



CD8 Project

Cumulative Ambient Air Quality Impact Assessment Supplemental Modeling at Nuiqsut

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Figure 2-1 Full Modeling Domain and Receptor Grid (UTM Zone 5, NAD83)

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1.0 Introduction

This document presents the methodologies and results of a cumulative ambient air quality impact assessment (AQIA) supplemental modeling conducted for the ConocoPhillips Alaska, Inc. (CPAI) CD8 Project to quantify potential pollutant concentrations in the community of Nuiqsut. This analysis evaluated the predicted short-term concentrations of NO₂ and PM₁₀, and predicted short-term and annual concentrations of PM_{2.5} from emissions during several scenarios throughout the CD8 Project lifecycle.

2.0 Project Information and Description of the Technical Approach

This AQIA involved the execution of a steady-state dispersion model to predict pollutant concentrations in ambient air based on stack parameters, emissions, and structures representative of CD8 sources. Unless otherwise noted, the AQIA adheres to guidelines and methodologies articulated in the following documents and require no further justification:

- Guideline on Air Quality Models [published as 40 CFR 51, Appendix W] (USEPA 2024).
- Alaska Department of Environmental Conservation (ADEC) Modeling Review Procedures Manual (ADEC 2018).

Standard modeling approaches are described in **Table 2-1**.

Table 2-1 Modeling Approach

Element	Remarks
1. Approach	
Modeled Scenario Description	The following three scenarios were modeled based on the CD-8 Project Technical Support Document (TSD) Emissions Inventory (EI) Workbook (USACE 2026): • Construction and Drilling - Year 1 Month 11 through Year 2 Month 10 • Routine Operations and Drilling - Years 3 through 5 • Routine Operations – Years 8 through 30 The construction and drilling scenario was shifted 2 months earlier in time to be consistent with the ice road season and so that the emissions modeled for that scenario would be different from those modeled for the Routine Operations and Drilling Scenario.
1.1 Model Selection	
Model Source Code	• AERMOD version 24142 • AERMET version 24142 • AERMAP version 24142
Model Source Code Modifications	All codes were used without modification.
Alternative Modeling Techniques	Alternative modeling techniques were not used.
Model Options	All modeling options were set to default settings.

Element	Remarks
1.2 Modeling Domain	
Modeling Domain Description	The modeling domain was set to cover the community of Nuiqsut. Receptor grid details are provided under Section 1.11 Receptor Grid of this table.
1.3 Meteorological Data	
Description of Meteorological Data and Data Processing	This analysis relied on data considered site-specific data as described in Section 8.4.4 of the Guideline on Air Quality Models. Because of the proximity of CD8 to Nuiqsut, this data is representative of plume transport conditions in the CD8 project area. That data set was built from the following: • Approved site-specific, PSD-quality surface data collected at the Nuiqsut monitoring site located in Nuiqsut, Alaska during calendar years 2016, 2017, 2019, 2020, and 2021. • National Weather Service (NWS) upper air data collected near Utqiagvik, Alaska which is the nearest upper air station. AERMET was processed following the procedures specified in the ADEC Modeling Review Procedures Manual. Surface based inputs utilized in Stage 2 AERMET processing were standard North Slope seasonal and surface characteristic assignments specified in the ADEC Modeling Review Procedures Manual.
1.4 Coordinate System	
Coordinate System Used	Universal Transverse Mercator (UTM) Zone 5, NAD83.
1.5 Land Use Analysis	
Surrounding Land Use	Surrounding land use is rural.
Land Use Classification Methodology	Auer land classification procedure recommended in the Guideline on Air Quality Models, Section 7.2.1.1(b)(i).
1.6 Terrain	
Handling of Terrain	The modeling domain includes only simple terrain. Each receptor was assigned an elevation referenced to sea level. Receptor elevation determination and processing is described in Element 1.11 Receptor Grid of this table. Building and source base elevations were set to 1.52 meters (5 feet) above the average terrain at the CD8 project location because they are located on a typical elevated gravel pad.
1.7 Emissions Unit (EU) Inventory	
Characterization of Project Sources	The analysis focuses on a domain located 3.4 kilometers from the CD8 Project. Given this distance, consolidating all sources into two representative sources is both appropriate and conservative. One source reflects release characteristics typical of heaters and boilers, while the other represents a reciprocating engine.

Element	Remarks
1.8 EU Release Parameters	
Description of Modeled Source Types	CD8-related NO_x emissions for each modeled scenario were represented using two point-source types, consistent with the fact that all NO_x is released as a product of combustion through exhaust stacks. Modeling combustion sources as point sources represents the plume rise generated by the difference between the ambient temperature and the exhaust temperature and exit velocity of combustion exhaust. CD8 Project-related PM₁₀ and PM_{2.5} emissions for each modeled scenario were appropriately represented as a volume source, because they arise from both combustion and fugitive processes. For consistency, distant nearby sources were modeled in a similar method to the CD8 Project: point sources for NO₂ and volume sources for PM₁₀ and PM_{2.5}.
Project Modeled Stack Parameters are Described	See Table 2-2 and Table 2-3 and associated footnotes.
Project Modeled Emission Rates are Described	A list of modeled emission rates and their bases are found in Table 2-4 and Table 2-5 .
1.9 Pollutant Specific Modeling Issues	
NO ₂ Modeling – Description of NO _x to NO ₂ Chemical Transformation Technique used	The Tier 2 Ambient Ratio Method (ARM) was used by specifying the ARM2 keyword in AERMOD. The default upper and lower ambient ratio limits of 0.9 and 0.5, respectively, were used.
1.10 Building Downwash	
Description of How Building Downwash was Accounted For	Building downwash was evaluated for all point sources. Each source was modeled at the center of a circular building footprint sized to represent typical drill-site structures. This approach allowed realistic downwash effects to be modeled while avoiding geometric configurations that would not meaningfully affect concentrations in the domain. Structure heights were set 1 meter below the stack height, and the structure diameter was set to 10 meters.
1.11 Receptor Grid	
Description of the Modeled Receptor Grid	The modeling domain included a 1-kilometer by 1-kilometer cartesian receptor grid with receptors placed every 100 meters. The grid was centered on the community of Nuiqsut to predict concentration gradients across the community.

Element	Remarks
Description of How Modeled Receptor Elevations were Determined	The current version of AERMAP was used to assign an elevation and hill height scale to each receptor. AERMAP relied on the United States Geological Service (USGS) 1/3 arc-second digital elevation model with a domain that extended roughly 10 kilometers beyond the extent of receptor grid in each direction. Facility building and source base elevations were set to 7.3 meters which is 1.52 meters (5 feet) above the average terrain at the CD8 Project location.
Scaled Map Depicting Receptors	See Figure 2-1 .
1.12 Offsite Source Contributions	
Description of How Offsite [Nearby] Sources were Accounted for in the Analysis	The CD8 Project is located in a remote region of Alaska with very few emission sources that meet the definition of Nearby Sources under 40 CFR 51 Appendix W § 8.3.1(a)(i). The proposed Nanushuk Drill Site 3 (DS3, also known as ND-C) is approximately 7 kilometers from CD8 and is likely too distant to qualify as a Nearby Source. However, since it has not yet been constructed and therefore is not represented in ambient monitoring data, Nanushuk DS3 was explicitly modeled. All other offsite sources are adequately represented in the ambient air quality measurements.
Description of Modeled Offsite Source Parameters	DS3 emissions were represented as a point or volume sources consistent with CD8 Project sources as previously described. DS3 emissions were based on the values disclosed in the air quality authorization to construct Nanushuk Drillsite B. This represents the best publicly available information because DS3 has not yet received its own construction permit. Since these emissions were developed to support permitting, they reflect potential emissions and are certainly higher than the actual emissions that will occur once the source is operational. See Table 2-2, Table 2-3, and Table 2-5 for modeled source parameters and emission rates.
Description of Ambient Monitoring Data Demonstrating it is Representative and meets Applicable Quality Assurance Requirements	Representative ambient background concentrations utilized were obtained from five years of recent data collected at the Nuiqsut monitoring site from calendar years 2021 through 2025. This dataset meets USEPA PSD-quality requirements for data capture and is often used for regulatory applications. The background concentrations are intended to represent contributions from non-modeled sources. Because the CD8 Project is located near Nuiqsut, background concentrations measured in Nuiqsut are generally representative of background conditions at CD8. Many of the elevated NO₂ concentrations observed at the Nuiqsut monitor are influenced by sources of NO₂ within the community, due to the monitor's proximity to those sources. For instance, the 98th percentile of all maximum daily 1-hour NO₂ concentrations measured from 2021 through 2025 is 39 µg/m³ when winds originate from the north through

Element	Remarks
	southeast. The corresponding value increases to 54 µg/m ³ when winds come from the direction of the community (southeast through north). For this reason, when predicting NO ₂ cumulative concentrations, background concentrations were applied by sector. This was not done when predicting particulate concentrations as the sources of background particulate concentrations are more diverse and distributed.
Listing of Background Concentrations used to Represent Non-Modeled Sources	See Table 2-6 .
1.13 Post-Processing	
Description of Post-Processing	No post-processing was conducted.

Table 2-2 NO₂ Modeled Source Parameters

AERMOD ID	Stack Exit Config.	AERMOD Source Type	Stack Location (UTM Zone 5, NAD 83)			Modeled Stack Parameters ¹				
			Easting (m)	Northing (m)	Base Elev. (m)	Release Height (m)	Exit Temp (K)	Exit Velocity (m/s)	Stack Dia (m)	Notes
CD8 Stationary Source Emission Unit										
CD8_H	VERTICAL	POINT	579,216	7,793,231	7.30	11.9	450	11.7	0.279	(a), (c)
CD8_E	VERTICAL	POINT	579,216	7,793,231	7.30	6.5	761	47	0.3	(b), (c)
Modeled Nearby Source										
DS3	VERTICAL	POINT	585,000	7,797,000	9.44	6.5	761	47	0.3	(b), (d)

1. Stack parameters are based on the following:

- (a) CD8_H represents modeling emissions through a typical heater or boiler. Stack parameters taken from the Willow Final SEIS, Alternative B Scenario 3 – BT1/BT2 PreDrill. Specifically modeled source ID 1DRILLB1A - Drill Rigs - Boiler #1 A. For details refer to Willow Final SEIS Vol 11c_App E.3B.2 – Air Quality Technical Support Document Attachments A, Table A.1-7 and Table A.1-8. The source in-stack ratio is document as 0.05 though it has not been used in the modeling.
- (b) CD8_E and DS3 represents modeling emissions through a typical support engine. Stack parameters taken from the Willow Final SEIS, Alternative B Scenario 3 – BT1/BT2 PreDrill. Specifically modeled source ID 1DRILLNMTEA - Drilling Non-Mobile Support Equipment - Total Engine A. For details refer to Willow Final SEIS Vol 11c_App E.3B.2 – Air Quality Technical Support Document Attachments A, Table A.1-7 and Table A.1-8. The source in-stack ratio is documented as 0.1 though this has not been used in the modeling.
- (c) Elevation at the existing CD8 location is 5.78 meters as determined using AERMAP. The finished CD8 pad is expected to be an average of 5 feet (1.524 meters) above the existing terrain.
- (d) Elevation at the DS3 location determined using Google Earth at the time of the submittal is 7.92 meters (26 feet). It is expected that the finished DS3 pad will be 5 feet (1.524 meters) above the existing terrain.

Table 2-3 PM₁₀ and PM_{2.5} Modeled Source Parameters

AERMOD ID	Stack Exit Config.	AERMOD Source Type	Stack Location (UTM Zone 5, NAD 83)			Modeled Stack Parameters ¹			
			Easting (m)	Northing (m)	Base Elev. (m)	Release Height (m)	Initial Horizontal Dimension, σ_y (m)	Initial Horizontal Dimension, σ_z (m)	Notes
CD8 Stationary Source Emission Unit									
CD8_H	N/A	VOLUME	579,216	7,793,231	7.30	15	23.3	7.0	(a), (c), (d)
CD8_E	N/A	VOLUME	579,216	7,793,231	7.30	15	23.3	7.0	(b), (c), (d)
Modeled Nearby Source									
DS3	N/A	VOLUME	585,000	7,797,000	9.44	15	23.3	7.0	(c), (e)

1. Stack parameters are based on the following:

- (a) CD8_H represents modeling emissions through a typical heater or boiler.
- (b) CD8_E represents modeling emissions through a typical support engine.
- (c) Volume source dimensions were derived using the same methodology applied to far-field nearby sources in the dispersion modeling supporting the Willow Operations Center (WOC) and Willow Central Facility (WCF) authorizations to construct. The basis for this approach is documented in the modeling memorandum contained within the Technical Analysis Report for the following permits:
 - a. WOC: AQ1806MSS01P
(https://dec.alaska.gov/Applications/Air/airtoolsweb/Home/ViewAttachment/17157993/MzdS4RyX6Nj2X_zq0hhAWg2)
 - b. WCF: AQ1859MSS01P
(<https://dec.alaska.gov/Applications/Air/airtoolsweb/Home/ViewAttachment/17208607/2t9fXw6QfVLWzZXvKSJjHw2>)
- (d) Elevation at the existing CD8 location is 5.78 meters as determined using AERMAP. The finished CD8 pad is expected to be an average of 5 feet (1.524 meters) above the existing terrain.
- (e) Elevation at the DS3 location determined using Google Earth at the time of the submittal is 7.92 meters (26 feet). It is expected that the finished DS3 pad will be 5 feet (1.524 meters) above the existing terrain.

Table 2-4 Modeled Emission Rates – CD8

AERMOD ID	NO ₂		PM ₁₀		PM _{2.5}		Basis for g/s Emission Rate ¹
	(tpm)	(g/s)	(tpm)	(g/s)	(tpm)	(g/s)	
Construction and Drilling - Year 1 month 11 through Year 2 month 10 from the TSD EI Workbook							
CD8_H	14.1	1.21	0.790	0.0681	0.646	0.0558	25% of the maximum ton per month (tpm) emissions over the designated period.
CD8_E		3.64		0.204		0.167	75% of the maximum tpm emissions over the designated period.
Routine Operations and Drilling - Years 3 through 5 from the TSD EI Workbook							
CD8_H	14.6	1.26	0.828	0.0715	0.683	0.0589	25% of the maximum tpm emissions over the designated period.
CD8_E		3.79		0.214		0.177	75% of the maximum tpm emissions over the designated period.
Routine Operations - Years 8 through 30 from the TSD EI Workbook							
CD8_H	1.36	0.117	0.257	0.0221	0.121	0.0105	25% of the maximum tpm emissions over the designated period.
CD8_E		0.352		0.0664		0.0314	75% of the maximum tpm emissions over the designated period.

¹ Aggregate emissions were apportioned between the representative heater stack and the representative engine stack to conservatively reflect the distribution of sources characterized in the emissions inventory. In typical operating scenarios, approximately 80% of total emissions are attributable to engines, while the remaining 20% originate from heaters. For modeling purposes, a greater fraction of emissions was intentionally reassigned to the heater stack due to its lower exhaust temperature and exit velocity, conditions that generally produce higher ground-level concentrations. This redistribution ensures that the analysis captures a more conservative and broadly representative range of potential operating profiles.

Table 2-5 Modeled Emission Rates – Nearby Source – All Scenarios

AERMOD ID	NO ₂		PM ₁₀		PM _{2.5}		Basis for g/s Emission Rate
	(TPY)	(g/s)	(TPY)	(g/s)	(TPY)	(g/s)	
Construction and Drilling; Routine Operations and Drilling							
DS3	172	4.94	15.6	0.449	15.6	0.449	Ton per year (TPY) total stationary source potential to emit emissions from Table A-1, Technical Analysis Report for Minor Permit AQ1564MSS03 (Nanushuk Drillsite B).
Routine Operations							
DS3	131	3.76	7.9	0.228	7.9	0.228	TPY emissions from Table A-1, Technical Analysis Report for Minor Permit AQ1564MSS03 (Nanushuk Drillsite B) limited only to those emission units that are permanent (emission unit identification nos. 1 through 12).

Table 2-6 Ambient Background Concentrations in Nuiqsut

Pollutant	Averaging Period	Values Calculated for Comparison to the NAAQS/AAQs and Reported in Annual Reports from the Nuiqsut Ambient Air Quality Monitoring Program (µg/m ³)					Value for Cumulative Modeling (µg/m ³)
		2021	2022	2023	2024	2025	
NO ₂	1-hour	53.0	48.1	46.3	39.1	58.7	NA
	1-hour (North through Southeast)	29.9	35.9	34.8	28.2	58.7	40.6 ¹
	1-hour (Southeast through North)	53.0	52.5	48.9	53.0	57.7	NA
PM ₁₀	24-hour	70	60	30	60	60	70 ²
PM _{2.5}	24-hour	8	7	8	8	10	9 ¹
	Annual	2.3	2.6	2.6	2.0	4.3	3.0 ¹

¹ Maximum three-year average of the annual data presented.

² Maximum value across all 5 years.

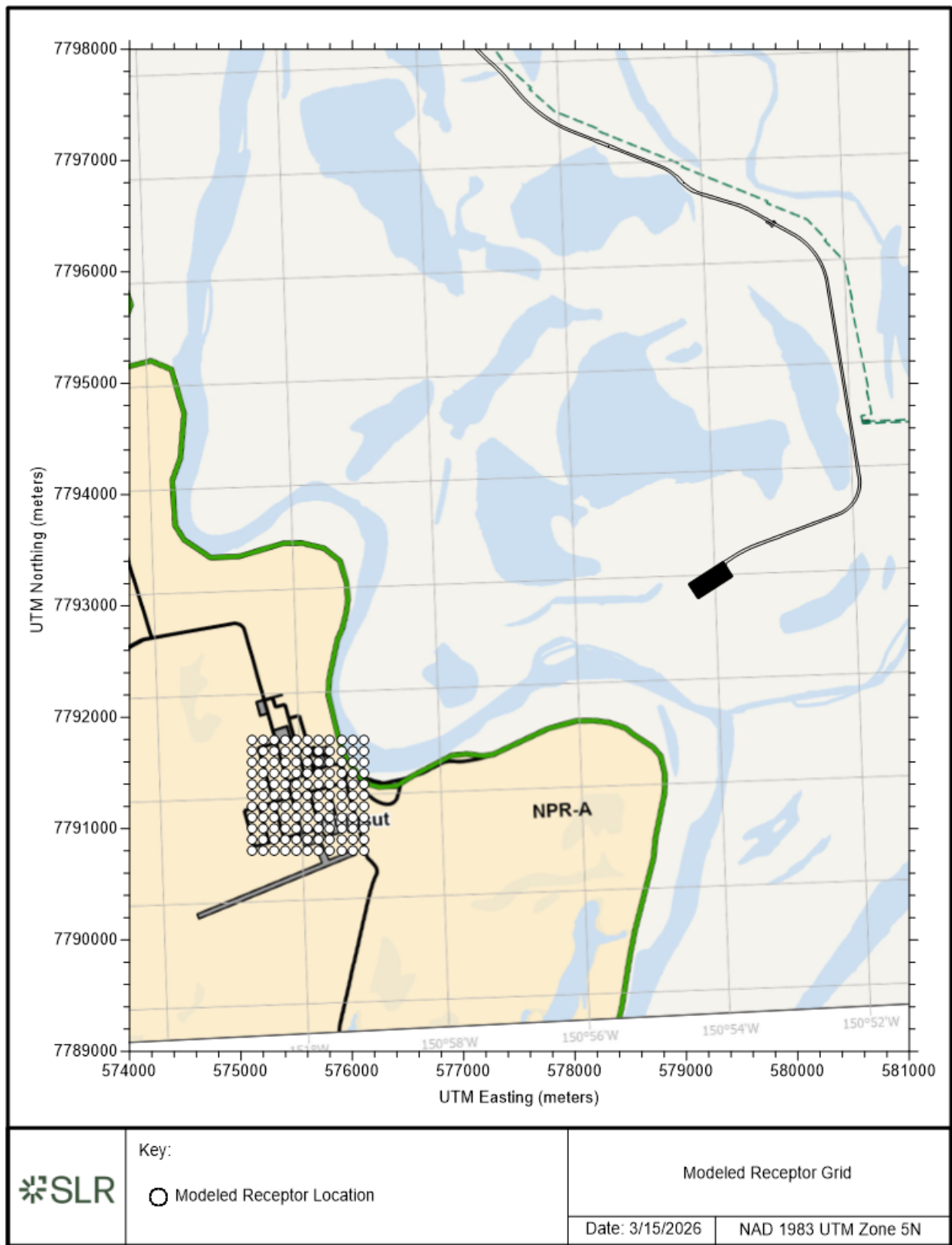


Figure 2-1 Full Modeling Domain and Receptor Grid (UTM Zone 5, NAD83)

3.0 Results and Conclusions

CD8 Project-only concentrations at Nuiqsut for all modeled scenarios are summarized in **Table 3-1**. The highest predicted concentrations occur during the Routine Operations and Drilling scenario, although impacts during Drilling and Construction are comparable. The Drilling and Construction scenario is representative of activities expected to occur for approximately one year. Routine Operations and Drilling is anticipated to occur for three years. Predicted concentrations during Routine Operations are an order of magnitude lower than those from any other scenario. In all cases, modeled concentrations are similar to or below measured background levels and remain well below the NAAQS/AAQS.

Cumulative model-predicted concentrations at Nuiqsut for all modeled scenarios are presented in **Table 3-2**. These concentrations are the summation of a background concentration and the result of CD8 and DS3 source emissions at the location of maximum predicted concentration within the receptor grid in Nuiqsut.

CD8 Project-Only PM₁₀ and PM_{2.5} concentrations predicted for all scenarios are at least an order of magnitude below measured background levels. Consequently, cumulative impacts are expected to be indistinguishable from background throughout the full project lifecycle.

Results are different for predicted 1-hour NO₂ cumulative concentrations primarily because the worst-case modeling approach overemphasizes the improbable pairing of high emissions and worst-case meteorological conditions while treating intermittent operating scenarios as though they were continuous leading to gross overpredictions. Regardless, across all scenarios, CD8 Project-Only 1-hour NO₂ concentrations remain close to background levels, with more distant sources contributing less to concentrations in Nuiqsut. When added to background, total concentrations are approximately half of the NAAQS/AAQS.

Table 3-1 Modeled-Predicted Project-Only Concentrations at Nuiqsut

Pollutant and Averaging Period	Maximum Predicted Design Value Concentration (µg/m³)	% of NAAQS/AAQs	NAAQS/AAQs (µg/m³)
Construction and Drilling			
1-Hour NO ₂	35.9	19.1	188
24-Hour PM ₁₀	1.82	1.21	150
24-Hour PM _{2.5}	0.688	1.96	35
Annual PM _{2.5}	0.0933	1.04	9
Routine Operations and Drilling			
1-Hour NO ₂	37.4	19.9	188
24-Hour PM ₁₀	1.91	1.27	150
24-Hour PM _{2.5}	0.728	2.08	35
Annual PM _{2.5}	0.0988	1.10	9
Routine Operations			
1-Hour NO ₂	3.47	1.85	188
24-Hour PM ₁₀	0.591	0.394	150
24-Hour PM _{2.5}	0.129	0.369	35
Annual PM _{2.5}	0.0176	0.195	9

Table 3-2 Modeled-Predicted Cumulative Concentrations at Nuiqsut

Pollutant and Averaging Period	Max. Predicted Concentration (Design Value) (µg/m³)		Background Concentration (µg/m³)	Cumulative Concentration (Design Value) (µg/m³)	% of NAAQS/ AAAQS	NAAQS/ AAAQS (µg/m³)
	CD8 Only	Nearby Sources				
Construction and Drilling						
1-Hour NO ₂	33.0	17.2	40.6	90.8	48.3	188
24-Hour PM ₁₀	1.84	0.373	70	72	48	150
24-Hour PM _{2.5}	0.716	0.269	9	10	30	35
Annual PM _{2.5}	0.0933	0.0347	3.0	3.1	34	9
Routine Operations and Drilling						
1-Hour NO ₂	34.4	17.2	40.6	92.1	49.0	188
24-Hour PM ₁₀	1.93	0.373	70	72	48	150
24-Hour PM _{2.5}	0.758	0.269	9	10	30	35
Annual PM _{2.5}	0.0988	0.0347	3.0	3.1	34	9
Routine Operations						
1-Hour NO ₂	3.26	12.4	40.6	56.2	29.9	188
24-Hour PM ₁₀	0.471	0.383	70	71	47	150
24-Hour PM _{2.5}	0.128	0.146	9	9	30	35
Annual PM _{2.5}	0.0176	0.0176	3.0	3.0	33	9

4.0 Additional Analysis for Drilling with Highline Power

An additional analysis was conducted for the scenarios described in **Section 3.0** that involve drilling, with minor refinements to the conservative assumptions used to develop the CD8 Emissions Inventory to reflect emissions that align more closely with expected standard operating conditions. The goal of this effort is to disclose emissions that are more representative of the CD8 Project when drilling is occurring to inform USACE's analysis.

Specifically, as described in Section 2.2 of the CD8 TSD EI, drilling operations are planned to be conducted predominantly on highline supplied electrical power generated at the Alpine Central Facility (ACF) throughout the life of the project. This is supplemented by approximately three 1.6-megawatt (MW) diesel-fired reciprocating engines powering generators onboard the drill rig to deal with transient loads or control the rig when highline is lost. The emissions inventory conservatively assumed that these supplemental engines would operate at approximately 25% load (see "Primary Power Operating Load" value in the INPUTS-DRILLING Tab). However, when on highline, a single supplemental engine is expected to operate at less than 10% load for most of the drilling campaign. To reflect this more representative scenario, the "Primary Power Operating Load" value was updated in the INPUTS-DRILLING Tab in the EI from 25% for three drill rig engines, to 3.33% for three drill rig engines (i.e., 10% for one drill rig engine).

This analysis was conducted with the same modeling approach documented in **Table 2-1**, and the same modeled source parameters documented in **Table 2-2** and **Table 2-3**. Emission rates used in the modeling for this highline power analysis are documented in **Table 4-1**. Results are presented in **Table 4-2** and **Table 4-3** in the same way results are presented above in **Section 3.0**, along with the same emission rates for Nearby Sources (Nanushuk DS3) and ambient background concentrations.

As shown, the CD8 Project-only maximum 1-hour NO₂ concentration predicted for the highest-emitting operating scenario—Routine Operations and Drilling—is 20.2 µg/m³. This is a 50% decrease in project predicted concentrations in Nuiqsut. Project particulate emissions, PM₁₀ and PM_{2.5}, are predicted to decrease between 30 and 35% in Nuiqsut.

In all cases, modeled concentrations are similar to or below measured background levels and remain well below the NAAQS/AAQS. Incorporating highline power reduces concentrations further at Nuiqsut for all modeled scenarios.

Table 4-1 Adjusted Modeled Emission Rates – CD8 Highline Drilling

AERMOD ID	NO ₂		PM ₁₀		PM _{2.5}		Basis for g/s Emission Rate ¹
	(tpm)	(g/s)	(tpm)	(g/s)	(tpm)	(g/s)	
Construction and Drilling - Year 1 month 11 through Year 2 month 10							
CD8_H	7.3	0.63	0.580	0.0500	0.437	0.0377	25% of the maximum ton per month (tpm) emissions over the designated period.
CD8_E		1.90		0.150		0.113	75% of the maximum tpm emissions over the designated period.
Routine Operations and Drilling - Years 3 through 5							
CD8_H	7.9	0.68	0.619	0.0534	0.473	0.0408	25% of the maximum tpm emissions over the designated period.
CD8_E		2.05		0.160		0.123	75% of the maximum tpm emissions over the designated period.

¹ Aggregate emissions were apportioned between the representative heater stack and the representative engine stack to conservatively reflect the distribution of sources characterized in the emissions inventory. In typical operating scenarios, approximately 80% of total emissions are attributable to engines, while the remaining 20% originate from heaters. For modeling purposes, a greater fraction of emissions was intentionally reassigned to the heater stack due to its lower exhaust temperature and exit velocity, conditions that generally produce higher ground-level concentrations. This redistribution ensures that the analysis captures a more conservative and broadly representative range of potential operating profiles.

Table 4-2 Model-Predicted Project-Only Concentrations at Nuiqsut – CD8 Highline Drilling

Pollutant and Averaging Period	Maximum Predicted Design Value Concentration (µg/m³)	% of NAAQS/AAQs	NAAQS/AAQs (µg/m³)
Construction and Drilling			
1-Hour NO ₂	18.7	10.0	188
24-Hour PM ₁₀	1.34	0.890	150
24-Hour PM _{2.5}	0.465	1.33	35
Annual PM _{2.5}	0.0631	0.701	9
Routine Operations and Drilling			
1-Hour NO ₂	20.2	10.7	188
24-Hour PM ₁₀	1.43	0.950	150
24-Hour PM _{2.5}	0.505	1.44	35
Annual PM _{2.5}	0.0686	0.762	9

Table 4-3 Model-Predicted Cumulative Concentrations at Nuiqsut – CD8 Highline Drilling

Pollutant and Averaging Period	Max. Predicted Concentration (Design Value) (µg/m³)		Background Concentration (µg/m³)	Cumulative Concentration (Design Value) (µg/m³)	% of NAAQS/ AAAQS	NAAQS/ AAAQS (µg/m³)
	CD8 Only	Nearby Sources				
Construction and Drilling						
1-Hour NO ₂	18.0	15.9	40.6	74.4	39.6	188
24-Hour PM ₁₀	1.06	0.754	70	72	48	150
24-Hour PM _{2.5}	0.473	0.282	9	9	30	35
Annual PM _{2.5}	0.0631	0.0347	3.0	3.1	34	9
Routine Operations and Drilling						
1-Hour NO ₂	21.1	14.3	40.6	75.9	40.4	188
24-Hour PM ₁₀	1.14	0.754	70	72	48	150
24-Hour PM _{2.5}	0.577	0.221	9	9	30	35
Annual PM _{2.5}	0.0686	0.0347	3.0	3.1	34	9

5.0 References

- Alaska Department of Environmental Conservation (ADEC), 2018. Modeling Review Procedures Manual. October 8, 2018.
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