one below)*

☑ STATIONARY source ☐ PORTABLE source

- OR -

☐ **MODIFICATION to existing permit** *(check each box below that applies)*

☐ Change fuel or equipment ☐ Change company name[3] ☐ Add point to existing permit

☐ Change permit limit ☐ Transfer of ownership[4] ☐ Other *(describe below)*

- OR -

☐ **APEN submittal for update only (Note blank APENs will not be accepted)**

- ADDITIONAL PERMIT ACTIONS -

☐ **Limit Hazardous Air Pollutants (HAPs) with a federally-enforceable limit on Potential To Emit (PTE)**

☐ **APEN submittal for permit exempt/grandfathered source**

Additional Info & Notes: New peaking power plant:

Electricity generation using natural gas-fired combustion turbines

[3] For company name change, a completed Company Name Change Certification Form (Form APCD-106) must be submitted.
[4] For transfer of ownership, a completed Transfer of Ownership Certification Form (Form APCD-104) must be submitted.

Section 3 - General Information

General description of equipment and purpose: Six (6) identical GE LM2500XPRESS gas fired turbines for power generation

Manufacturer: General Electric Model No.: LM2500 Serial No.: TBD

Company equipment Identification No. *(optional)*: CT-1, CT-2, CT-3, CT-4, CT-5, CT-6

For *existing* sources, operation began on: _____

For *new or reconstructed* sources, the projected start-up date is: 6/1/2026

☐ Check this box if operating hours are 8,760 hours per year; if fewer, fill out the fields below:

Normal Hours of Source Operation: 24 hours/day 7 days/week ~17 weeks/year

Seasonal use percentage: Dec-Feb: 25% Mar-May: 20% Jun-Aug: 35% Sep-Nov: 20%

Permit Number: _____ **AIRS ID Number:** ___ / ___ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 4 - Processing/Manufacturing Information & Material Use

☑ Check box if this information is not applicable to source or process

From what year is the *actual annual amount*? _____

	Description	Design Process Rate *(Specify Units)*	Actual Annual Amount *(Specify Units)*	Requested Annual Permit Limit[5] *(Specify Units)*
Material Consumption:				
Finished Product(s):				

[5] Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

Section 5 - Geographical/Stack Information

Geographical Coordinates *(Latitude/Longitude or UTM)*
39.62236 -104.4502*

* Coordinates are for center of the facility

☐ Check box if the following information is not applicable to the source because emissions will not be emitted from a stack. If this is the case, the rest of this section may remain blank.

Operator Stack ID No.	Discharge Height Above Ground Level *(Feet)*	Temp. *(°F)*	Flow Rate *(ACFM)*	Velocity *(ft/sec)*
CT-1 through CT-6	80	991.3**	417,913**	109.5

**Temperature and Flow Rate from 59°F ISO case at 100% GTG Load

Indicate the direction of the stack outlet: *(check one)*

☑ Upward ☐ Downward ☐ Upward with obstructing raincap

☐ Horizontal ☐ Other *(describe)*: _____

Indicate the stack opening and size: *(check one)*

☑ Circular Interior stack diameter *(inches)*: 108

☐ Square/rectangle Interior stack width *(inches)*: _____ Interior stack depth *(inches)*: _____

☐ Other *(describe)*: _____

Permit Number: _____ **AIRS ID Number:** ___ / ___ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 6 - Combustion Equipment & Fuel Consumption Information

☐ Check box if this information is not applicable to the source (e.g. there is no fuel-burning equipment associated with this emission source)

Design Input Rate *(MMBTU/hr)*	Actual Annual Fuel Use *(Specify Units)*	Requested Annual Permit Limit[5] *(Specify Units)*
~295.5	~4,870 MMSCF/yr	~4870 MMSCF/yr

From what year is the *actual annual fuel use* data? Projected

Annual Fuel Use for 6 Total Turbines based on a natural gas HHV of 1020 Btu/scf.

Indicate the type of fuel used[6]:

☑ Pipeline Natural Gas *(assumed fuel heating value of 1,020 BTU/SCF)*

☐ Field Natural Gas Heating value: _____ BTU/SCF

☐ Ultra Low Sulfur Diesel *(assumed fuel heating value of 138,000 BTU/gallon)*

☐ Propane *(assumed fuel heating value of 2,300 BTU/SCF)*

☐ Coal Heating value: _____ BTU/lb Ash content: _____ Sulfur content: _____

☐ Other *(describe)*: _____ Heating value *(give units)*: _____

[5] Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

[6] If fuel heating value is different than the listed assumed value, provide this information in the "Other" field.

Section 7 - Criteria Pollutant Emissions Information

Attach all emission calculations and emission factor documentation to this APEN form.

Is any emission control equipment or practice used to reduce emissions? ☑ Yes ☐ No

If yes, describe the control equipment AND state the collection and control efficiencies:

Pollutant	Control Equipment Description	Collection Efficiency *(% of total emissions captured by control equipment)*	Control Efficiency *(% reduction of captured emissions)*
TSP (PM)			
PM_{10}			
$PM_{2.5}$			
SO_x			
NO_x	SCR	100%	>90%
CO	Oxidation Catalyst	100%	>90%
VOC	Oxidation Catalyst	100%	>50%
Other:			

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

From what year is the following reported *actual annual emissions* data? Projected

Use the following table to report the criteria pollutant emissions from source:
(Use the data reported in Sections 4 and 6 to calculate these emissions.)

Pollutant	Uncontrolled Emission Factor *(Specify Units)*	Emission Factor Source *(AP-42, Mfg., etc.)*	Actual Annual Emissions		Requested Annual Permit Emission Limit(s)[5]	
			Uncontrolled *(tons/year)*	Controlled[7] *(tons/year)*	Uncontrolled *(tons/year)*	Controlled *(tons/year)*
TSP (PM)	1.90E-3 lb/MMBtu	AP-42	5.50	5.50	5.50	5.50
PM_{10}	0.015 lb/MMBtu	Mfg	41.92	41.92	41.92	41.92
$PM_{2.5}$	0.015 lb/MMBtu	Mfg	41.92	41.92	41.92	41.92
SO_x	1.41E-3 lb/MNMBtu	Mfg	3.50	3.50	3.50	3.50
NO_x	0.09 lb/MMbtu	Mfg	247.4	24.74	247.4	24.74
CO	0.131 lb/MMbtu	Mfg	348.4	34.84	248.4	34.84
VOC	0.025 lb/MMbtu	mfg	43.21	21.61	43.21	21.61
Other:						

[5] Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.
[7] Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions. Emissions reported for 6 Total Turbines. See Appendix A for details. Slight differences between these values and those presented in the text narrative are due to rounding.

Section 8 - Non-Criteria Pollutant Emissions Information

Does the emissions source have any uncontrolled actual emissions of non-criteria pollutants (e.g. HAP - hazardous air pollutant) equal to or greater than 250 lbs/year? ☑ Yes ☐ No

If yes, use the following table to report the non-criteria pollutant (HAP) emissions from source:
(Use the data reported in Sections 4 and 6 to calculate these emissions.)

CAS Number	Chemical Name	Overall Control Efficiency	Uncontrolled Emission Factor *(Specify Units)*	Emission Factor Source *(AP-42, Mfg., etc.)*	Uncontrolled Actual Emissions *(lbs/year)*	Controlled Actual Emissions[7] *(lbs/year)*
50-00-0	Formaldehyde	Not Available	607 ppb	Mfg	5,647.30	2,823.65
108-88-3	Toluene	Not Available	1.30E-4 lb/MMbtu	AP-42	646.13	646.13
1330-20-7	Xylene	Not Available	6.40E-5 lb/MMbtu	AP-42	318.10	318.10

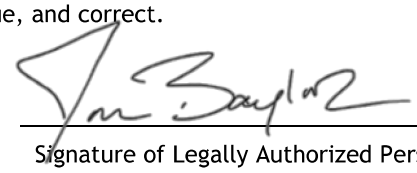
[7] Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions. Emissions reported for 6 Total Turbines. See Appendix A for details. Slight differences between these values and Appendix A and the text narrative are due to rounding

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 9 - Applicant Certification

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct.



September 18, 2024

Signature of Legally Authorized Person (not a vendor or consultant) Date

Jon Baylor Senior Vice President - Development

Name (print) Title

Check the appropriate box to request a copy of the:

☑ Draft permit prior to issuance
☑ Draft permit prior to public notice

(Checking any of these boxes may result in an increased fee and/or processing time)

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Send this form along with $242.00 to:

Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

For more information or assistance, contact:

Small Business Assistance Program
cdphe_apcd_sbap@state.co.us

APCD Main Phone Number
(303) 692-3100

Make check payable to: **Colorado Department of Public Health and Environment**

Alternatively, payment can be provided online, by credit card or electronic check, via the APCD Payment Portal.

Compression Ignition Engine APEN
Form APCD-233

Air Pollutant Emission Notice (APEN) and
Application for Construction Permit

All sections of this APEN form must be completed for both new and existing sources, including APEN updates. The Permit Application/Registration Checklist (Form APCD-100) must also be completed and submitted with this APEN form, unless specifically exempted. Incomplete applications will be rejected and will require re-submittal. *Your application will be rejected if it is filled out incorrectly, is missing information, or lacks payment for applicable fees. The re-submittal will require new payment for applicable fees.*

This APEN is to be used for compression ignition or diesel reciprocating internal combustion engines. If your emission unit does not fall into that category, there may be a more specific APEN available for your source (e.g. spark ignition engine, mining operations, asphalt plant, etc.). In addition, the General APEN (Form APCD-200) is available if the specialty APEN options will not satisfy your reporting needs. A list of all available APEN forms can be found on the Air Pollution Control Division (APCD) website.

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Permit Number: _____ **AIRS ID Number:** ___ / ___ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 1 - Administrative Information

Company Name[1]: Canyon Peak Power LLC

Site Name: Canyon Peak Power

Site Location: Bennett, Colorado

Site Location County: Arapahoe County

NAICS or SIC Code: 221100

Mailing Address: *(Include Zip Code)* 500 Alexander Park Drive, Suite 300
Princeton, NJ 08540

Contact Person: Sim Deshpande

Phone Number: (978)449-0304

Portable Source Home Base: _____

E-Mail Address[2]: sdeshpande@ramboll.com

[1] Use the full, legal company name registered with the Colorado Secretary of State. This is the company name that will appear on all documents issued by the APCD. Any changes will require additional paperwork.
[2] Permits, exemption letters, and any processing invoices will be issued by the APCD via e-mail to the address provided.

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 2 – Requested Action

☑ **NEW permit OR newly-reported emission source** *(check one below)*

☑ STATIONARY source ☐ PORTABLE source

☑ Request coverage under a Construction Permit

☐ Request coverage under General Permit GP06[3]

If General Permit coverage is requested, the General Permit registration fee of $1,423.80 must be submitted along with the APEN filing fee.

- OR -

☐ **MODIFICATION to existing permit** *(check each box below that applies)*

☐ Change permit limit ☐ Change company name[4] ☐ Add point to existing permit

☐ Transfer of ownership[5] ☐ Other *(describe below)*

- OR -

☐ **APEN submittal for update only (Note blank APENs will not be accepted)**

- ADDITIONAL PERMIT ACTIONS -

☐ **Notification of Alternative Operating Scenario (AOS) permanent replacement**[6]

☐ **APEN submittal for permit exempt/grandfathered source**

Additional Info & Notes: _____

[3] Only one engine may be reported per APEN for GP06 coverage. Coverage under GP06 is voluntary.
[4] For company name change, a completed Company Name Change Certification Form (Form APCD-106) must be submitted. For sources covered by a General Permit, a new General Permit registration fee must be submitted for a company name change.
[5] For transfer of ownership, a completed Transfer of Ownership Certification Form (Form APCD-104) must be submitted. For sources covered by a General Permit, a new General Permit registration fee must be submitted for a transfer of ownership.
[6] This does not apply to General Permit GP06, as it does not contain a provision for AOS *permanent* replacements.

Section 3 – General Information

General description of equipment and purpose: One (1) 355-hp emergency diesel-fired firewater pump engine driver.

Company equipment Identification No. *(optional)*: FWP

For *existing* sources, operation began on: _____

For *new or reconstructed* sources, the projected start-up date is: 6/1/2026

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 4 - Engine Information

Engine Function: ☐ Standard ☐ Peaking Power ☐ Emergency *(max. 500 hrs/year)* ☑ Fire Water Pump

What is the maximum number of hours this engine will be used for emergency power? 100 hours/year

Engine Make: TBD Engine Model: TBD Serial Number[7]: TBD

What is the maximum designed horsepower rating? 355 hp

What is the site-rated horsepower rating? 355 hp

Is this APEN reporting an AOS replacement engine? ☐ Yes ☑ No

If yes, provide the make, model, and serial number of the *old* engine below:

Engine Make: _____ Engine Model: _____ Serial Number: _____

What is the manufactured date of this engine? TBD

What is the date this engine was first located to Colorado? TBD

What is the first date of operation for this engine? ~ 7/1/2026

Is this engine subject to 40 CFR, Part 60, NSPS Subpart IIII?[8] ☑ Yes ☐ No

If yes, complete the New Source Performance Standards (NSPS) - 40 CFR, Part 60, Subpart IIII Applicability APEN Addendum Form (Form APCD-214) for new and AOS applications. Attach Form APCD-214 to this APEN.

[7] The serial number must be submitted if coverage under General Permit GP06 is requested.
[8] Certification under NSPS IIII is required for General Permit GP06 coverage.

Section 5 - Geographical/Stack Information

Geographical Coordinates *(Latitude/Longitude or UTM)*
40.14635 / -104.547916

Operator Stack ID No.	Discharge Height Above Ground Level *(Feet)*	Temp. *(°F)*	Flow Rate *(ACFM)*	Velocity *(ft/sec)*
FWP	14	~1106	~2,133	~180

Indicate the direction of the stack outlet: *(check one)*

☑ Upward ☐ Downward ☐ Upward with obstructing raincap

☐ Horizontal ☐ Other *(describe)*: _____

Indicate the stack opening and size: *(check one)*

☑ Circular Interior stack diameter *(inches)*: 6

☐ Square/rectangle Interior stack width *(inches)*: _____ Interior stack depth *(inches)*: _____

☐ Other *(describe)*: _____

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 6 - Fuel Data and Throughput Information

Fuel Use Rate @ 100% Load *(gallons/hour)*	Actual Annual Fuel Use *(gallons/year)*	Requested Annual Permit Limit[9] *(gallons/year)*

- OR -

Engine Use Rate *(gallons/hour)*	Actual Annual Engine Use *(hours/year)*	Requested Annual Permit Limit[9] *(hours/year)*
~18	100	100

From what year is the *actual annual fuel use* data? projected

[9] Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

Section 7 - Criteria Pollutant Emissions Information

Attach all emission calculations and emission factor documentation to this APEN form. The APCD website has several *Compression Ignition Engine Calculators* available to assist with emission calculations.

Is any emission control equipment or practice used to reduce emissions? ☐ Yes ☑ No

If yes, describe the control equipment AND state the collection and control efficiencies:

Pollutant	Primary Control Equipment Description *(e.g. oxidation catalyst)*	Collection Efficiency *(% of total emissions captured by control equipment)*	Control Efficiency *(% reduction of captured emissions)*
TSP (PM)			
PM_{10}			
$PM_{2.5}$			
SO_x			
NO_x			
VOC			
CO			
Other:			

From what year is the following reported *actual annual emissions* data? projected

Use the following table to report the criteria pollutant emissions from source:

Pollutant	Emission Factor			Actual Annual Emissions		Requested Annual Permit Emission Limit(s)[9]	
	Uncontrolled Basis	Units	Source *(AP-42, Mfg., etc.)*	Uncontrolled Emissions *(tons/year)*	Controlled Emissions[10] *(tons/year)*	Uncontrolled Emissions *(tons/year)*	Controlled Emissions *(tons/year)*
TSP (PM)	3.29E-04	lb/hp-hr	NSPS IIII	0.0058	0.0058	0.0058	0.0058
PM_{10}	3.29E-04	lb/hp-hr	NSPS IIII	0.0058	0.0058	0.0058	0.0058
$PM_{2.5}$	3.29E-04	lb/hp-hr	NSPS IIII	0.0058	0.0058	0.0058	0.0058
SO_x	1.07E-05	lb/hp-hr	Fuel-Based	0.0002	0.0002	0.0002	0.0002
NO_x	6.58E-03	lb/hp-hr	NSPS IIII	0.1168	0.1168	0.1168	0.1168
VOC	6.58E-03	lb/hp-hr	NSPS IIII	0.1168	0.1168	0.1168	0.1168
CO	5.76E-03	lb/hp-hr	NSPS IIII	0.1022	0.1022	0.1022	0.1022

[9] Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

[10] Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions.

Permit Number: _____ **AIRS ID Number:** ____ / ____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 8 - Non-Criteria Pollutant Emissions Information

Does the emissions source have any uncontrolled actual emissions of non-criteria pollutants (e.g. HAP - hazardous air pollutant) equal to or greater than 250 lbs/year? ☐ Yes ☑ No

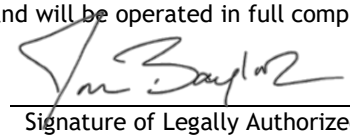
If yes, use the following table to report the non-criteria pollutant (HAP) emissions from source:

Chemical Name	Chemical Abstract Service (CAS) Number	Emission Factor			Actual Annual Emissions	
		Uncontrolled Basis	Units	Source *(AP-42, Mfg., etc.)*	Uncontrolled Emissions *(lbs/year)*	Controlled Emissions[10] *(lbs/year)*
Benzene	**71432**					
Toluene	**108883**					
Xylene	**1330207**					
Formaldehyde	**50000**					
Acetaldehyde	**75070**					
Other:						

[10] Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions.

Section 9 - Applicant Certification

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct. If this is a registration for coverage under General Permit GP06, I further certify that this source is and will be operated in full compliance with each condition of General Permit GP06.



September 18, 2024

Signature of Legally Authorized Person (not a vendor or consultant) Date

Jon Baylor — Senior Vice President - Development

Name (print) Title

Check the appropriate box to request a copy of the:

☑ Draft permit prior to issuance
☑ Draft permit prior to public notice

(Checking any of these boxes may result in an increased fee and/or processing time)

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Send this form along with $242.00 and the General Permit registration fee of $1,423.80, if applicable, to:

Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

For more information or assistance, contact:

Small Business Assistance Program
cdphe_apcd_sbap@state.co.us

APCD Main Phone Number
(303) 692-3100

Make check payable to: **Colorado Department of Public Health and Environment**

Alternatively, payment can be provided online, by credit card or electronic check, via the APCD Payment Portal.

COLORADO
Air Pollution Control Division
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

New Source Performance Standards (NSPS) – 40 CFR Part 60, Subpart IIII Applicability Air Pollutant Emission Notice (APEN) Addendum Form for Diesel Engines

Company Name: Canyon Peak Power LLC

Engine Information[1]

Make: TBD Model: TBD SN: TBD

1. Date of Engine Manufacture: TBD
2. Has this engine operated outside of the state of Colorado?
   - ☐ Yes
   - ☑ No
3. If you answered "Yes" to question 2, please answer the following question. (If you answered "No" to question 2, please leave this field blank.) What is the date of first entry into Colorado?_____
4. This engine was manufactured to meet the following tier level standards[2] (e.g., Tier 1, Tier 2): Tier 3

Permit #[3]:_____ AIRS ID[3]:_____/_____/_____

A copy of this form, along with appropriate supporting documentation[4], shall be maintained on-site or at a local field office, with stationary source responsibility, with a copy of the construction permit, exemption letter or general permit approval letter issued by the Colorado Air Pollution Control Division (the Division) for this emissions source. These records may be kept in either electronic or hard copy format provided that they can be promptly supplied to the Division or agents thereof upon request.

This engine shall comply with the New Source Performance Standards (NSPS) requirements of Colorado Air Quality Control Commission Regulation No. 6, Part A, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) including, but not limited to, the following:

[The requirements below reflect the rule language of 40 CFR Part 60 Subpart IIII published in the Federal Register on 01/30/2013. However, if revisions to this Subpart are published at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 60, Subpart IIII.]

I. All fuel used shall meet the following specifications:
   - A. Sulfur content shall not exceed 15 ppm
   - B. Have a minimum cetane index of 40 or have a maximum aromatic compound content of 35% by volume
   - C. Compliance shall be demonstrated by maintaining copies of the fuel specifications provided by the supplier on-site or in a readily accessible location and made available to the Division for inspection upon request.

II. The engine and control devices must be installed, configured, operated and maintained according to the specifications and instructions provided by the engine manufacturer.

III. If the engine is equipped with a diesel particulate filter, the filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. Records shall be kept of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit is approached.

IV. If the engine is used for emergency purposes, a non-resettable hour meter must be installed prior to start-up.

V. If the diesel fuel-fired engine referenced herein avoids tier 4 or 4i requirements by being an emergency generator, the engine shall not be used for any purpose except emergency power generation and for the purpose of maintenance

checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

VI. Emission Standards:

A. The engine referenced herein shall meet all the emissions standards applicable to the engine.

B. Compliance with the NSPS Subpart IIII Emissions Standards for Non-Methane Hydrocarbons (NMHC), Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Particulate Matter (PM) shall be demonstrated by filing a copy of the unit's certification documentation of compliance with the NSPS Subpart IIII emissions standards, with the associated application.

VII. The following requirements of Regulation No. 6, Part A, Subpart A, General Provisions, shall apply:

A. At all times, including periods of start-up, shutdown, and malfunction, the engine and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (Reference: Regulation No. 6, Part A. General Provisions from 40 CFR 60.11)

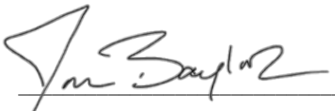
B. No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (§ 60.12)

C. Written notification of construction and initial startup dates shall be submitted to the Division as required under § 60.7.

D. Records of startups, shutdowns, and malfunctions shall be maintained, as required under § 60.7.

VIII. This engine meets all the requirements in New Source Performance Standard (NSPS) Subpart IIII as applicable to the specific engine, including the standards required for relocating into Colorado as set forth in Regulation No. 6, Part B, Section I.C.

I hereby certify that all information contained herein is complete, true and correct. I certify that this source is and will be operated in full compliance with the applicable tier standards of Colorado Air Quality Control Commission Regulation No. 6, Part A, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) as well as all other requirements referenced herein.

Jon Baylor	Senior Vice President - Development
Name of Legally Authorized Person (Please Print)	Title
	September 18, 2024
Signature of Legally Authorized Person	Date

[1] If the engine has not been selected or ordered as of the date of submission of the construction permit application, this form must be completed and submitted to the Colorado Air Pollution Control Division, for an affected engine, within one hundred and eighty (180) days after the commencement of construction/operation.

[2] This information can be obtained from the engine manufacturer.

[3] Please enter this information if this form is being submitted after the date of submission of the construction permit application and a permit number and AIRS ID number have been assigned. Otherwise, leave these fields blank.

[4] Supporting documentation includes: document(s) proving the date of first entry into Colorado (purchase receipt, delivery receipt, etc.) and tier standard certification information from the manufacturer, as applicable.

Facility-Wide Greenhouse Gas Emissions APEN Form APCD-235

Air Pollutant Emission Notice (APEN)

All sections of this APEN form must be completed. Incomplete APENs will be rejected and will require re-submittal. *Your APEN will be rejected if it is filled out incorrectly, is missing information, or lacks payment for applicable fees. The re-submittal will require new payment for applicable fees.*

This APEN is to be used only for reporting facility-wide greenhouse gas emissions. If your emission source does not fall into this category, there may be a more specific APEN available for your source (e.g. gas venting, glycol dehydration unit, condensate storage tanks, etc.). In addition, the General APEN (Form APCD-200) is available if the specialty APEN options will not satisfy your reporting needs. A list of all available APEN forms can be found on the Air Pollution Control Division (APCD) website.

This emission notice is required to be submitted annually on or before December 31 of each year, starting on or before December 31, 2023, for facilities directly emitting CO_2e emissions equal to or greater than 25,000 metric tons per year. See Regulation No. 3, Part A, II.A.2. for additional information.

AIRS ID Number: _____ / ____ / _____

[Provide facility AIRS ID number. An individual point number will be assigned for internal tracking and annual fee billing purposes.]

Section 1 - Administrative Information

Company Name[1]: Canyon Peak Power LLC

Site Name: Canyon Peak Power

Site Location: Bennett, Colorado

Site Location County: Arapahoe

NAICS or SIC Code: 221100

Mailing Address: *(Include Zip Code)*
500 Alexander Park Drive, Suite 300
Princeton, NJ 08540

Contact Person: Sim Deshpande

Phone Number: (978)449-0304

E-Mail Address[2]: sdeshpande@ramboll.com

[1] Use the full, legal company name registered with the Colorado Secretary of State. This is the company name that will appear on all documents issued by the APCD. Any changes will require additional paperwork.

[2] Permits, exemption letters, and any processing invoices will be issued by the APCD via e-mail to the address provided.

AIRS ID Number: _____ / ____ / _____

[Provide facility AIRS ID number. An individual point number will be assigned for internal tracking and annual fee billing purposes.]

Section 2 - Requested Action

☐ **MODIFICATION to existing source** *(check each box below that applies)*

☐ Change company name[3] ☐ Transfer of ownership[4] ☐ Other *(describe below)*

☑ **APEN submittal for Regulation No. 3, Part A, II.A.2. facility-wide greenhouse gas reporting (Note blank APENs will not be accepted)**

Additional Info & Notes: New peaking power plant:

Electricity generation using natural gas-fired combustion turbines

[3] For company name change, a completed Company Name Change Certification Form (Form APCD-106) must be submitted.
[4] For transfer of ownership, a completed Transfer of Ownership Certification Form (Form APCD-104) must be submitted.

Section 3 - Geographical Information

Geographical Coordinates *(Latitude/Longitude or UTM)*
39.62236 -104.4502

Section 4 - Greenhouse Gas Pollutant Emissions Information

From what year is the following reported *actual annual emissions* data? Projected

These greenhouse gas emissions are subject to reporting pursuant to the following: ☐ Regulation No. 7 [5] ☑ Regulation No. 22 [6]

Are the total facility-wide actual CO_2e emissions equal to or greater than 25,000 metric tons/year? ☑ Yes ☐ No[7]

If yes, use the following table to report the facility-wide actual CO_2e emissions:

Pollutant	Actual Annual Emissions[8] (*metric tons/year*)
CO_2e	265,052 (Combustion Turbines, Fuel Gas Heater and Firewater Pump)

[5] For reporting pursuant to Regulation No. 7, total CO_2e is calculated as follows:
*CO_2e metric tons = (CO_2 tons + (CH_4 tons * 25) + (N_2O tons * 298)) * 0.907185*
[6] For reporting pursuant to Regulation No. 22, report total CO_2e from Regulation No. 22 submission.
[7] If facility-wide actual CO_2e emissions are less than 25,000 metric tons/year, submission of this APEN form is not required.
[8] Annual emission fees will be based on actual emissions reported.

AIRS ID Number: ____ / ____ / ____

[Provide facility AIRS ID number. An individual point number will be assigned for internal tracking and annual fee billing purposes.]

Section 5 - Applicant Certification

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct.

Signature of Legally Authorized Person (not a vendor or consultant)	Date
Jon Baylor	Senior Vice President - Development
Name (print)	Title

This emission notice is required to be submitted annually on or before December 31 of each year, starting on or before December 31, 2023, for facilities directly emitting CO_2e emissions equal to or greater than 25,000 metric tons per year. See Regulation No. 3, Part A, II.A.2. for additional information.

Send this form along with $242.00 to:

Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

For more information or assistance, contact:

Small Business Assistance Program
cdphe_apcd_sbap@state.co.us

APCD Main Phone Number
(303) 692-3100

Make check payable to: **Colorado Department of Public Health and Environment**

Alternatively, payment can be provided online, by credit card or electronic check, via the APCD Payment Portal.

APPENDIX C
ENVIRONMENTAL JUSTICE ANALYSIS AND CDPHE APPROVAL

Katie Wipfli

From: noreply@salesforce.com on behalf of No Reply <cdphe_apcd_noreply@state.co.us>
Sent: Monday, September 16, 2024 11:52 AM
To: Emily Tupper
Subject: Congratulations! Your Environmental Justice Summary has been verified.

Hello Emily Tupper ,

We have reviewed the Environmental Justice Summary materials for submission number EJ-00000063 submitted on 9/12/2024.

Your Environmental Justice Summary has been verified on 9/16/2024 and your verification number is 00000064. You will need this verification number to proceed with your permit application.

You can download the letter of concurrence package by logging into your account.

Please note that it may take 1-2 business days for all documents to be available in your account.

Please note: Sources with any quantifiable amount of new or modified emissions of nitrogen oxides (NOx), sulfur dioxide (SO2), particulate matter (PM2.5), carbon monoxide, or BTEX (benzene, ethylbenzene, toluene, and xylene) must also submit APCD Form-114 to the Permit Modeling Unit prior to submitting their permit application. Learn more about when an APCD Form-114 is required on the Colorado modeling guidance for air quality permits webpage.

Small businesses can visit the Guidance for Small Businesses website or contact the Air Pollution Control Division's Small Business Assistance Program for support at cdphe_apcd_sbap@state.co.us.

For information about which businesses qualify for small business assistance, visit the Small Business Assistance Program website.

You can also email us at cdphe_apcd_ejreports@state.co.us with any questions about your Environmental Justice Summary.

Thank you,

Air Pollution Control Division's Environmental Justice in Permitting Team
Colorado Department of Public Health and Environment

RAMBOLL

ENVIRONMENT
& HEALTH

Colorado Department of Public Health and Environment
Air Pollution Control Division
Stationary Sources Program, Environmental Justice
APCD-SS-B1
4300 Cherry Creek Drive South Denver, CO 80246

ENVIRONMENTAL JUSTICE ANALYSIS IN SUPPORT OF AN AIR PERMIT APPLICATION FOR SYNTHETIC MINOR CONSTRUCTION PERMIT
CANYON PEAK POWER, LLC
ARAPAHOE COUNTY, COLORADO

To Whom It May Concern:

September 12, 2024

Ramboll
1999 Broadway
Suite 2225
Denver, CO 80202
USA

T +1 303.382.5460
www.ramboll.com

Canyon Peak Power, LLC (Canyon Peak) is proposing to construct a greenfield natural gas-fired power generation facility in Arapahoe County, Colorado. Canyon Peak seeks an air permit for construction of *six (6) General Electric LM2500 natural gas fired, simple cycle combustion turbines* at the proposed facility. Canyon Peak is seeking to obtain a minor source air permit via establishment of enforceable limits to permit emissions of NO_x and VOC to less than the major source thresholds of 25 tons per year (tpy) each, to avoid nonattainment New Source Review (NNSR).

Ramboll is pleased to submit this Environmental Justice (EJ) Summary and Report on behalf of Canyon Peak. This Report and Summary were prepared in accordance with Regulation Number 3, Part B, Section III.B.5. The Environmental Justice Supplement Form is also being submitted via the online submission tool.

Please contact Sim Deshpande at (508) 314-0828 or at sdeshpande@ramboll.com if you have any questions related to this EJ submittal.

Sincerely,

Eric S. Hodek
Principal
D +1 (303) 382-5467
ehodek@ramboll.com

COLORADO
Air Pollution Control Division
Department of Public Health & Environment

Air Quality Regulation (Reg.) 3

Environmental Justice Report

Applicant Information

Company Name: Canyon Peak Power, LLC

Facility Name: Canyon Peak Power

Plant AIRS ID Number: N/A

Permit Type: Permit to Construct

Permit Number: N/A

Facility location used for generating the report: 39.62236 , -104.4502

Environmental Justice Summary

Arapahoe County

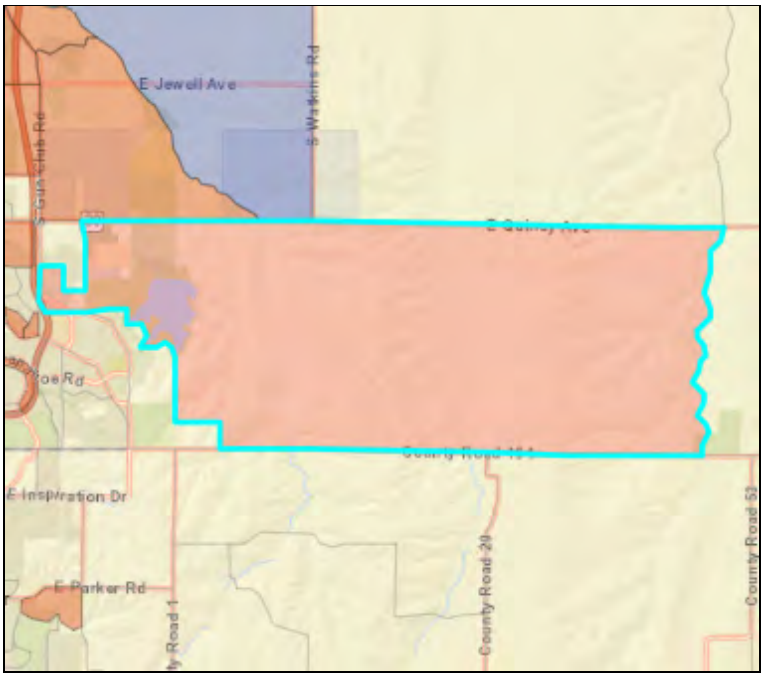
Census Block Group 080050071061

Air Quality Reg. 3 Disproportionately Impacted (DI) Community

No

Air Quality Reg. 3 Community Type

Not Disproportionately Impacted



Low-income Population	4.4%
People of Color Population	34.7%
Limited English Proficiency Population	0%
Housing Cost Burdened Population	29.2%
CO EnviroScreen Percentile Score	14.69

Environmental Justice Overview

Environmental Exposures Percentile Score 48.95

The environmental exposures score represents a community's exposure to certain environmental risks relative to the rest of the state. The score ranges from 0 to 100, with higher scores indicating higher burden. The environmental exposures score does not cover all pollutants; it is the average of data on diesel particulate matter, traffic proximity, ozone, PM 2.5, air toxics, other air pollutants, lead exposure risk, drinking water violations, and noise.

Environmental Effects Percentile Score 63.73

The environmental effects score represents how many hazardous or toxic sites are in a community relative to the rest of the state. The score ranges from 0 to 100, with a higher score indicating higher burden. The score is the average of data on proximity to mining, oil and gas operations, impaired surface waters, wastewater discharge facilities, Superfund sites, facilities that use hazardous chemicals, and facilities that generate, treat, store, or dispose of hazardous wastes.

Climate Vulnerability Percentile Score 47.14

The climate burden score represents a community's risk of drought, flood, extreme heat, and wildfire compared to the rest of the state. The score ranges from 0 to 100, the higher the score, the higher the burden.

Sensitive Populations Percentile Score 13.28

The sensitive populations score captures how at risk a community is to environmental exposures and climate impacts as it relates to health. For example, air pollution has stronger impacts on older and younger people, and people with chronic conditions such as asthma. The score ranges from 0 to 100, with a higher score being worse. The score is calculated using data on asthma hospitalization rate, cancer prevalence, diabetes prevalence, heart disease prevalence, life expectancy, low birth weight rate, mental health, population over 65, and population under 5.

Demographics Percentile Score 13.99

The demographics score represents a community's social and economic vulnerabilities. The score ranges from 0 to 100, with a higher number representing a higher vulnerability. It is calculated using data on people living with disabilities, housing cost burden, educational attainment, limited English proficiency, income, and race and ethnicity.

One-mile radius with satellite imagery for facility: Canyon Peak Power

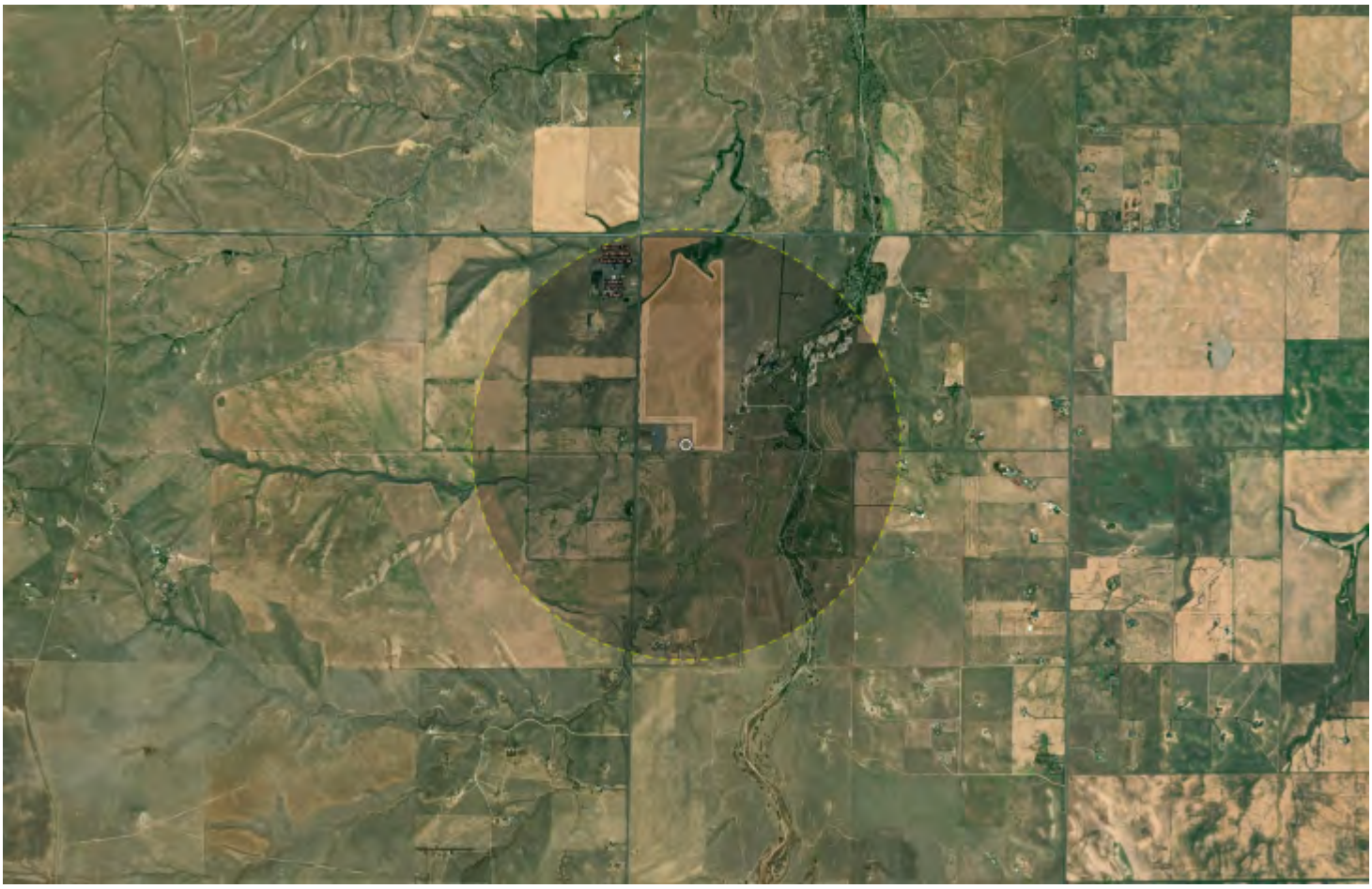


Image above notes a one-mile radius from the location in the center of the circle.

One-mile radius around location used to generate report

An aerial or satellite image of the facility, including a one-mile radius of the surrounding area, is a required component for the Environmental Justice Summary.

This image was generated from the Environmental Justice Report Tool for Air Quality Regulation 3 using the ESRI World imagery basemap. The map features Maxar imagery at 0.3m resolution for select metropolitan areas around the world and 0.5m resolution across the United States. In addition to commercial sources, the World Imagery map features high-resolution aerial photography contributed by the GIS User Community. This imagery ranges from 0.3m to 0.03m resolution (down to ~1:280 in select communities).

For more information, visit: World Imagery

Pollution and Climate Indicators

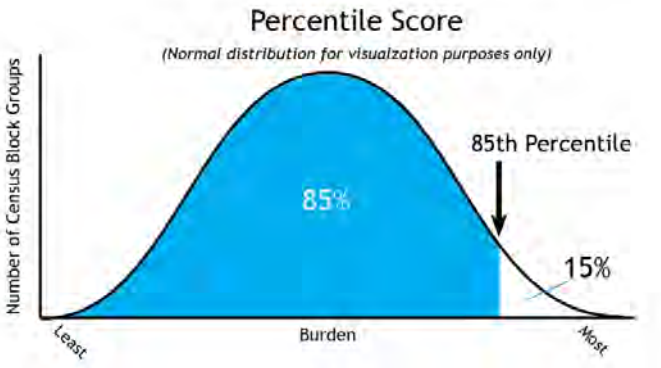
Indicator	Original Unit of Measure	Percentile
Air Toxics Emissions	distance weighted measure of estimated air toxics emissions	95.22
Diesel Particulate Matter	micrograms per cubic meter	21.28
Drinking Water Regulations	population weighted duration (in weeks) of resolved and unresolved health based violations from active community public water systems	68.94
Fine Particle Pollution (PM 2.5)	micrograms per cubic meter	42.67
Impaired Streams and Rivers	average impairment and assessment status of streams	66.24
Lead Exposure Risk	percentage of housing units built before 1960, as an indicator of potential exposure to lead	35.67
Noise	decibles A	14.18
Other Air Pollutants	distance weighted measure of estimated other air pollutant emissions	91.73
Ozone	parts per billion	73.75
Proximity to Hazardous Waste Facilities	distance weighted count of hazardous waste facilities within 5 km	31.31
Proximity to Mining Locations	distance weighted measure of the total number of active coal, hard rock, and construction materials mining permits	91.82
Proximity to National Priorities List Sites	distance weighted count of proposed or listed NPL sites with 5 km	91.42
Proximity to Oil and Gas	distance weighted measure of the total number of active oil and gas locations	96.12
Proximity to Risk Management Plan Sites	distance weighted count of RMP facilities within 5 km	46.57
Traffic Proximity and Volume	amount of vehicular traffic nearby, and distance from roads	53.99
Wastewater Discharge Indicator	toxic chemical concentrations in stream segments per km	39.03
Drought	sum of weekly total percent of an area experiencing a severe, extreme, or exceptional drought	13.59
Extreme Heat Days	average number of high heat days between May and September from 2016 to 2020	76.22
Floodplains	percentage of each geographic area where there is at least a one percent chance of flooding annually	76.98
Wildfire Risk	mean wildfire hazard potential within each geographic area as determined by the US Forest Service, 2021	79.56

Health and Social Indicators

Indicator	Orignial Unit of Measure	Percentile
Asthma Hospitalization Rate	rate of hospitalization per 100,000 people	59.54
Cancer Prevalence	percent of adults	17.33
Diabetes Prevalence	percent of adults	28.11
Heart Disease in Adults	percent of adults	17.09
Life Expectancy	years	0
Low Birth Weight	percent of singleton births	58.13
Mental Health Indicator	percent of adults	9.7
Population over 64 years of age	percent of total population	3.51
Population under 5 years of age	percent of total population	84.63
Disability	percent of total population	3.52
Housing Cost Burdened	percent of total population	48.63
Less Than High School Education	percent of total population	31.68
Linguistic Isolation	percent of total population	54.42
Low Income	percent of total population	6.64
People of Color	percent of total population	65.34

Understanding the Data

The values shown in the Pollution and Climate Indicator and Health and Social Indicator tables are percentiles. Percentiles are a way to see how one area compares to other areas in Colorado. Percentile values range from 0 - 100. A higher score indicates higher burden. Specifically, the percentile tells you the percentage of places in Colorado that have a lower score than the selected location. For example, an area with 85 percentile score for the noise indicator, ranks in the top 15% of areas impacted by noise in Colorado. That means that 85% of the other Census Block Groups in Colorado have a lower score for noise impacts.



The data in the report comes from Colorado EnviroScreen version 1.0. Developed in 2022 by CDPHE and Colorado State University, EnviroScreen maps the overlap of environmental exposures and effects, climate vulnerability, sensitive populations, and demographics to better understand environmental injustice and environmental health risks in Colorado. For more detailed information on the data sources used in Colorado EnviroScreen Version 1.0 see the technical documentation.

On the first page of the report, red text highlights if values for a census block group meet or exceed the criteria for definition of Disproportionately Impacted Community for Air Quality Regulation 3. On subsequent pages of the report, red text highlights indicators in the top percentiles for Colorado that may warrant additional consideration during the permitting process. The Environmental Justice Report is not intended to show individual health risk or exposure.

In the Environmental Justice Summary on the first page, values shown in red indicate a census block group that meets or exceeds the following criteria to qualify as a Disproportionately Impacted (DI) Community for Air Quality Reg 3:

- Over 40% of households are low-income (meaning they are at or below 200% of the federal poverty level),
- Over 40% of the population identify as people of color,
- Over 50% of households are housing-cost burdened (meaning they spend more than 30% of household income on housing costs), or
- Over 20% of the population is linguistically isolated (meaning no adults in a household speak English well).

A census block group that meets or exceeds any of these percentages is labeled as a Socioeconomically Vulnerable Community (SVC).

The CO EnviroScreen Percentile Score, which is also found on the first page of the Environmental Justice Report, is written in red if it is above the 80th percentile. A census block group with a CO EnviroScreen Score above the 80th percentile is labeled as a Cumulatively Impacted Community (CIC).

In other sections of the Environmental Justice Report, including the Environmental Justice Overview, Pollution and Climate Indicators, and Health and Social Indicators sections, indicator and component scores over the 80th percentile

are also highlighted in red. The 80th percentile threshold is used in most cases to flag census block groups that have indicators and groups of indicators (components) that are in the top 20% of census block groups in Colorado. These indicators and components are flagged because they may warrant further review in the permitting process by the permit applicant and/or the Division staff reviewing the permit.

For most indicators, the indicator is highlighted in red if it is above the 80th percentile to indicate that the census block group where the facility is located faces higher risks based on that indicator compared to other Colorado communities. However, less than 20% of census block groups in Colorado have oil and gas facilities or mining locations. Accordingly, all census block groups in Colorado score above the 80th percentile for proximity to these two types of facilities because even having zero facilities puts a community in the top 20%. Accordingly, the Environmental Justice Report highlights a census block group in red if it is above the 85th percentile for mining facilities and above the 90th percentile for oil and gas facilities. This ensures that only census block groups with a greater number of facilities than the statewide average of zero are highlighted on the EJ Report.

Colorado EnviroScreen does:

-Show which areas in Colorado are more likely to have higher environmental health injustices.
-Identify areas in Colorado where government agencies can prioritize resources and work to reduce pollution and other sources of environmental injustice.
-Provide information to empower communities to advocate to improve public health and the environment.
-Identify areas that meet the updated definition of "Disproportionately Impacted Community" under House Bill 23-1233 adopted a definition that applies to all state agencies, including CDPHE.
-Identify areas where the Air Quality Regulation (Reg.) Number 3, which governs permitting in disproportionately impacted communities, applies.
-Identify areas that meet the prior definition of "Disproportionately Impacted Community" under the Colorado Environmental Justice Act (HB21-1266).

Colorado EnviroScreen does not:

-Define a healthy or unhealthy environment.
-Establish causal associations between environmental risks and health.
-Define all areas that may be affected by environmental injustice or specific environmental risks.
-Provide information about an individual person's health status or environment.
-Take all environmental exposures into account.
-Tell us about smaller areas within a census block group that may be more vulnerable to environmental exposures than other areas.
-Provide information about non-human health or ecosystem risks.

Additional Resources

Frequently Asked Questions: Environmental Justice Report Tool for Air Quality Regulation 3

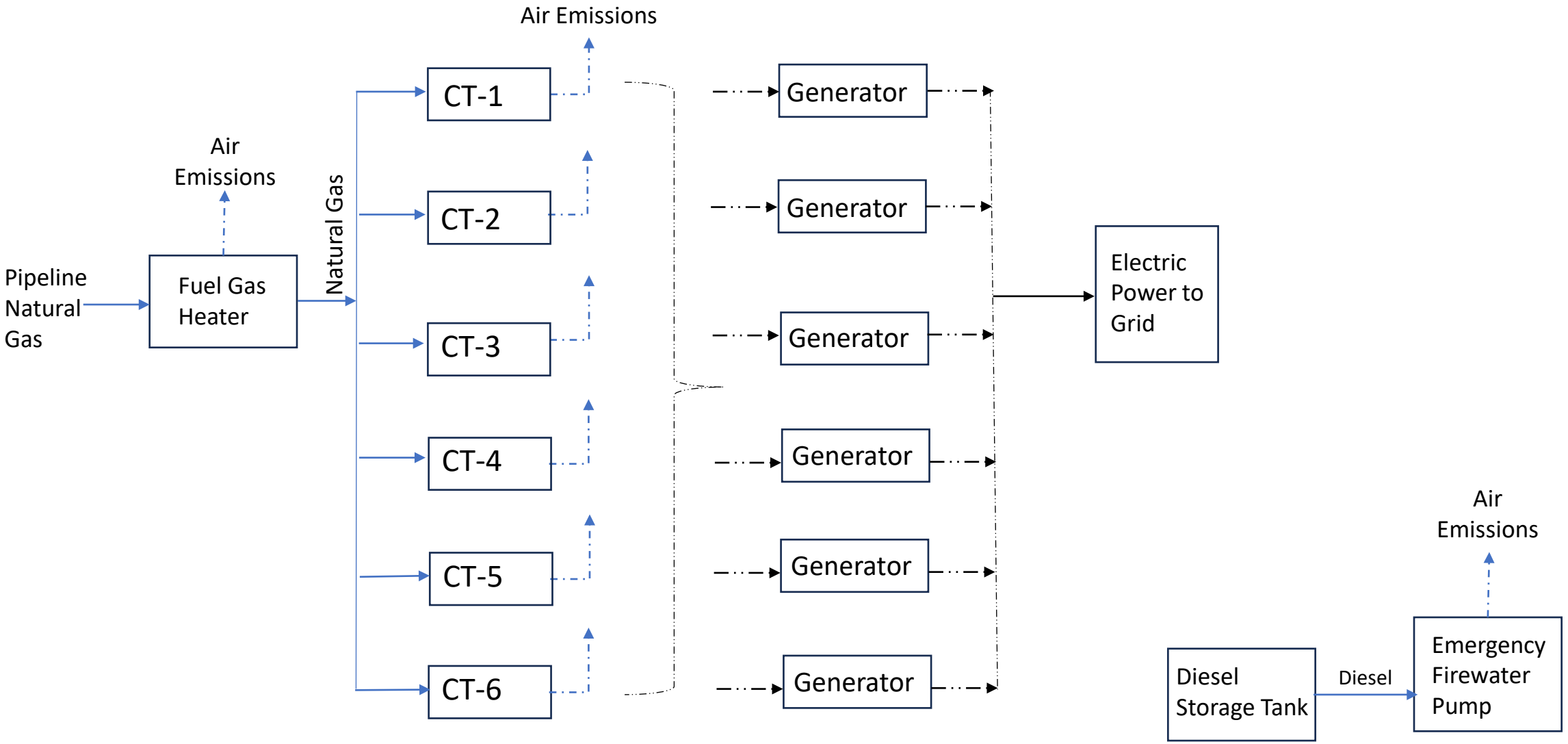
Air Pollution Control Division's Small Business Assistance Program

CDPHE Environmental Justice Program

Colorado EnviroScreen Version 1.0 Reports, Guides, and Resources Folder

APPENDIX D
PROCESS FLOW DIAGRAM

Canyon Peak Power Facility
Six (6) GE LM2500XPRESS Units
Process Flow Diagram



APPENDIX E
SITE PLAN (TO BE PROVIDED WITH THE MODELING REPORT)

Prepared by
Ramboll

Date
September 2024

AIR DISPERSION MODELING REPORT

CANYON PEAK POWER LLC

GE LM2500XPRESS

CONTENTS

TABLES

FIGURES

ATTACHMENTS

1. INTRODUCTION

Canyon Peak Power LLC (Canyon Peak) is proposing to construct a simple cycle combustion turbine power generation facility in Arapahoe County, Colorado (Canyon Peak Power, facility or project). Due to the current uncertainty in the market availability of power generation technologies, Canyon Peak is seeking approval for installation of either of the following power generation technologies at this proposed facility:

- Six (6) GE LM2500XPRESS combustion turbines; OR
- Four (4) Siemens SGT-800 combustion turbines.

As discussed with the Colorado Department of Public Health and the Environment (CDPHE) during the pre-application meeting on July 11, 2024, it was decided that two separate permit applications and modeling demonstrations will be submitted for this project (one for each technology option) with the option of withdrawing one of the applications as technology availability and manufacturers' ability to meet the project timeline become more conclusive. This modeling demonstration is in support of the permit application for six (6) GE LM2500XPRESS natural gas fired, simple cycle combustion turbines at the proposed facility submitted on September 19, 2024, which was for a minor source air permit[1].

The facility is a greenfield site located southeast of Denver near the town of Bennett in Arapahoe County. A site location map for the proposed project is presented in **Figure 1**. This facility is located in the Denver Metro North Front Range (DMNFR) area which is designated as attainment/maintenance for particulate matter less than 10 microns in diameter (PM_{10}) and carbon monoxide (CO). The DMNFR is classified as severe nonattainment for the 2008 8-hr ozone standard and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1. As such, oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are regulated as nonattainment pollutants. The area is designated as attainment/unclassified for all other criteria air pollutants.

The project primarily consists of the installation of six (6) General Electric (GE) LM2500XPRESS simple cycle combustion turbines. Each GE LM2500XPRESS gas turbine generator package is approximately a 27 MW unit equipped with a LM2500+G4 engine, a dry low NOx emissions (DLE) combustion system with a selective catalytic reduction (SCR) system, and a catalytic oxidation (CatOx) emission control system. These units will operate solely on pipeline natural gas. The auxiliary equipment consists of a 7 MMBtu/hr natural gas-fired fuel gas heater, a 355-hp emergency firewater pump engine and its associated 572-gallon diesel storage tank.

All pollutants and associated averaging times will be modeled to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and Colorado Ambient Air Quality Standards (CAAQS) (referred to hereafter as NAAQS for simplicity), which are summarized in **Table 1**.

Since the project is for the installation of turbines, which have emissions and stack parameters that vary by ambient conditions and load, this compliance demonstration analyzed several operating scenarios over a wide-range of operating conditions. Following CDPHE guidance, the modeling was conducted in 2 steps:

1. The first step is to model the net emission increases that are occurring due to the permitting action (the project). The model results are compared to established significant impact levels (SILs), which are used in permitting actions to define a *de minimus* level, below which the project is presumed to have an insignificant impact to air quality. For any pollutant (and

[1] Canyon Peak Power held a pre-application meeting with CDPHE on July 11, 2024, to discuss the project and proposed approach.

averaging period) that has maximum impacts below the SIL, the analysis is complete. For any pollutant (and averaging period) that has maximum impacts above the SIL, the analysis proceeds to the second step.

2. The impacts from the project are added to modeled impacts from any nearby non-Canyon Peak Power sources and background air quality. The cumulative impacts, in the form of the air quality standard, are then compared to the NAAQS. If the cumulative impacts are below the NAAQS, the analysis is complete. If the cumulative impacts are above the NAAQS, it must be demonstrated that the project emissions are below the SIL at the time and place of any modeled violation.

The remainder of the report documents model inputs, assumptions, and results.

Table 1 Applicable Thresholds and Standards

Thresholds/Standards	µg/m³	Design Value
1-hour NO_2 SIL	7.5	H1H
Annual NO_2 SIL	1	H1H
24-hour $PM_{2.5}$ SIL	1.2	H1H
Annual $PM_{2.5}$ SIL	0.13	H1H
24-hour PM_{10} SIL	5	H1H
1-hour CO SIL	2,000	H1H
8-hour CO SIL	500	H1H
1-hour SO_2 SIL	7.8	H1H
3-hour SO_2 SIL	25	H1H
1-hour NO_2 NAAQS	188	Multiyear average of the 98th percentile of maximum daily 1-hour concentrations
Annual NO_2 NAAQS	100	Maximum annual mean
24-hour $PM_{2.5}$ NAAQS	35	Multiyear average of the 98th percentile concentration
Annual $PM_{2.5}$ NAAQS	9	Multiyear average of the maximum annual mean
24-hour PM_{10} NAAQS	150	Maximum H2H by year
1-hour CO NAAQS	40,000	Maximum H2H by year
8-hour CO NAAQS	10,000	Maximum H2H by year
1-hr SO_2 NAAQS	196	Multiyear average of the 99th percentile of maximum daily 1-hour concentrations
3-hr SO_2 CAAQS[2]	700	Maximum H2H by year

[2] Colorado Ambient Air Quality Standard

2. EMISSION SOURCES

2.1 Facility Emissions Sources

The facility is comprised of eight new emission sources. They include: six GE LM2500XPRESS simple cycle combustion turbines fired with natural gas; one 355-HP fire water pump fired by diesel fuel; one 7 MMBtu/hr fuel gas heater fired by natural gas.

For turbines, the stack temperature, stack velocity, and emission rates vary based on ambient air temperature and operating load. The 13 scenarios provided by the vendor are summarized in **Table 2** and represent:

- Thirteen scenarios that range over ambient temperatures from 0° F to 90° F for both full load and lower minimum emissions compliant load (MECL). The MECL loads are representative of low load operating scenarios, such as SU/SD. The fuel gas heater was modeled at its maximum hourly emission rate and constant stack parameters. These scenarios are evaluated for the short-term SILs/NAAQS, i.e., 24-hour or less.
- Two scenarios (Cases 5 and 12) based on the annual average temperatures of 59° F for both the full and MECL loads. The fuel gas heater was modeled at its annual emission rate which considers the hours of operation per year and at constant stack parameters. These scenarios are evaluated for the annual average SIL/NAAQS. Note that the annual emissions include the emissions for 200 SU/SD events.
- One SU/SD scenario utilizing stack parameters from the MECL scenario. For a given hour, the turbines are assumed to undergo a startup (10 minutes), a shutdown (9 minutes) and 41 minutes of normal operation. This operating scenario is conservatively assumed to occur for every hour of the year. The fuel gas heater was modeled at its maximum hourly emission rate and constant stack parameters. These scenarios are evaluated for the short-term NAAQS, i.e., 24-hour or less.

In each of the above scenarios, the fire water pump emissions (annualized) and stack parameters do not change and are provided in **Attachment 1**. In total, 16 operating scenarios were evaluated. The emissions and stack parameters for each of these scenarios is provided in **Attachment 1.** The locations of the sources and base elevations are provided in **Table 3**.

2.2 Nearby Sources

An inventory of nearby sources was obtained from CDPHE.[3] These sources were included in the cumulative modeling to assess the compliance with the NAAQS. The extent of the nearby source inventory was based on screening performed by CDPHE. The nearby sources include:

- Waste Management – Denver Arapahoe Disposal (PM_{10} and $PM_{2.5}$)

Three (3) point sources and two (2) fugitive sources were provided as part of this nearby source inventory. Following the CDPHE Modeling Guidance and email correspondence with CDPHE regarding the characterization of these sources, the two (2) fugitive sources are modeled as area sources.[4] Detailed emission sources and source parameters (emission rates, release heights, and initial plume dispersion) used in the model are provided in **Attachment 2**. The emissions for the nearby sources were based on the provided ton per year emissions converted to grams per second by assuming 8,760 hours of operation.

[3] June 18, 2024, email between Emily Tupper (Ramboll) and Jennifer Turk (CDPHE).
[4] August 22, 2024, email between Emily Tupper (Ramboll) and Jennifer Turk (CDPHE).

Table 2 Summary of Evaluated Turbine Scenarios

Engine	GE LM2500XPRESS												
Model	+G4 DLE Gas												
Case	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11	Case 12	Case 13
	Low-Low Day	Low-Low Day +heating	Cold Day	Cold Day + heating	ISO	Hot day + Evap	Hot day	Low-Low Day	Low-Low Day +heating	Cold Day	Cold Day + heating	ISO	Hot day
	Full load	Full load	Full load	Full load	Full load	Full load	Full load	MECL	MECL	MECL	MECL	MECL	MECL
Ambient Dry Bulb Temperature, °F	0	0	30	30	59	90	90	0	0	30	30	59	90

Table 3 Facility Source Locations

Source ID	**UTM Zone 13N NAD 83**		**Base Elevation (m)**
	Easting (m)	**Northing (m)**	
TURB1	547,108	4,386,117	1,759
TURB2	547,108	4,386,087	1,759
TURB3	547,108	4,386,058	1,759
TURB4	547,108	4,386,029	1,759
TURB5	547,109	4,385,999	1,759
TURB6	547,109	4,385,970	1,759
FWP	547,165	4,386,073	1,759
FGH	546,908	4,385,953	1,759

3. MODEL INPUTS

3.1 Model Selection

The most recent version of the AERMOD modeling system (Version 23132) was used for this analysis. AERMOD is the EPA-recommended model for near-field air quality modeling. The current model versions for the modeling system are:

- AERMAP 18081
- BPIP 04274
- AERMOD 23132

3.2 Model Options

The regulatory default options were selected. The NO_x to NO_2 conversion was modeled using the Tier 2 ARM2 methodology with default minimum and maximum conversion ratios of 0.5 and 0.9. The urban dispersion option was not used.

3.3 Project Emission Inventory and Scenarios

All project emission sources will be unobstructed, vertical stacks and modeled in AERMOD as POINT sources. The fugitive nearby sources were modeled as area sources following CPDHE guidance.

3.4 Building Downwash

The Building Profile Input Program (BPIPPRM) was used to characterize the downwash effects from buildings and structures that can influence point sources. The facility layout used to create the BPIPPRM input file is presented in **Figure 2**. A table of the building heights are presented in **Attachment 3**.

3.5 Meteorological Data

The analysis utilized the CDPHE-provided, AERMOD-ready meteorological data from the Denver International Airport (DIA) tower from the years 2017-2021.[5] The provided meteorological data was processed with AERMET (version 23132) and the ADJ_U* option, which corrects for low wind speeds under very stable conditions. A wind rose for this meteorological data is provided in **Figure 3**.

3.6 Terrain

The United States Geologic Survey's 1/3 arc-second National Elevation Dataset (NED) was used as the basis for the terrain data. The latest version of AERMAP (version 18081) was used to determine the ground elevation and hill height scales for the receptors. The NED data has a horizontal resolution of 1/3 arc-second (10-meter intervals). The topography surrounding the Facility is as shown in **Figure 4**.

3.7 Receptor Grid

The Facility will be completely fenced and is a secured facility. Receptors were placed in ambient air and extend outward to a distance of 25 km from the facility fenceline (**Figure 5**) The receptor grid spacings followed CDPHE modeling guidance with receptors spaced at 50-meter intervals along the fenceline followed by a nested grid of receptors of sufficient density to identify the maximum impacts:

- 100-meter spacing from the ambient air extending to 1 km
- 250-meter spacing from 1 km to 3 km from the facility
- 500-meter spacing from 3 km to 10 km from the facility
- 1000-meter spacing from 10 km to 25 km from the facility

The 1-hour NO_2 demonstration required a larger grid to show the full significant impact area from the project, therefore the grid was extended out to 50 km following the 1000-meter spacing.

3.8 Background Ambient Concentration

The background concentrations were obtained from CDPHE[6]. The background ambient value of 24-hour $PM_{2.5}$ is summarized in **Table 4** and was added to the cumulative impacts to demonstrate compliance with the NAAQS. Temporally-varying 1-hour NO_2 background data was provided by CDPHE to be used in NO_x modeling. This data provided is provided in **Attachment 4**.

Table 4 Background Ambient Concentration for Particulate Matter

Averaging Period and Rank	Site	Background Ambient Concentration
		µg/m3
24-hour $PM_{2.5}$ 98^{th} percentile	La Casa, 2021-2023	15.6

[5] June 18, 2024, email between Emily Tupper (Ramboll) and Jennifer Turk (CDPHE).

[6] June 18, 2024, email between Emily Tupper (Ramboll) and Jennifer Turk (CDPHE).

4. MODELING RESULTS

The modeling followed all applicable guidance including the Colorado Minor NSR Source Modeling Guideline for Air Quality Permits (May 2023 (minor Revision (Appendix C) February 2024)) and 40 CFR Part 51 Appendix W (January 2017). Several components of this analysis were developed to ensure all modeling results are conservative and protective of air quality standards, this includes:

1. Assumption of steady-state emissions for turbines that will be permitted to operate 2,803 hours per year, i.e., assuming continuous emissions for non-continuous sources is considered by EPA to be a conservative approach for the probabilistic 1-hour NO_2 standard.[7] This conservatism of steady-state emissions applies to the 24-hour impacts as well since the project is assumed to operate for every hour of the day for the entire year.
2. The SU/SD scenario emission rates include the emissions of SU/SD (19 minutes) plus normal operations for the remainder of the hour (41 minutes). Similar to #1, assuming continuous emissions for non-continuous sources is considered by EPA to be a conservative approach for the probabilistic 1-hour NO_2 standard. This conservatism of steady-state emissions applies to the 24-hour impacts as well since the project is assumed to operate for every hour of the day for the entire year. The annual emission calculations assume 200 SU/SD events per year.
3. Use of ARM2 for the NOx to NO_2 chemistry calculations. ARM2 is a Tier 2 NOx conversion algorithm and designed by EPA to be more conservative than an ozone-limiting Tier 3 approach. Use of a minimum conversion ratio of 0.5 is also conservative since gas-fired turbines usually have low in-stack NO_2 to NOx ratios.

Following the 2-step approach described in **Section 1**, the project-only emissions are modeled, and the maximum impacts are compared to the SIL for the applicable pollutant and averaging time. The overall, maximum impacts from any of the 16 modeled scenarios are summarized in **Table 5**. The results for all scenarios are provided in **Attachment 5**. The pollutant/averaging time with impacts that exceed the SIL are 1-hour NO_2 and 24-hour $PM_{2.5}$. The maximum impact locations for Project-only impacts for each pollutant/averaging period is provided in **Figure 6**.

For the pollutant/averaging periods with impacts above the SIL (i.e., 1-hour NO_2 and 24-hour $PM_{2.5}$) for any operating scenario, all operating scenarios were analyzed even if impacts were below the SIL for that specific scenario. For all other pollutant/averaging times, impacts below the SIL demonstrate that the project will not cause or contribute to a modeled violation of the NAAQS.

Table 5 Significant Impact Analysis Results

Averaging Period	Pollutant	SIL (µg/m³)	Maximum Impact (µg/m³)	Maximum Impacts >= SIL?
1-hour	NO_2	7.5	23.7	**Yes**
Annual	NO_2	1.0	0.2	No
24-hour	$PM_{2.5}$	1.2	4.6	**Yes**
Annual	$PM_{2.5}$	0.13	0.10	No
24-hour	PM_{10}	5.0	4.6	No
1-hour	CO	2,000	111.2	No
8-hour	CO	500	57.3	No
1-hour	SO_2	7.8	1.3	No
3-hour	SO_2	25	1.3	No

[7] EPA, Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour N02 National Ambient Air Quality Standard, 2011.

For those pollutant/averaging time that exceed the SIL, further cumulative modeling is required. The cumulative modeling includes impacts from the project sources, nearby sources supplied by CDPHE, and background concentrations supplied by CDPHE. The significant impact area (SIA) was analyzed for 24-hour $PM_{2.5}$ to determine which receptors predicted impacts greater than the SIL. The significant impact area for the maximum impact scenario (SU/SD) was determined to be the 6.8 km as seen in **Figure 7**. This refined grid was then used in the 24-hour $PM_{2.5}$ cumulative modeling demonstration. The nearby sources provided by CDPHE were 20 km away from the project location, but still included in the cumulative modeling analysis. For the 1-hour NO_2 cumulative modeling demonstration the receptor grid was extended to 50 km to ensure the significant impact area was captured. The overall, maximum impacts from any of the modeled scenarios are summarized in **Table 6**. The results for all scenarios are provided in **Attachment 5**. The locations of the overall, maximum impacts occur at or near the facility fenceline as shown in **Figure 8** and **Figure 9**.

The cumulative analysis demonstrates that the project will not cause or contribute to a modeled violation of the 1-hour NO_2 and 24-hour $PM_{2.5}$ NAAQS.

Table 6 NAAQS Impact Analysis Results

Averaging Period	Pollutant	NAAQS (µg/m³)	Background Value (µg/m³)	Maximum Design Value (µg/m³)	Maximum Cumulative Impact (µg/m³)
1-hour	NO_2	188	Included in AERMOD[8]	n/a	103.0
24-hour	$PM_{2.5}$	35	15.6	1.4	17.0

[8] See Attachment 4 for temporal NO_2 background data provided by CDPHE

FIGURES

Figure 1 Facility Location

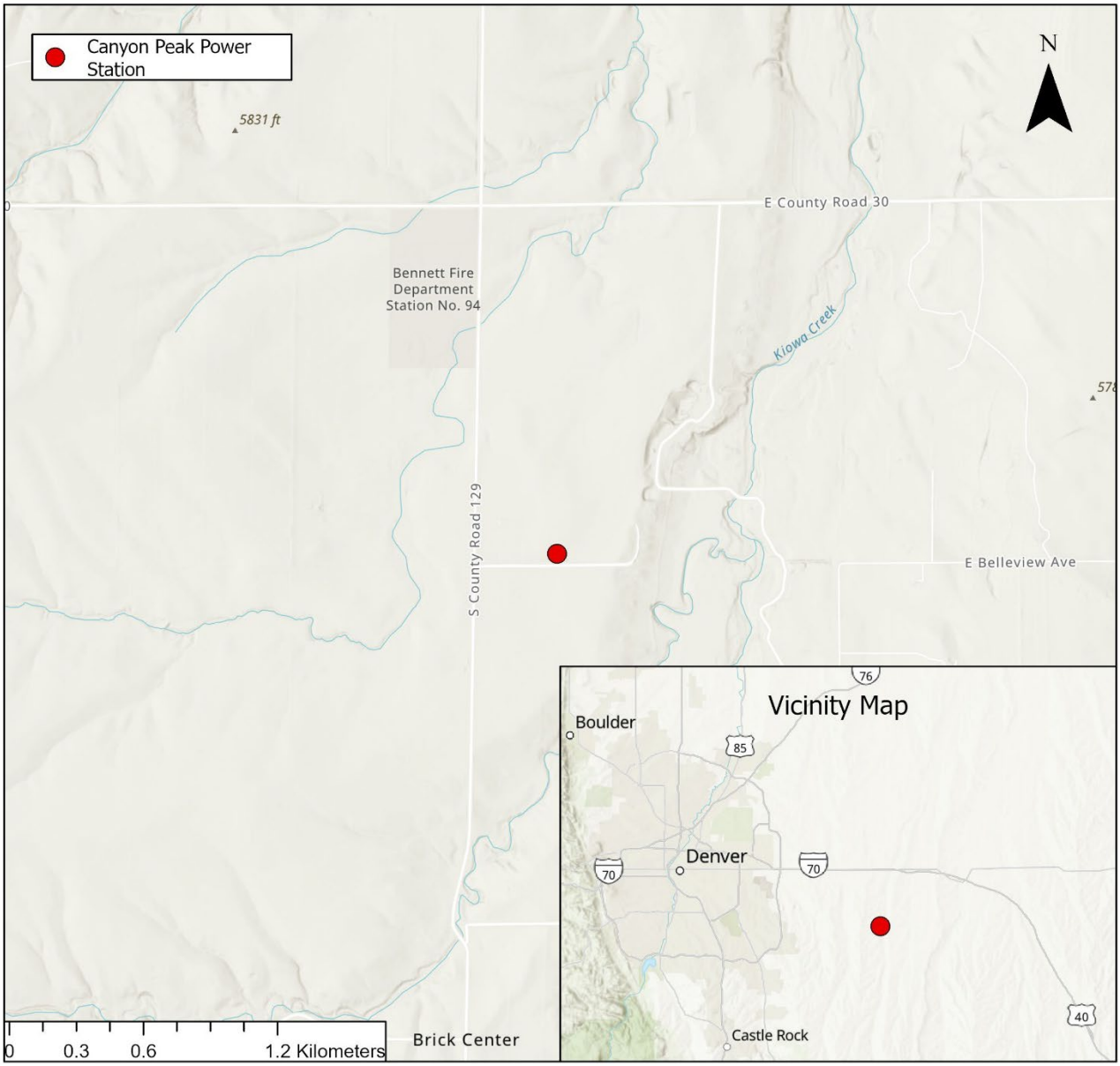


Figure 2 Digitized Facility Layout

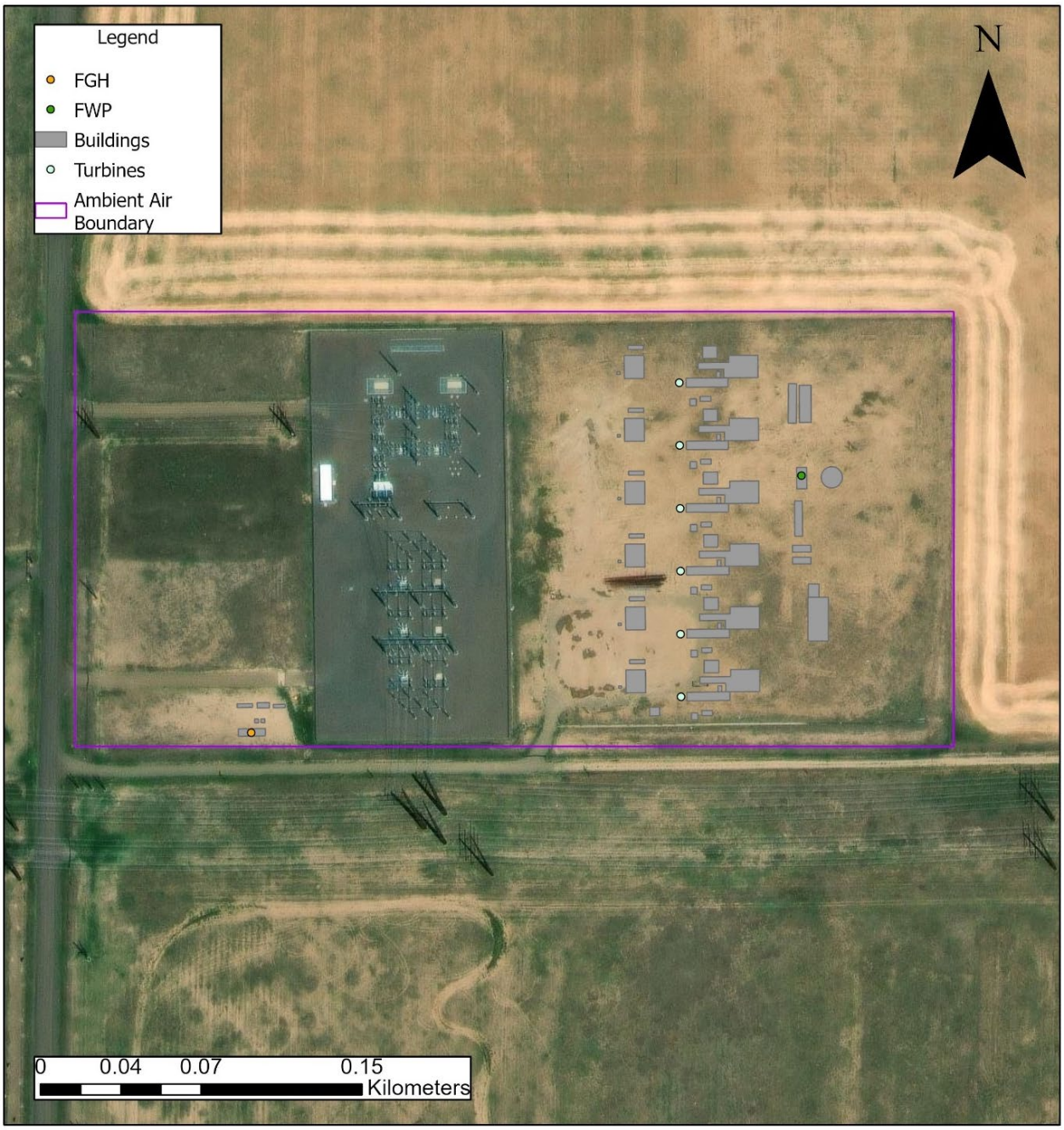


Figure 3 Windrose

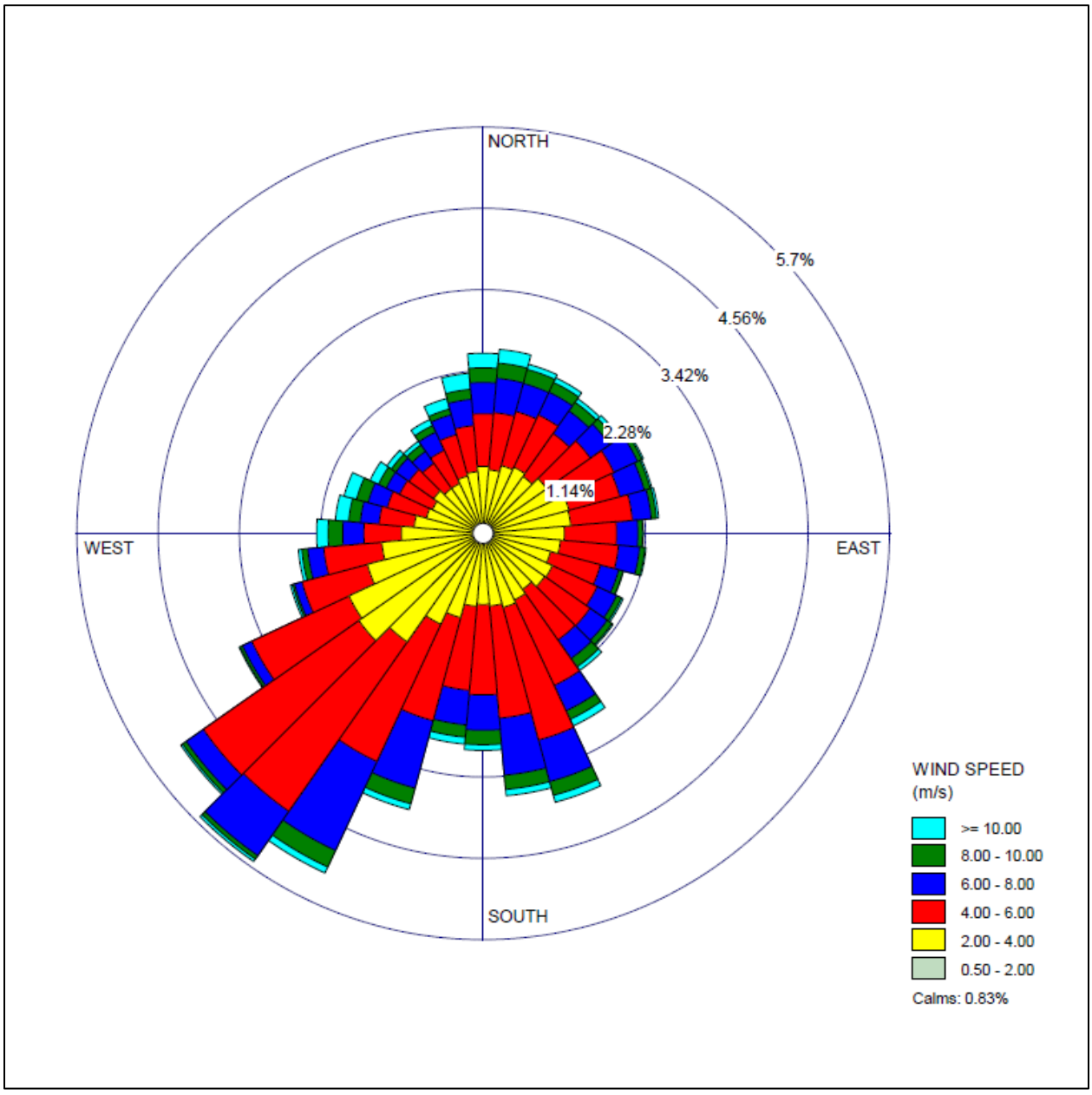


Figure 4 Topography in Project Area

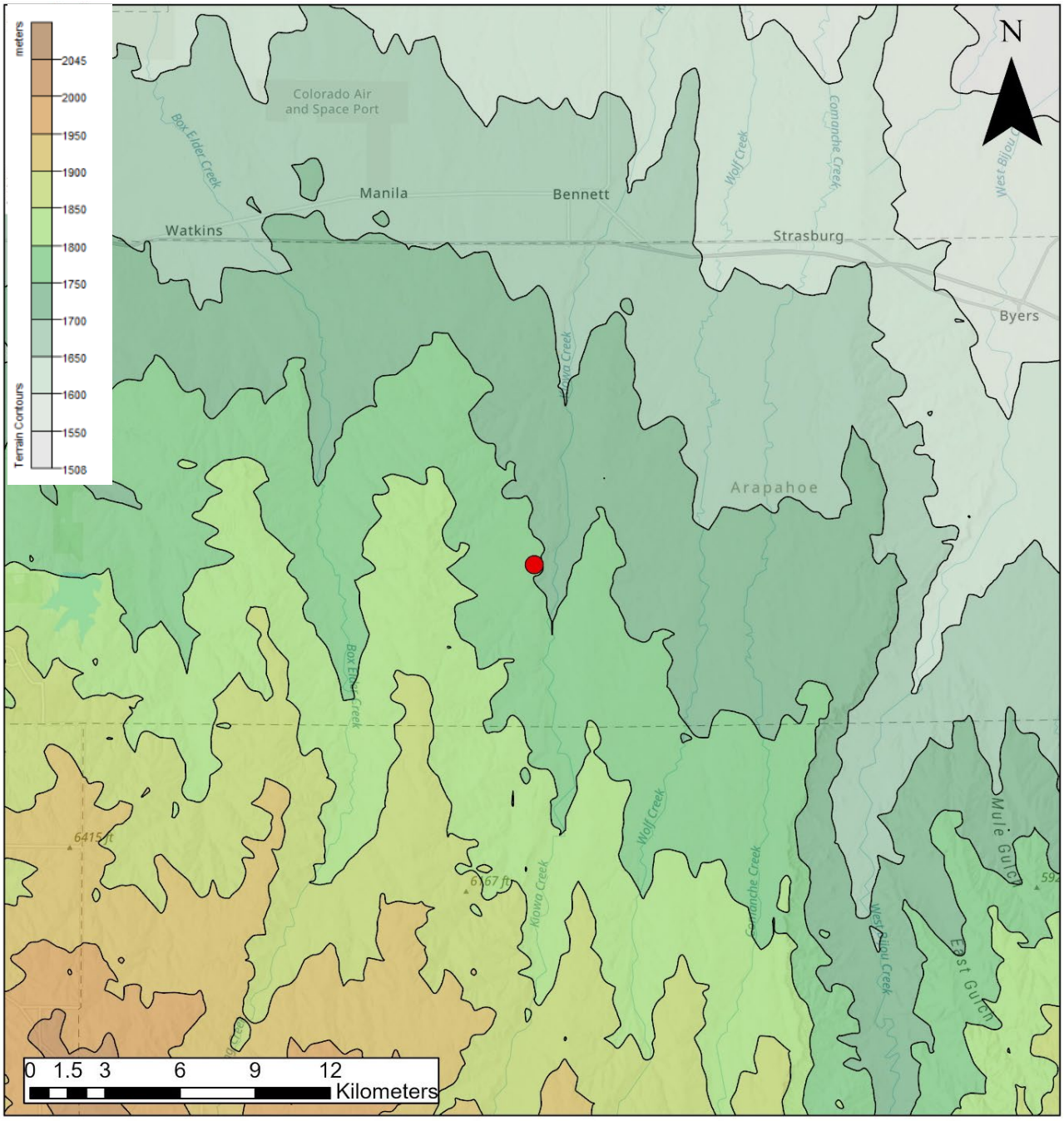


Figure 5 Receptor Grid

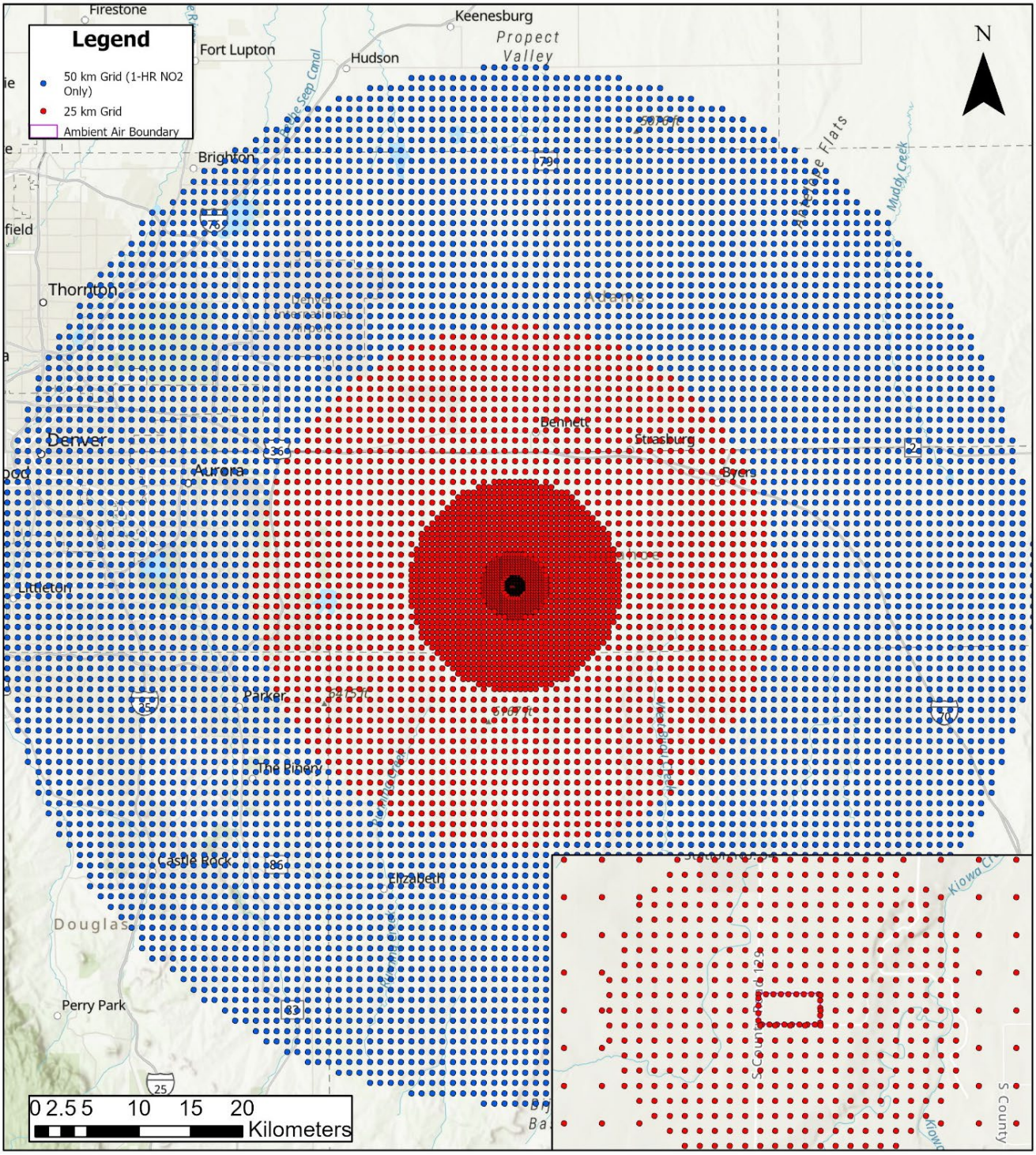


Figure 6 Location of Maximum Modeled Project Impacts

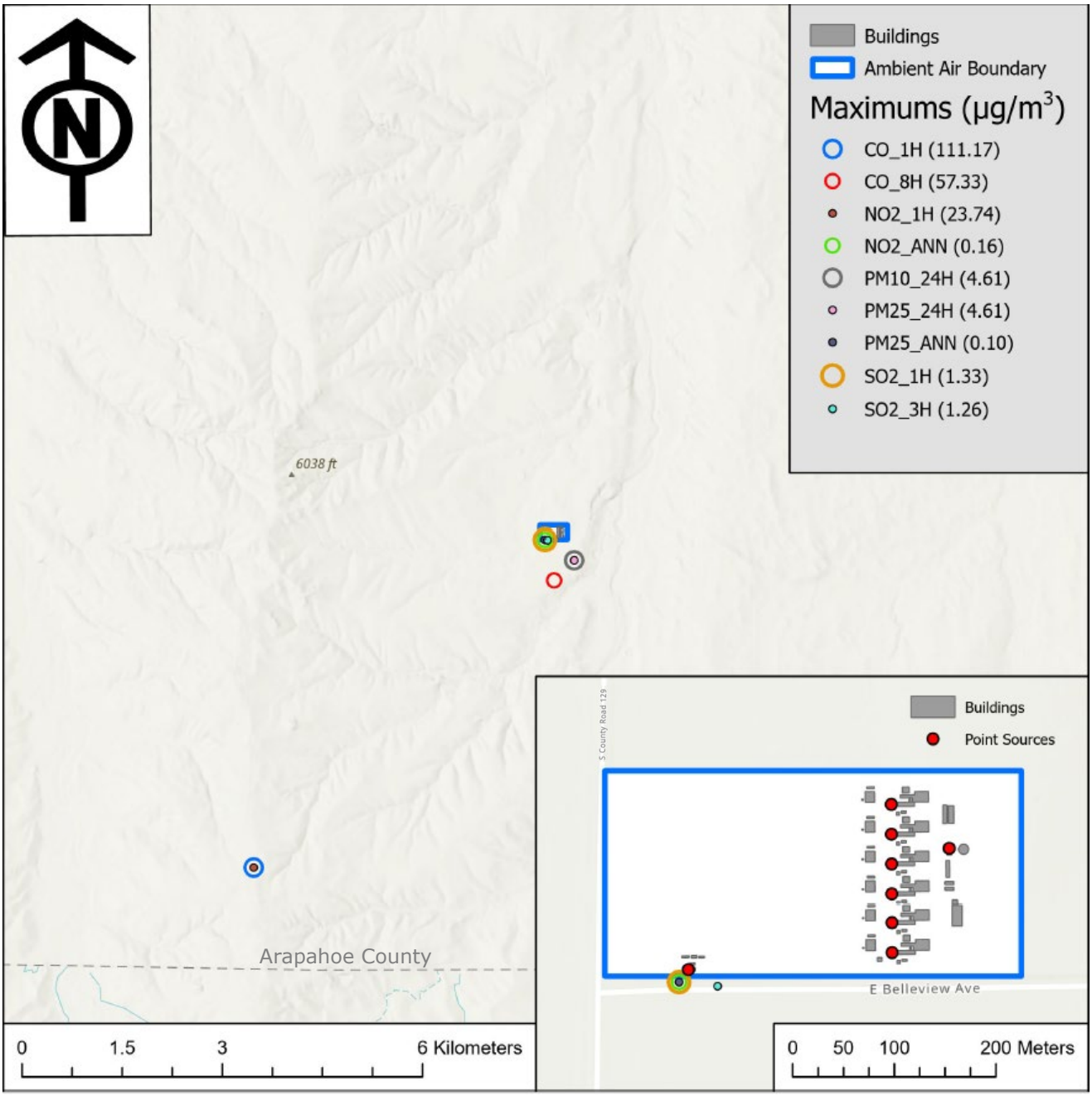


Figure 7 Largest Significant Impact Area (24-hour $PM_{2.5}$)

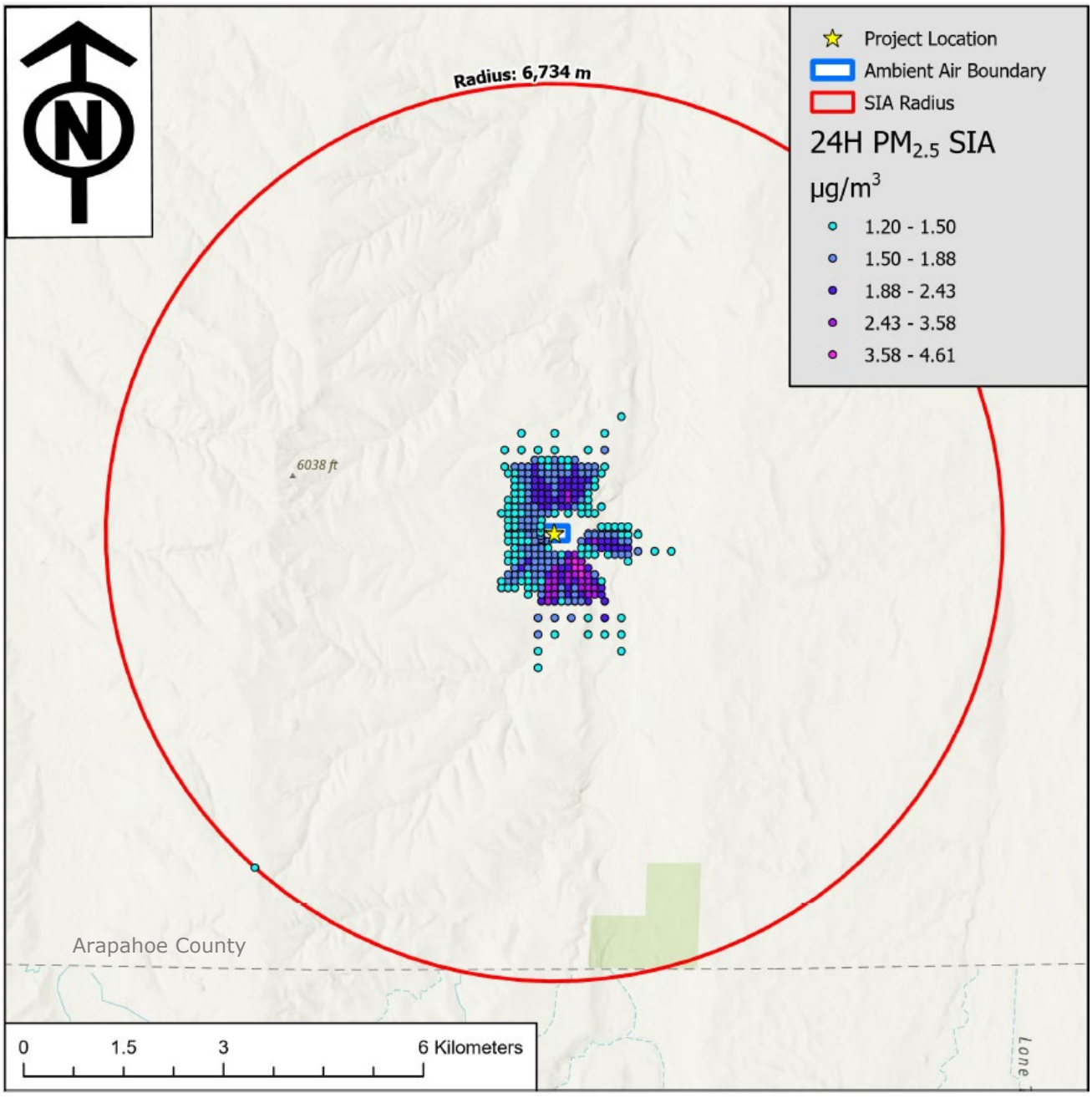


Figure 8 24-Hour $PM_{2.5}$ NAAQS Results

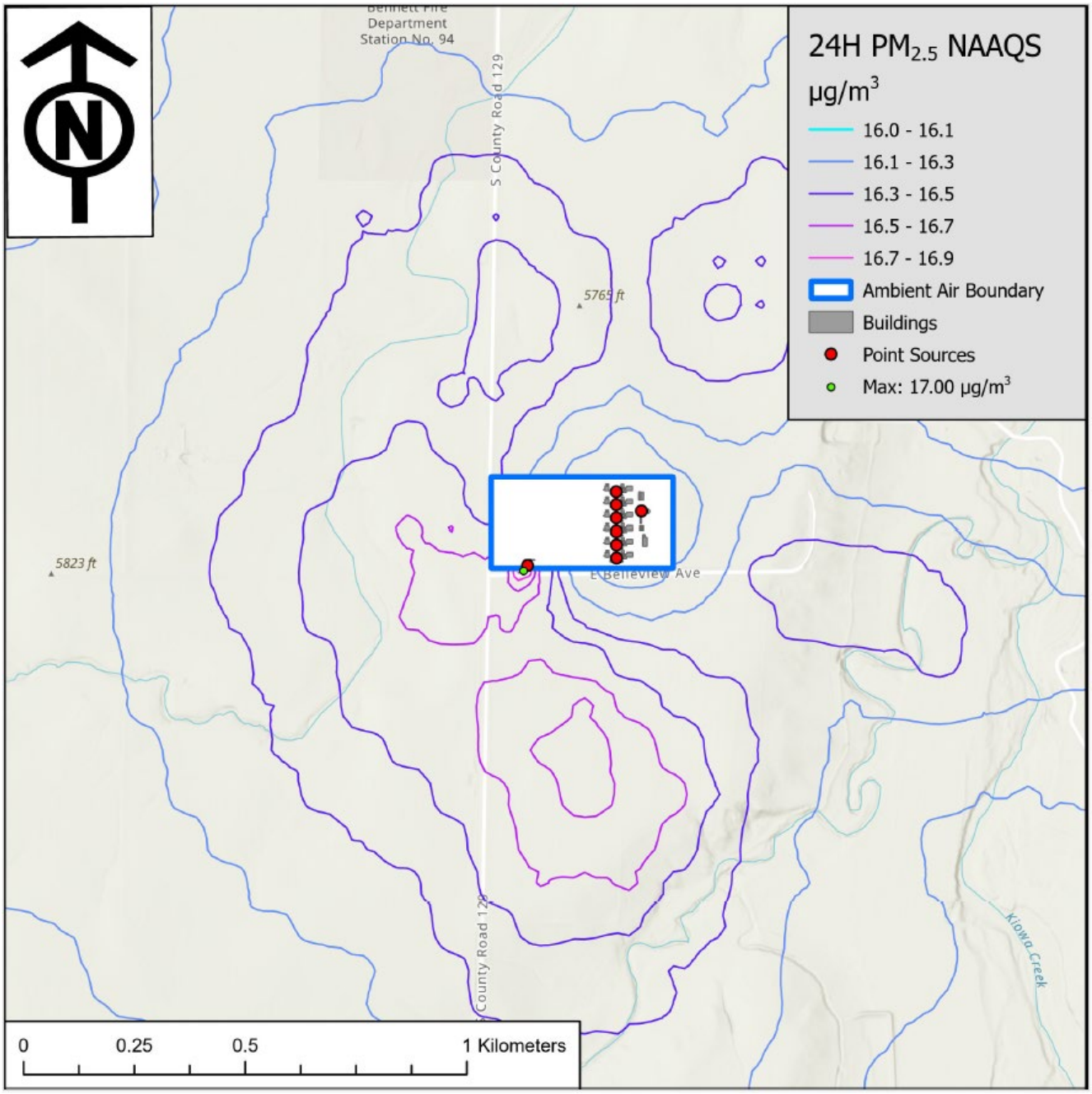
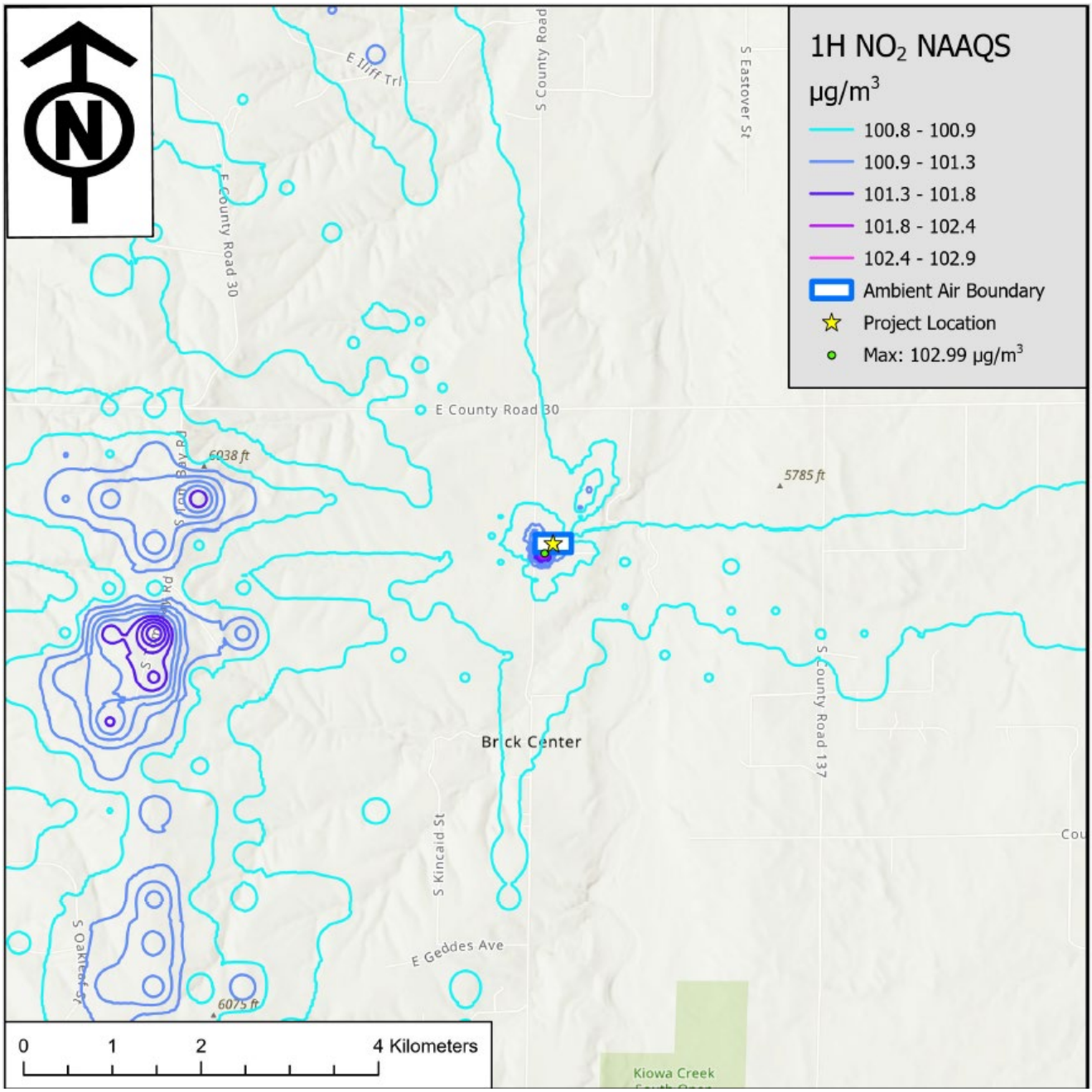


Figure 9 1-Hour NO_2 NAAQS Results



ATTACHMENT 1 - PROJECT EMISSIONS AND STACK PARAMETERS

Project Emission Rates and Parameters

Scenario	Source		Period[9]	NO_x Emission Rate (g/s)	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	CO Emission Rate (g/s)	SO_2 Emission Rate (g/s)	Stack Velocity (m/s)	Stack Temperature (K)	Stack Height (m)	Stack Diameter (m)
	ID	Description										
Case 1	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	3.30E-01	5.14E-01	5.14E-01	3.21E-01	5.31E-02	35.0	727	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 2	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	3.33E-01	5.14E-01	5.14E-01	3.25E-01	5.31E-02	35.4	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 3	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	3.22E-01	5.14E-01	5.14E-01	3.14E-01	5.31E-02	35.3	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 4	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	3.12E-01	5.14E-01	5.14E-01	3.04E-01	5.31E-02	34.6	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 5	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.94E-01	5.14E-01	5.14E-01	2.86E-01	5.31E-02	33.4	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 6	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.91E-01	5.14E-01	5.14E-01	2.83E-01	5.31E-02	33.1	728	24.4	2.74

[9] ST = Short term emission rate, used for modeling 1-hour, 3-hour, 8-hour, 24-hour averaging times, ANN = annual, used for annual averaging

Scenario	Source		Period[9]	NO_x Emission Rate (g/s)	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	CO Emission Rate (g/s)	SO_2 Emission Rate (g/s)	Stack Velocity (m/s)	Stack Temperature (K)	Stack Height (m)	Stack Diameter (m)
	ID	Description										
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 7	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.59E-01	5.14E-01	5.14E-01	2.53E-01	5.31E-02	30.4	727	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 8	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.12E-01	5.14E-01	5.14E-01	2.06E-01	5.31E-02	23.9	727	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 9	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.10E-01	5.14E-01	5.14E-01	2.05E-01	5.31E-02	24.4	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 10	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	2.01E-01	5.14E-01	5.14E-01	1.96E-01	5.31E-02	24.2	727	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 11	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	1.96E-01	5.14E-01	5.14E-01	1.91E-01	5.31E-02	23.7	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 12	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	1.85E-01	5.14E-01	5.14E-01	1.80E-01	5.31E-02	23.0	728	24.4	2.74

Scenario	Source		Period[9]	NO_x Emission Rate (g/s)	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	CO Emission Rate (g/s)	SO_2 Emission Rate (g/s)	Stack Velocity (m/s)	Stack Temperature (K)	Stack Height (m)	Stack Diameter (m)
	ID	Description										
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 13	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	1.76E-01	5.14E-01	5.14E-01	1.72E-01	5.31E-02	21.6	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
SUSD	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ST	1.35E+00	7.76E-01	7.76E-01	5.69E+00	5.25E-02	21.6	727	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	1.68E-04	2.94E-03	5.44E-06	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		8.82E-03	4.23E-03	4.23E-03	3.26E-02	1.41E-03	5.7	533	4.6	0.61
Case 5 annual	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ANN	1.19E-01	2.01E-01	-[10]	-[10]	-[10]	33.4	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	-[10]	-[10]	-[10]	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		2.82E-03	1.35E-03	-[10]	-[10]	-[10]	5.7	533	4.6	0.61
Case 12 annual	TURB1-TURB6	LM2500 G4 DLE Gas Turbine	ANN	1.19E-01	2.01E-01	-[10]	-[10]	-[10]	23.0	728	24.4	2.74
	FWP	Fire Water Pump		3.36E-03	1.68E-04	-[10]	-[10]	-[10]	55.2	870	4.3	0.15
	FGH	Fuel Gas Heater		2.82E-03	1.35E-03	-[10]	-[10]	-[10]	5.7	533	4.6	0.61

[10] No annual standard for CO, SO_2 and PM_{10}

ATTACHMENT 2 – NEARBY SOURCE EMISSIONS AND STACK PARAMETERS

Source ID	Source Description	Source Type	NAD83, UTM Zone 13N		Base Elevation (m)	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	Stack Velocity (m/s)	Stack Temperature (K)	Stack Height (m)	Stack Diameter (m)
			Easting (m)	Northing (m)							
001	WASTE MANAGEMENT - DENVER ARAPAHOE DISPO- LOWRY LANDFILL FLARE	POINT	525046	4389404	1759	1.67E-01	1.67E-01	3.5	904	7.6	3.02
002	WASTE MANAGEMENT - DENVER ARAPAHOE DISPO- 4 CATERPILLAR ENGINES	POINT	525358	4389347	1759	2.69E-01	2.69E-01	25.6	621	8.8	0.39
003	WASTE MANAGEMENT - DENVER ARAPAHOE DISPO- UTILITY FLARE UTFL-001	POINT	525056	4389409	1759	4.29E-02	4.29E-02	165.5	1366	5.8	0.15

Source ID	Source Description	Source Type	NAD83, UTM Zone 13N		Base Elevation (m)	$PM_{2.5}$ Emission Rate (g/m^2*s)	PM_{10} Emission Rate (g/m^2*s)	X Length (m)	Y Length (m)	Sigma Z (m)	Release Height (m)
			Easting (m)	Northing (m)							
000	WASTE MANAGEMENT - DENVER ARAPAHOE DISPO-FUGITIVE EMISSIONS	AREA	524868	4388154	1759	2.53E-06	2.70E-06	2259	2213	3.0	2.0
004	WASTE MANAGEMENT - DENVER ARAPAHOE - COMPOSTING OPERATION	AREA	526246	4389380	1759	3.34E-06	2.19E-05	100	100	3.0	2.0

ATTACHMENT 3 - BPIP INPUTS

Building ID	Description	Height (m)	Diameter (m)	Source
BLD1	Air Compressor Enclosure	4.1	-	Client Provided
BLD2	Air Compressor Enclosure	4.1	-	Client Provided
BLD3	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD4	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD5	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD6	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD7	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD8	Ammonia Vaporizing/Injection Skid	3.0	-	Client Provided
BLD9	Ammonia Unloading, Storage and Forwarding Skid	3.0	-	Client Provided
BLD10	Ammonia Unloading, Storage and Forwarding Skid	3.0	-	Client Provided
BLD11	Building Transformer	2.4	-	Client Provided
BLD12	CEMS	2.9	-	Client Provided
BLD13	CEMS	2.9	-	Client Provided
BLD14	CEMS	2.9	-	Client Provided
BLD15	CEMS	2.9	-	Client Provided
BLD16	CEMS	2.9	-	Client Provided
BLD17	CEMS	2.9	-	Client Provided
BLD18	Fuel Gas Chromatograph	3.0	-	Client Provided
BLD19	Fuel Gas Chromatograph	3.0	-	Client Provided
BLD20	Control House Module	3.8	-	Client Provided
BLD21	Control House Module	3.8	-	Client Provided
BLD22	Control House Module	3.8	-	Client Provided
BLD23	Control House Module	3.8	-	Client Provided
BLD24	Control House Module	3.8	-	Client Provided
BLD25	Control House Module	3.8	-	Client Provided
BLD26	Control Trailer	4.6	-	Client Provided
BLD27	Dry-Type Transformers & Panel boards	3.0	-	Client Provided
BLD28	Fuel Gas Conditioning Skid	3.7	-	Client Provided
BLD29	Fuel Gas Heater Control Panel	3.0	-	Client Provided
BLD30	Fire Water Pump Skid/Enclosure	3.8	-	Client Provided
BLD31	Fire Water/Service Water Tank	9.8	9.9	Client Provided
BLD32 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD32 (tier 2)	Ductwork	8.2	-	Client Provided
BLD33 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD33 (tier 2)	Ductwork	8.2	-	Client Provided
BLD34 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD34 (tier 2)	Ductwork	8.2	-	Client Provided

Building ID	Description	Height (m)	Diameter (m)	Source
BLD35 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD35 (tier 2)	Ductwork	8.2	-	Client Provided
BLD36 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD36 (tier 2)	Ductwork	8.2	-	Client Provided
BLD37 (tier 1)	Combustion Turbine-Generator Skid	4.1	-	Client Provided
BLD37 (tier 2)	Ductwork	8.2	-	Client Provided
BLD38	Grounding Transformer	2.4	-	Client Provided
BLD39	Grounding Transformer	2.4	-	Client Provided
BLD40	Grounding Transformer	2.4	-	Client Provided
BLD41	Grounding Transformer	2.4	-	Client Provided
BLD42	Grounding Transformer	2.4	-	Client Provided
BLD43	Grounding Transformer	2.4	-	Client Provided
BLD44	GSU and SST Transformers	6.1	-	Client Provided
BLD45	GSU and SST Transformers	6.1	-	Client Provided
BLD46	GSU and SST Transformers	6.1	-	Client Provided
BLD47	GSU and SST Transformers	6.1	-	Client Provided
BLD48	GSU and SST Transformers	6.1	-	Client Provided
BLD49	GSU and SST Transformers	6.1	-	Client Provided
BLD50	Guard Shack	3.7	-	Client Provided
BLD51	High Voltage Disconnect	6.1	-	Client Provided
BLD52	High Voltage Disconnect	6.1	-	Client Provided
BLD53	High Voltage Disconnect	6.1	-	Client Provided
BLD54	High Voltage Disconnect	6.1	-	Client Provided
BLD55	High Voltage Disconnect	6.1	-	Client Provided
BLD56	High Voltage Disconnect	6.1	-	Client Provided
BLD57	SCR	9.9	-	Client Provided
BLD58	SCR	9.9	-	Client Provided
BLD59	SCR	9.9	-	Client Provided
BLD60	SCR	9.9	-	Client Provided
BLD61	SCR	9.9	-	Client Provided
BLD62	SCR	9.9	-	Client Provided
BLD63	SUS Transformer	3.0	-	Client Provided
BLD64	Secondary Unit Substations	2.6	-	Client Provided
BLD65	Tempering Air Fan	2.4	-	Client Provided
BLD66	Tempering Air Fan	2.4	-	Client Provided
BLD67	Tempering Air Fan	2.4	-	Client Provided
BLD68	Tempering Air Fan	2.4	-	Client Provided
BLD69	Tempering Air Fan	2.4	-	Client Provided
BLD70	Tempering Air Fan	2.4	-	Client Provided

Note: "—" indicates diameter is not applicable for the building

ATTACHMENT 4 – NO_2 TEMPORAL BACKGROUND VALUES

1-hr NO_2 Concentration – La Casa (ppb)				
	Winter	Spring	Summer	Fall
	January–February 2021; January–February 2022; January–February 2023; December 2020-2022[a]	March-May 2021; March-May 2022; March-May 2023	June-August 2021; June-August 2022; June-August 2023	September – November 2021; September – November 2022; September – November 2023
Hour Beginning	3rd[b] High (Multiyear average of the 98th percentile by season and hour of day)			
0	46.5	38.9	18.6	37.1
1	46.3	36.7	18.3	36.4
2	46.4	37.1	19.1	36.4
3	44.2	38.2	18.1	36.3
4	44.1	41.0	20.8	36.5
5	45.9	42.8	28.6	36.8
6	48.8	42.1	29.7	38.6
7	49.4	38.0	30.5	39.5
8	51.2	34.5	27.6	36.9
9	51.4	28.2	26.9	35.1
10	47.7	22.9	21.3	30.9
11	44.1	19.7	14.1	28.4
12	36.3	17.9	11.0	25.6
13	40.3	18.7	9.6	23.6
14	46.0	15.6	11.4	23.4
15	43.8	17.2	12.2	27.1
16	51.0	18.7	12.9	37.8
17	53.6	25.2	12.6	45.3
18	52.5	38.7	17.4	45.1
19	51.5	40.9	27.7	43.7
20	50.9	39.4	27.2	42.3
21	50.8	40.8	27.0	41.7
22	50.8	41.1	27.0	41.7
23	48.6	39.0	23.4	39.8

** La Casa NO2 Profile 2021-2023

SO BACKGRND SEASHR 46.5 46.3 46.4 44.2 44.1 45.9 48.8 49.4 51.2 51.4 47.7 44.1 36.3 40.3 46 43.8 51 53.6 52.5 51.5 50.9 50.8 50.8 48.6

SO BACKGRND SEASHR 38.9 36.7 37.1 38.2 41 42.8 42.1 38 34.5 28.2 22.9 19.7 17.9 18.7 15.6 17.2 18.7 25.2 38.7 40.9 39.4 40.8 41.1 39

SO BACKGRND SEASHR 18.6 18.3 19.1 18.1 20.8 28.6 29.7 30.5 27.6 26.9 21.3 14.1 11 9.6 11.4 12.2 12.9 12.6 17.4 27.7 27.2 27 27 23.4

SO BACKGRND SEASHR 37.1 36.4 36.4 36.3 36.5 36.8 38.6 39.5 36.9 35.1 30.9 28.4 25.6 23.6 23.4 27.1 37.8 45.3 45.1 43.7 42.3 41.7 41.7 39.8

[a] As of profile development (June 2024) no data is reported for December 2023. Substituted with December 2020 (Profile technically runs Dec 2020-Nov 2023)

[b] The use of 3rd High to represent the 98th percentile is based on EPA's guidance in the 2011 NO2 memo and assumes each season-hour sample set is approximately of size 91. For those season-hours where the sample size for this monitor differed significantly from the assumed size of 90-92 records for a complete dataset, the 2nd High or 1st High was used for that season-hour to represent the 98th percentile rather than the 3rd High.

ATTACHMENT 5 – FULL MODELING RESULTS

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 1	1-hour SIL	NO_2	7.5	-	7.5	-
Case 2	1-hour SIL	NO_2	7.5	-	7.5	-
Case 3	1-hour SIL	NO_2	7.5	-	7.5	-
Case 4	1-hour SIL	NO_2	7.5	-	7.5	-
Case 5	1-hour SIL	NO_2	7.5	-	7.5	-
Case 6	1-hour SIL	NO_2	7.5	-	7.5	-
Case 7	1-hour SIL	NO_2	7.5	-	7.5	-
Case 8	1-hour SIL	NO_2	7.5	-	7.5	-
Case 9	1-hour SIL	NO_2	7.5	-	7.5	-
Case 10	1-hour SIL	NO_2	7.5	-	7.5	-
Case 11	1-hour SIL	NO_2	7.5	-	7.5	-
Case 12	1-hour SIL	NO_2	7.5	-	7.5	-
Case 13	1-hour SIL	NO_2	7.5	-	7.5	-
SUSD	1-hour SIL	NO_2	7.5	-	23.7	-
Case 1	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 2	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 3	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 4	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 5	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 6	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 7	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 8	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 9	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 10	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 11	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 12	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 13	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
SUSD	1-hour NAAQS	NO_2	188	-[a]	103.0	103.0
Case 5 annual	Annual SIL	NO_2	1	-	0.2	-
Case 12 annual	Annual SIL	NO_2	1	-	0.2	-
Case 1	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 2	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 3	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 4	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 5	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 6	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 7	24-hour SIL	$PM_{2.5}$	1.2	-	2.1	-
Case 8	24-hour SIL	$PM_{2.5}$	1.2	-	2.7	-
Case 9	24-hour SIL	$PM_{2.5}$	1.2	-	2.6	-
Case 10	24-hour SIL	$PM_{2.5}$	1.2	-	2.6	-
Case 11	24-hour SIL	$PM_{2.5}$	1.2	-	2.7	-
Case 12	24-hour SIL	$PM_{2.5}$	1.2	-	2.8	-
Case 13	24-hour SIL	$PM_{2.5}$	1.2	-	3.1	-
SUSD	24-hour SIL	$PM_{2.5}$	1.2	-	4.6	-
Case 1	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 2	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 3	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 4	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 5	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 6	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 7	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 8	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 9	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 10	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 11	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 12	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
Case 13	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.3	16.9
SUSD	24-hour NAAQS	$PM_{2.5}$	35	15.6	1.4	17.0
Case 5 annual	Annual SIL	$PM_{2.5}$	0.13	-	0.09	-
Case 12 annual	Annual SIL	$PM_{2.5}$	0.13	-	0.10	-
Case 1	24-hour SIL	PM_{10}	5	-	2.1	-
Case 2	24-hour SIL	PM_{10}	5	-	2.1	-
Case 3	24-hour SIL	PM_{10}	5	-	2.1	-
Case 4	24-hour SIL	PM_{10}	5	-	2.1	-
Case 5	24-hour SIL	PM_{10}	5	-	2.1	-
Case 6	24-hour SIL	PM_{10}	5	-	2.1	-
Case 7	24-hour SIL	PM_{10}	5	-	2.1	-
Case 8	24-hour SIL	PM_{10}	5	-	2.7	-
Case 9	24-hour SIL	PM_{10}	5	-	2.6	-
Case 10	24-hour SIL	PM_{10}	5	-	2.6	-
Case 11	24-hour SIL	PM_{10}	5	-	2.7	-

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 12	24-hour SIL	PM_{10}	5	-	2.8	-
Case 13	24-hour SIL	PM_{10}	5	-	3.1	-
SUSD	24-hour SIL	PM_{10}	5	-	4.6	-
Case 1	1-hour SIL	CO	2000	-	30.7	-
Case 2	1-hour SIL	CO	2000	-	30.7	-
Case 3	1-hour SIL	CO	2000	-	30.7	-
Case 4	1-hour SIL	CO	2000	-	30.7	-
Case 5	1-hour SIL	CO	2000	-	30.7	-
Case 6	1-hour SIL	CO	2000	-	30.7	-
Case 7	1-hour SIL	CO	2000	-	30.7	-
Case 8	1-hour SIL	CO	2000	-	30.7	-
Case 9	1-hour SIL	CO	2000	-	30.7	-
Case 10	1-hour SIL	CO	2000	-	30.7	-
Case 11	1-hour SIL	CO	2000	-	30.7	-
Case 12	1-hour SIL	CO	2000	-	30.7	-
Case 13	1-hour SIL	CO	2000	-	30.7	-
SUSD	1-hour SIL	CO	2000	-	111.2	-
Case 1	8-hour SIL	CO	500	-	25.6	-
Case 2	8-hour SIL	CO	500	-	25.6	-
Case 3	8-hour SIL	CO	500	-	25.6	-
Case 4	8-hour SIL	CO	500	-	25.6	-
Case 5	8-hour SIL	CO	500	-	25.6	-
Case 6	8-hour SIL	CO	500	-	25.6	-
Case 7	8-hour SIL	CO	500	-	25.6	-

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 8	8-hour SIL	CO	500	-	25.6	-
Case 9	8-hour SIL	CO	500	-	25.6	-
Case 10	8-hour SIL	CO	500	-	25.6	-
Case 11	8-hour SIL	CO	500	-	25.6	-
Case 12	8-hour SIL	CO	500	-	25.6	-
Case 13	8-hour SIL	CO	500	-	25.6	-
SUSD	8-hour SIL	CO	500	-	57.3	-
Case 1	1-hour SIL	SO_2	7.8	-	1.3	-
Case 2	1-hour SIL	SO_2	7.8	-	1.3	-
Case 3	1-hour SIL	SO_2	7.8	-	1.3	-
Case 4	1-hour SIL	SO_2	7.8	-	1.3	-
Case 5	1-hour SIL	SO_2	7.8	-	1.3	-
Case 6	1-hour SIL	SO_2	7.8	-	1.3	-
Case 7	1-hour SIL	SO_2	7.8	-	1.3	-
Case 8	1-hour SIL	SO_2	7.8	-	1.3	-
Case 9	1-hour SIL	SO_2	7.8	-	1.3	-
Case 10	1-hour SIL	SO_2	7.8	-	1.3	-
Case 11	1-hour SIL	SO_2	7.8	-	1.3	-
Case 12	1-hour SIL	SO_2	7.8	-	1.3	-
Case 13	1-hour SIL	SO_2	7.8	-	1.3	-
SUSD	1-hour SIL	SO_2	7.8	-	1.3	-
Case 1	3-hour SIL	SO_2	25	-	1.3	-
Case 2	3-hour SIL	SO_2	25	-	1.3	-
Case 3	3-hour SIL	SO_2	25	-	1.3	-

Scenario	Modeling Runs	Pollutant	Threshold or Standard (µg/m³)	Background Value (µg/m³)	Model Predicted Concentration (µg/m³)	Cumulative Impact (µg/m³)
Case 4	3-hour SIL	SO_2	25	-	1.3	-
Case 5	3-hour SIL	SO_2	25	-	1.3	-
Case 6	3-hour SIL	SO_2	25	-	1.3	-
Case 7	3-hour SIL	SO_2	25	-	1.3	-
Case 8	3-hour SIL	SO_2	25	-	1.3	-
Case 9	3-hour SIL	SO_2	25	-	1.3	-
Case 10	3-hour SIL	SO_2	25	-	1.3	-
Case 11	3-hour SIL	SO_2	25	-	1.3	-
Case 12	3-hour SIL	SO_2	25	-	1.3	-
Case 13	3-hour SIL	SO_2	25	-	1.3	-
SUSD	3-hour SIL	SO_2	25	-	1.3	-

[a] Temporal background NO_2 was used in the NAAQS modeling for 1-hour NO_2.