



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: EdgeConneX, Inc.

Facility/Site Name(s): Denver Campus

What type of permit coverage is requested by this application?

- ☒ 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).
☒ 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	☒ The relevant filing fee(s) are being submitted with this application, or were already submitted.
B	☒ This application contains the relevant Air Pollutant Emission Notice(s). (APCD Form Series 200)
C	☒ This application contains relevant emission calculations and supporting documentation.
D	☐ 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	<u>Environmental Justice Documentation</u> ☒ A complete Environmental Justice (EJ) Summary for this project was submitted prior to this application, and was reviewed and verified by the Division. The verification number for this EJ Summary is <u>85951575</u>. ☐ 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 NO_x, 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	<u>Ambient Air Impact Analysis Documentation</u> ☐ 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 <u>reviewed and approved by the Division</u>. (Form APCD-114) * Note that the Form APCD-114 is being submitted concurrently with this application submittal. ☐ 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):

General Permit Monitoring Compliance Documentation	
G	☒ This application is: A) requesting coverage under a traditional construction permit, and/or B) the emission source(s) contained in this application are <u>not</u> 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)

10/31/24

Date

Andrew Brodeur

Name (print)

Vice President of Real Estate

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

CONSTRUCTION PERMIT APPLICATION



**EdgeConneX, Inc. /
Denver Campus**

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October 2024



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1. EXECUTIVE SUMMARY

EdgeConneX, Inc. (EdgeConneX) owns and operates the Denver Campus data center (Denver Campus) in Douglas County which provides data center solutions. The Denver Campus consists of the DEN01 building located at 8535 Highfield Pkwy, Suite 600, Englewood, CO 80112 and the proposed DEN02 building located at 8451 Highfield Pkwy, Englewood CO 80112.

Douglas County is within the boundaries of the Denver Metro-North Front Range (DMNFR) nonattainment area which is currently classified as severe non-attainment for the 8-hour ozone standard and in attainment/unclassified for all criteria pollutants and averaging periods. The Denver Campus is not located within an Air Quality Reg. 3 Disproportionately Impacted (DI) Community.

The Denver Campus is an existing data center that consists of eight diesel-fired emergency generator engines for use during power outages at the DEN01 building. The existing emergency engines at the DEN01 site were previously determined to not trigger APEN or permitting requirements. With this application, EdgeConneX is requesting to add the second DEN02 building to the Denver Campus and install ten new diesel-fired emergency generator engines at the DEN02 building for use during power outages. The DEN02 building is proposed to begin operation in Q4 2025.

Table 1-1 below provides a summary of the proposed facility-wide Potential to Emit (PTE) emissions. Based on the estimated emissions for the project, the Denver Campus project will be a synthetic minor source for the purposes of NNSR and Title V permitting. Detailed emission calculations are further provided in Appendix C.

Table 1-1. EdgeConneX Denver Campus Proposed PTE

Emission Source	Emission Increases ^a (tpy)							
	PM	PM₁₀	PM_{2.5}	SO_x	NO_x	VOC	CO	HAP
DEN01 Engines Emissions	0.022	0.039	0.039	0.004	3.885	0.211	0.217	0.003
DEN02 House Engine Emissions	0.009	0.011	0.011	0.001	0.611	0.029	0.086	0.000
DEN02 Emergency Engines Emissions	0.522	0.597	0.597	0.017	20.129	0.909	2.147	0.015
Misc. Natural Gas Combustion Insignificant Activities (APEN Exempt)	0.005	0.022	0.022	0.002	0.275	0.016	0.156	0.005
Total Emissions	0.558	0.669	0.669	0.024	24.90	1.165	2.606	0.023
TV/NNSR Major Source Thresholds (tpy)	100	100	100	100	25	25	100	25
Facility-wide Emissions < TV/NNSR Thresholds?	No	No	No	No	No	No	No	No
PSD Major Source Thresholds (tpy)	250	250	250	250	250	250	250	-
Facility-wide Emissions < PSD Thresholds?	No	No	No	No	No	No	No	-

2. PROJECT DESCRIPTION

The Denver Campus is an existing data center that consists of eight 822 hp diesel-fired emergency generator engines (GEN01000-04000, GENBA100-400) that are used for emergency power to keep the data center operating during power outages at the DEN01 building. Currently, the engines at DEN01 are APEN and permit exempt.

EdgeConneX is proposing to add a second building to the Denver Campus (DEN02) and install ten new diesel-fired emergency generator engines at the DEN02 building. The new engines include one 900 hp house engine for backup lighting and nine 3147 hp emergency generators for emergency power to keep the data center operating during power outages at the DEN02 building. The Denver Campus will also include nine natural gas heat exchangers with a total heat input capacity of 1.606 MMBtu/hr. Note that only five of these sources are expected to operate simultaneously and the remaining units will be redundant for comfort heating during the winter months.

As part of this expansion of the Denver Campus, EdgeConneX will be limiting the operating hours of the DEN01 and DEN02 engines and is requesting a facility-wide operating limit of up to 1,800 hours per year across all eighteen emergency engines and a facility-wide NO_x emission limit of 24.90 tpy. This facility-wide limit will allow for greater operating flexibility in the event of power outages at the Denver Campus as not all engines at the DEN01 and DEN02 buildings may be affected by power outages at the same time. Outside of usage for emergency power generation, the engines will periodically undergo operation for maintenance or testing. Due to the engine configuration, DEN01 tests up to four engines simultaneously for 30 minutes. DEN02 will test each engine separately for 30 minutes each.

3. AREA MAP

The Denver Campus is located at 8535 Highfield Pkwy, Suite 600, Englewood, CO 80112. An area map of the Denver Campus depicting the locations of the facility with respect to the surrounding topography is shown in Figure 3-1 below.

Figure 3-1. Area Map of The Denver Campus



Trinity
Consultants

4. EMISSION CALCULATIONS

The following sections provide a detailed description of the methodology used to calculate emissions for new or modified sources at the Denver facility. Detailed emission calculations are provided in Appendix C.

4.1 Diesel-fired Emergency Generators

The diesel-fired emergency generators engines have a maximum rated horsepower of 822 hp for the existing DEN01 generators, 900 hp for the DEN02 house engine, and 3147 hp for the DEN02 generators. For the sake of emissions estimates, each engine was anticipated to operate a maximum of 100 hours per year. EdgeConneX anticipates that outside of emergency usage during power outages, a maximum of one engine at the DEN02 building or four engines at the DEN01 building will be in operation at a time to undergo routine maintenance and testing. Hourly emissions were estimated by taking the maximum hourly emission rate for up to 4 engines at DEN01 for 30 minutes of maintenance and testing at a time and only one engine at a time at DEN02. Because the emergency engines are intermittent sources, daily emissions for PM₁₀ and PM_{2.5} were calculated by smearing the annual emissions across 365 days.

Criteria pollutant emissions were calculated using manufacturer provided emission factors for NO_x, CO, and filterable PM and emission factors from AP-42 Tables 3.4-1 and 3.4-2 for condensable PM, VOC, and SO₂, and the anticipated annual operating hours, and the max engine horsepower. Emission factors for PM₁₀ and PM_{2.5} were assumed to be equal to the sum of filterable and condensable PM emission factors. The engines will not be equipped with any add-on emission controls.

Hazardous air pollutant emissions for the compressor were calculated using emission factors for large diesel engines from AP-42 Tables 3.4-3 and 3.4-4, the diesel heating value of 138,700 Btu/gal, the engine fuel consumption, and the anticipated annual operating hours.

4.2 Natural Gas Heat Exchangers

The Denver Campus will include nine small natural gas heat exchangers with a total heat input capacity of 1.606 MMBtu/hr. One unit has a rating of 0.326 MMBtu/hr and the other eight are rated at 0.169 MMBtu/hr. Only five of these sources are expected to operate simultaneously and the remaining units will be redundant. The emissions were calculated assuming the heat exchangers operate a maximum of 5840 hours per year as these units will only be operated for comfort heating in the winter months.

Criteria pollutant emissions from the heat exchanger were calculated using uncontrolled emission factors from AP-42 Tables 1.4-1 and 1.4.2, the anticipated annual operating hours, and the unit ratings. The NO_x and CO emission factors for small boilers (units rated greater than 0.3 and less than 100 MMBtu/hr) were used for the one heat exchanger rated at 0.326 MMBtu/hr. The NO_x and CO emission factors for residential furnaces (units rated less than 0.3 MMBtu/hr) were used for the remaining heat exchangers.

Hazardous air pollutant emissions for the heat exchangers were calculated using emissions factors for natural gas combustion from AP-42 Table 1.4-3, the natural gas heating value of 1020 Btu/scf, the unit rating, and the anticipated annual operating hours.

5. PERMIT LIMIT

EdgeConneX is requesting a facility-wide operating limit of up to 1,800 hours per year across all eighteen emergency engines and a facility-wide NO_x emission limit of 24.90 tpy for the Denver Campus. The Denver Campus will keep records of each engine's monthly operating hours and calculate the twelve-month rolling total (12MRT) operating hours by summing the total hours for all engines for the previous 12 months to maintain compliance with the facility-wide operating hours limit.

Compliance with the facility-wide annual emissions limit will be demonstrated by calculating the 12MRT emissions using the monthly operating hours for each engine and the emission factors discussed in Section 4.1. The equation to calculate the 12MRT emissions is shown in Equation 5-1 below.

Equation 5-1. Denver Campus Total Emissions

$$\begin{aligned} & \left(\text{Total DEN01 engine Op. Hours} \left(\frac{\text{hr}}{\text{yr}} \right) * \text{DEN01 engine EF} \left(\frac{\text{lb}}{\text{hp-hr}} \right) * \text{DEN01 engine hp} \right) + \\ & \left(\text{DEN02 house gen Op. Hours} \left(\frac{\text{hr}}{\text{yr}} \right) * \text{DEN02 house gen EF} \left(\frac{\text{lb}}{\text{hp-hr}} \right) * \text{DEN02 house gen hp} \right) + \\ & \left(\text{Total DEN02 engine Op. Hours} \left(\frac{\text{hr}}{\text{yr}} \right) * \text{DEN02 engine EF} \left(\frac{\text{lb}}{\text{hp-hr}} \right) * \text{DEN02 engine hp} \right) * \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right) + \\ & \text{NG equipment monthly emissions} = \text{Total Emissions (tpy)} \end{aligned}$$

6. REGULATORY APPLICABILITY ANALYSIS

6.1 New Source Performance Standards

NSPS, located in 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. The following is a summary of applicability determinations for NSPS regulations of relevance to the proposed project. Rules that are specific to certain source categories unrelated to the proposed project are not discussed in this regulatory review.

6.1.1 40 CFR 60 Subpart A – General Provisions

All affected sources subject to source-specific NSPS are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification, performance testing, recordkeeping and monitoring, provides reference methods, and mandates general control device requirements for all other subparts as applicable.

6.1.2 40 CFR 60 Subpart IIII – Stationary Compression Ignition Internal Combustion Engines

NSPS Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, applies to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, or manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006. This subpart also applies to owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005.¹

The emergency generator engines are not fire pump engines and commenced construction after July 11, 2005 and will all have a manufacture date after April 1, 2006. Therefore, the requirements of NSPS subpart IIII apply to the engines at the Denver Campus. EdgeConneX will comply with the applicable emission standards and compliance requirements for the emergency generator engines.

6.2 National Emission Standards for Hazardous Air Pollutants

NESHAP, located in 40 CFR 61 and 40 CFR 63, have been promulgated for source categories that emit HAP to the atmosphere. A facility that is a major source of HAP is defined as having potential emissions of greater than 25 tpy of total HAP and/or 10 tpy of individual HAP. Facilities with a potential to emit HAP at an amount less than that which is defined as a major source are otherwise considered an area source. The NESHAP allowable emissions limits are most often established on the basis of a maximum achievable control technology (MACT) determination for the particular major source. The NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type.

The Denver Campus is classified as an area source of HAP emissions. Detailed emission calculations demonstrating the current potential HAP emissions are included in Appendix C.

¹ 40 CFR 60.4200(a)

The determination of applicability to NESHAP requirements for the proposed project is detailed in the following sections. Rules that are specific to certain source categories unrelated to the proposed project are not discussed in this regulatory review.

6.2.1 40 CFR 63 Subpart A – General Provisions

NESHAP Subpart A, General Provisions, contains national emission standards for HAP defined in Section 112(b) of the Clean Air Act. All affected sources, which are subject to another NESHAP in 40 CFR 63, are subject to the general provisions of NESHAP Subpart A, unless specifically excluded by the source-specific NESHAP.

6.2.2 40 CFR 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

NESHAP Subpart ZZZZ, *NESHAP for Stationary Reciprocating Internal Combustion Engines*, establishes emission and operating limits for stationary reciprocating internal combustion engines (RICE) located at a major or area source of HAP emissions.² As an area source of HAP, NESHAP Subpart ZZZZ applies to the emergency generator engines.

Per 40 CFR 63.6590(c)(1), a new or reconstructed stationary RICE located at an area source must meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of NSPS subpart IIII. The emergency generator engines qualify as new stationary RICE under this subpart because they commenced construction on or after June 12, 2006 at an area source of HAP emissions.³ Therefore, EdgeConneX will comply with the requirements of NESHAP Subpart ZZZZ by meeting the requirements of NSPS subpart IIII.

6.2.3 Non-Applicability of All Other NESHAP

NESHAP are developed for specific industrial source categories. The applicability of a particular NESHAP to the proposed project can be readily ascertained based on the industrial source category covered. All other NESHAP are categorically not applicable to the proposed projects.

6.3 State Regulatory Requirements

The Denver Campus will be subject to several Colorado Air Quality Control Commission Regulations, including the following:

- ▶ Regulation No. 1, Section II.A.2. & 4. – Opacity limits for intermittent sources and periods of startup, modifications, or adjustment of control equipment
- ▶ Regulation No. 1, Section III.A.1. – Particulate matter emissions requirements for fuel burning equipment
- ▶ Regulation No. 1, Section VI.B.4. – Sulfur dioxide emission limits
- ▶ Regulation No. 2, Part A – Odor Provisions
- ▶ Regulation No. 3, Part A, Section II.C – Revised Air Pollutant Emission Notices (APENs)
- ▶ Regulation No. 3, Part B, Section II.A.4. – Construction permit potential emissions
- ▶ Regulation No. 3, Part B, Section III.B.5. – Environmental Justice Summary

² 40 CFR 63.6585

³ 40 CFR 63.6590(a)(2)(iii)

- Details pertaining to Regulation No. 3 Environmental Justice summary requirements are included in Appendix D.
- ▶ Regulation No. 3, Part B, Section III.D.2 – RACT Requirements for new Minor Sources – Discussed further in Section below.
- ▶ Regulation No. 3, Part B, Section III.G. – Final permit approval
- ▶ Regulation No. 6, Part A – Standards of performance for new stationary sources
- ▶ Regulation No. 6, Part B Section II.C & D. – Standards for particulate matter and sulfur dioxide for new fuel-burning equipment
- ▶ Regulation No. 26, Part B Section I. – Control of Emissions from Engines ⁴

6.3.1 Regulation No. 3, Part B, Section III.D.2. - RACT Requirements

Per regulation No. 3, Part B, Section III.D.2, minor sources in designated nonattainment areas that are otherwise not exempt pursuant to Section II.D. of this Part, shall apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is nonattainment. The Denver Metro North Front Range (DMNFR) is designated as a severe Ozone nonattainment area. NO_x and VOC are the regulated precursor pollutants to Ozone.

Since the units are emergency generators that will operate intermittently, RACT is expected to be NSPS IIII tier certification requirements.

⁴ Although Regulation 26 is applicable to diesel engines > 500 HP, as long as EdgeConneX maintains the engines for emergency purposes only per Regulation 26, Part B, Section I.D.6.a.(vi)(D), the units will be exempt from the requirements of this Regulation.

7. MODELING APPLICABILITY

Appendix B of this application includes a copy of the CDPHE required Facility and Project Information Submittal Form for Modeling Requirements Determination (Form APCD-114). EdgeConneX is submitting Form 114 concurrently with this application submittal.

As indicated in the Form 114, EdgeConneX believes modeling should not be required for this site since the facility only has intermittent sources. The emergency generators will only operate during emergencies and for maintenance and testing. The Denver campus will only test one engine at a time, during the hours of 8AM to 5PM for the DEN02 generators. Due to the system configuration for the DEN01 generators, the smaller DEN01 generators⁵ will operate up to four engines at a time for a 30 minute test during the hours of 8AM to 5PM. No hourly or daily emission rate for maintenance and testing purposes is over the CDPHE modeling thresholds, except NO_x. Per the "Colorado Minor NSR Source Modeling Guideline for Air Quality Permits⁶" document, CDPHE has stated,

" Upon a review of other states' application of the Tyler Fox memo, comments from the public and Colorado industry, an internal review of Colorado sources, NO₂ background levels, and various sample model runs; PMU has determined that NO_x emissions from the intermittent operational testing of engines powering emergency generators or fire-suppression water pumps may be excluded from the project-specific SIL analysis and the cumulative NAAQS analysis for 1-hour NO₂, provided the following permit conditions are accepted:

- Annual hours of operation from testing and maintenance are less than or equal to 100 hours per engine.
- Engines will only perform testing and maintenance during the hours between 8am and 5pm.
- Engines are not tested simultaneously at the site. "

EdgeConneX will comply with these requirements except where noted above and does not anticipate modeling to be required.

⁵ Hourly emissions for four of the smaller DEN01 generators operating for 30 minutes is less than 1 DEN02 generator operating for 30 minutes; therefore, EdgeConneX maintains the impact is expected to be intermittent and minimal even though the precise condition of "no engines tested simultaneously" is not met for all engines due to the configuration of DEN01. DEN02 generators will not operate simultaneously for maintenance/testing and will comply with all conditions.

⁶ CDPHE's Colorado Minor NSR Source Modeling Guideline for Air Quality Permits Issued on May 2023 (minor Revisions (Appendix C) February 2024).

<https://oitco.hylandcloud.com/cdphermipop/docpop/docpop.aspx?clienttype=activex&docid=12482371>

APPENDIX A. APEN FORMS AND FEES

This section contains APEN Forms for the following units:

- ▶ AIRS ID TBD: DEN01 Emergency Generators
- ▶ AIRS ID TBD: DEN02 House Generator
- ▶ AIRS ID TBD: DEN02 Emergency Generators

EdgeConneX has paid the APEN filing fees for the amount of \$726 electronically via CPDHE's online payment portal.

Engine Information

Facility ID	Serial Number	Manufacture Date	First Date of Operation
GEN01000	369667-1-1-0214	3/4/2014	06/2014
GEN02000	369667-1-2-0214	3/4/2014	06/2014
GEN03000	95010600092	9/25/2014	12/2014
GEN04000	95010600009	10/2/2014	12/2014
GENBA100	95010500435	9/25/2018	11/2018
GENBA200	95010500441	9/26/2018	11/2018
GENBA300	95010500436	9/26/2018	11/2018
GENBA400	95010501152	2/17/2022	04/2022

APPENDIX B. MODELING DETERMINATION (FORM APCD-114)



Facility and Project Information Submittal Form for Modeling Requirements Determination Form APCD-114

Please answer all questions on this form. If requested information does not apply to your project, insert "N/A." Form completion and submission of all associated documentation is required to obtain a Permit Modeling Unit (PMU) Determination. This Determination must describe and include all substantially related changes to the source that are being made as part of the modification(s) leading to this permit action, even if those changes are being, or have been, submitted under a separate application, and even if those changes are not being permitted as part of this permit action. All information submitted to obtain this modeling determination must be the same as that submitted to the Division's permitting staff in support of the permit application, including, but not limited to, requested emission limitations, requested annual operating hours, facility configuration, and stack characteristics provided on the Air Pollutant Emissions Notice (APEN). Any changes to this information can result in the need for a new modeling determination. Please submit this form and all attachments to cdphe_apcd_modelingdeterminations@state.co.us.

- 1) Date: 10/03/2024
- 2) Company Name: EdgeConneX, Inc.
- 3) Company Contact Information
 - Name: Haley Willis
 - Email: hwillis@edgeconnex.com
 - Phone Number: 803-427-0403
- 4) Applicant Contact Information (if different than company contact)
 - Name: N/A
 - Email: _____
 - Phone Number: _____
- 5) Facility Name: Denver Campus
- 6) Is this a new facility or a modification to an existing facility?

New Facility ☐
 Modification ☒

Please provide location (LAT/LONG): 39.560749, -104.827621

Describe the existing modified and new emission points (including APEN- and permit-exempt sources), AIRS ID number, and location (LAT/LONG):

<u>Description</u>	<u>AIRS ID Number</u>	<u>LAT/LONG</u>
<u>See Attached</u>	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Provide a detailed description of all changes to the source that are “substantially related” as that term is defined in EPA’s “Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation and Project Netting” 74 Fed. Reg. 2376, 2377 (January 15, 2009) and EPA’s 2018 Reinstatement Rule, 83 Fed. Reg. 57324 (Nov. 15, 2018) (Units moving? Operational changes?). Please identify which of the substantially related changes are part of the current permit action, and which may have been separately permitted.

Currently, the engines at DEN01 are APEN and permit exempt. As part of this expansion of the Denver Campus, the new engines proposed for DEN02 will trigger APEN thresholds, and EdgeConnex will be requesting a facility-wide (DEN01 and DEN02) federally enforceable permit limit to remain a synthetic minor source.

Environmental Justice Requirements

The Environmental Justice Report Tool for Regulation Number 3 is available on the Air Pollution Control Division’s website: <https://cdphe.colorado.gov/new-environmental-justice-report-tool-for-air-quality-regulation-3>. Instructions for the tool are available in the tool’s online user guide and frequently asked questions document, both of which are available on the website above. Instructions on how to submit a required EJ Summary and Report are also available on the website above. If you have questions about the EJ Report process, please email: cdphe_apcd_ejreports@state.co.us.

Note: As part of the pre-permit process, you must submit your EJ Report and Summary at the same time that you submit this Form APCD 114.

- ☐ Check this box if your application was submitted prior to July 15, 2023, and is therefore not subject to these Environmental Justice requirements. If this is the case, you do not need to answer questions 7 through 9 below.

7) Environmental Justice Confirmation Number: 85951575

Please see associated information at: Incorporation of Environmental Justice Provisions Addendum here: <https://oitco.hylandcloud.com/cdphermop/docpop/docpop.aspx?clienttype=activex&docid=14385512>

8) Based on the Environmental Justice Requirements, is this facility an Affected Construction Source? Yes ☐ No ☒

9) Based on the Environmental Justice Report generated by the tool, is this facility located in a Disproportionately Impacted (DI) Community? Yes ☐ No ☒

If yes, is this facility located in a Cumulatively Impacted (CI) Community or a Socioeconomically Vulnerable (SV) Community? CI ☐ SV ☐
(Note: Check all that apply. Check both if the facility is located in a CI community and a SV community.)

10) If the proposed project includes a new General Permit Registration for GP01, GP02, GP05, GP06, GP07, GP08, GP09, GP10, and/or GP11 coverage, please identify the applicable General Permit for each applicable Source ID:

Source ID	General Permit Number
N/A	

- 11) Is the proposed permitting action a conversion of a GP09 or GP10 to a construction permit?

Yes ☐No ☒

If yes, when was the original GP09 or GP10 registration request submitted to the Division?

- 12) Please provide a topographical or an aerial map with the new or modified emissions point(s), structures, and site boundary shown.
- 13) Attach facility criteria pollutant (NOX, SO₂, CO, PM₁₀ and PM_{2.5}) permitted emissions for permitted units and potential to emit (PTE) emission estimates from all insignificant activities for all new and modified emission units, as well as facility totals, before and after this modification (including all substantially related changes) and the total change in emissions. Include fugitive and APEN- and permit-exempt emission units.

If the source is subject to the Environmental Justice provisions, provide facility benzene, toluene, ethylbenzene, xylenes, and total BTEX as described above.

Please include Form APCD-102 or APCD-102a for the facility.

- 14) Provide release parameters for each emissions unit (as provided in tables below). The tables below provide a guide for the information required to make the modeling determination. Please provide details in an attachment, as the below tables do not provide adequate space.

Point Sources (e.g. stacks and isolated vents) with a vertical release (not a flare)									
Pollutant:									
Source ID	Description of source	Location LAT/LONG	Emission rate (tpy)	Emission rate (lb/hr)	Source release height above ground (m)	Stack gas exit temperature (K)	Stack gas exit velocity (m/s)	Stack inside diameter (m)	Capped, J-tube, or Horizontal release?
Example. Do not complete this table. Please attach information according to instructions.									

Flares								
Pollutant:								
Source ID	Description of source	Location LAT/LONG	Emission rate (tpy)	Emission rate (lb/hr)	Effective Stack Height	Stack gas exit temperature	Stack gas exit velocity	Effective Stack inside Diameter
					Value (m)	Value (K)	Value (m/s)	Value (m)
Example. Do not complete this table. Please attach information according to instructions								

Calculate the effective stack parameters for flares as discussed in the AERSCREEN User's Guide. For ECDs provide source release height and stack inside diameter.

Volume Sources (releases at an elevation e.g. multiple vents, conveyor belts)							
Pollutant:							
Source ID	Description of source	Location LAT/LONG	Emission rate (tpy)	Emission rate (lb/hr)	Release height	Initial lateral dimension σ_y	Initial vertical dimension σ_z
					Value (m)	Value (m)	Value (m)
Example. Do not complete this table. Please attach information according to instructions.							

Use procedures in Table 3-3 of the AERMOD User's Guide to calculate vertical and lateral dimensions.

Area Sources (low level releases e.g. storage piles, slag dumps, lagoons)

Pollutant:

Source ID	Description of source	Location LAT/LONG	Emission rate (tpy)	Emission rate (lb/hr)	Release height	Length of side X- and Y-dimension	Initial vertical dimension σ_z
					Value (m)	Values (m)	Value (m)
Example. Do not complete this table. Please attach information according to instructions.							

Use this table to include Areacircle and Areapoly sources as well.

Openpit Sources

Pollutant:

Source ID	Description of source	Location LAT/LONG	Emission rate (tpy)	Emission rate (lb/hr)	Release height above base of pit	Length of side X- and Y-dimension	Pit Volume
					Value (m)	Values (m)	Value (m³)
Example. Do not complete this table. Please attach information according to instructions.							

15) Please provide the source's operating schedule:

Daily starting and ending hours (e.g. 7 AM - 5 PM): 8am - 5pm for maintenance/testingDays of the week (e.g. Monday - Friday): Monday - Friday for maintenance/testing

16) If emissions points are located adjacent to buildings or other structures, please provide structure dimensions.

<u>Building Description</u>	<u>Height (m)</u>	<u>Length (m)</u>	<u>Width (m)</u>
DEN01	10.97	148.34	60.92
DEN02	11.58	213.31	50.15

- 17) Has this facility been modeled before? Yes ☐ No ☒

If yes, provide any records of previous modeling demonstrations that the facility will not cause or contribute to a violation of the NAAQS.

- 18) If you do not believe modeling should be required for the proposed permitting action, please provide clear justification for this, along with the information requested above.

EdgeConneX believes modeling should not be required since the facility only has intermittent sources. The emergency generators will only operate during emergencies and for maintenance and testing. The Denver campus will only test one engine at a time, during the hours of 8AM to 5PM for the DEN02 generators. Due to the system configuration for the DEN01 generators, the smaller DEN01 generators will operate up to four engines at a time for a 30 minute test during the hours of 8AM to 5PM. No single engine hourly or daily emission rate for maintenance and testing purposes is over the CDPHE modeling thresholds, except NOX. Per the "Colorado Minor NSR Source Modeling Guideline for Air Quality Permits" document, CDPHE has stated that "NOX emissions from the intermittent operational testing of engines powering emergency generators or fire-suppression water pumps may be excluded from the project-specific SIL analysis and the cumulative NAAQS analysis for 1-hour NO2, provided that annual hours of operation from testing and maintenance are less than or equal to 100 hours per engine, engines will only perform testing and maintenance during the hours between 8am and 5pm, and engines are not tested simultaneously at the site."

Because hourly emissions for four of the smaller DEN01 generators operating for 30 minutes is less than 1 DEN02 generator operating for 30 minutes, EdgeConneX maintains the impact is expected to be intermittent and minimal even though the precise condition of "no engines tested simultaneously" is not met for all engines due to the configuration of DEN01. DEN02 generators will not operate simultaneously for maintenance/testing.

- 19) Has a permit application already been submitted for this facility and still awaiting permit approval? Yes ☒ No ☐

Application submitted concurrently

If yes, when was the application submitted? _____

----- INTERNAL USE ONLY - DO NOT WRITE BELOW THIS LINE -----

- 1) Modeling determination identification number: _____
- 2) Existing Source Facility ID and AIRS number: _____
- 3) Is the proposed facility located in a Cumulatively Impacted Community?
Yes ☐ No ☐
- 4) Based on the application information submitted, is modeling required to determine source-specific monitoring requirements?
Yes ☐ No ☐
- 5) Based on the application information submitted, is modeling needed to complete the required NAAQS analysis?
Yes ☐ No ☐
- 6) Justification for Modeling Determination (e.g., previous NAAQS modeling demonstration has been made):

- 7) If modeling is required, which criteria pollutants and averaging periods need to be modeled to demonstrate compliance with the National Ambient Air Quality Standards and Colorado Ambient Air Quality Standards?
- 8) If BTEX modeling is required, which pollutants need to be modeled to determine applicability to the Source Specific Monitoring Thresholds?
- 9) If modeling is needed, provide modeling procedure guidance.
- 10) Date modeling decision provided to Applicant and CDPHE Permitting Representative
- 11) Number of hours spent on modeling determination

Modeling Determination Form - Section 6
Existing Modified and New Emission Points

Facility ID	Description	AIRS ID Number	Latitude, Longitude
GEN01000	DEN01 Emergency Generator	TBD	39.561469, -104.827970
GEN02000	DEN01 Emergency Generator	TBD	39.561433, -104.827970
GEN03000	DEN01 Emergency Generator	TBD	39.561400, -104.827970
GEN04000	DEN01 Emergency Generator	TBD	39.561399, -104.828102
GENBA100	DEN01 Emergency Generator	TBD	39.561153, -104.827967
GENBA200	DEN01 Emergency Generator	TBD	39.561267, -104.827967
GENBA300	DEN01 Emergency Generator	TBD	39.561150, -104.828014
GENBA400	DEN01 Emergency Generator	TBD	39.561267, -104.828014
GEN0Y100	DEN02 House Generator	TBD	39.562787, -104.829483
GENAA100	DEN02 Emergency Generator	TBD	39.562278, -104.829542
GENAB100	DEN02 Emergency Generator	TBD	39.562336, -104.829542
GENAC100	DEN02 Emergency Generator	TBD	39.562453, -104.829542
GENAD100	DEN02 Emergency Generator	TBD	39.562508, -104.829542
GENAE100	DEN02 Emergency Generator	TBD	39.562567, -104.829542
GENAF100	DEN02 Emergency Generator	TBD	39.562622, -104.829542
GENAG100	DEN02 Emergency Generator	TBD	39.562683, -104.829542
GENAH100	DEN02 Emergency Generator	TBD	39.562739, -104.829542
GENAZ100	DEN02 Emergency Generator	TBD	39.562394, -104.829542



Modeling Determination Form - Section 14

Point Sources									
Pollutant:	NO _x								
Source ID	Description	Location LAT/LONG	Emission Rate ¹ (tpy)	Emission Rate (lb/hr)	Source Release Height Above Ground (m)	Stack Gas Exit Temperature (K)	Stack Gas Exit Velocity (m/s)	Stack Inside Diameter (m)	Capped, J-tube, or Horizontal release?
TBD	GEN01000 - DEN01 Emergency Generator (North)	39.561469, -104.827970	0.49	9.71	3.71	685.93	115.13	0.15	Capped
TBD	GEN02000 - DEN01 Emergency Generator (North)	39.561433, -104.827970	0.49	9.71	3.71	685.93	115.13	0.15	Capped
TBD	GEN03000 - DEN01 Emergency Generator (North)	39.561400, -104.827970	0.49	9.71	3.71	685.93	115.13	0.15	Capped
TBD	GEN04000 - DEN01 Emergency Generator (North)	39.561399, -104.828102	0.49	9.71	3.71	685.93	115.13	0.15	Capped
TBD	GENBA100 - DEN01 Emergency Generator (South)	39.561153, -104.827967	0.49	9.71	3.28	685.93	0.85	1.78	No
TBD	GENBA200 - DEN01 Emergency Generator (South)	39.561267, -104.827967	0.49	9.71	3.28	685.93	0.85	1.78	No
TBD	GENBA300 - DEN01 Emergency Generator (South)	39.561150, -104.828014	0.49	9.71	3.28	685.93	0.85	1.78	No
TBD	GENBA400 - DEN01 Emergency Generator (South)	39.561267, -104.828014	0.49	9.71	3.28	685.93	0.85	1.78	No
TBD	GENOY100 - DEN02 House Generator	39.562787, -104.829483	0.61	12.21	2.90	807.76	44.56	0.25	Capped
TBD	GENAA100 - DEN02 Emergency Generator	39.562278, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAB100 - DEN02 Emergency Generator	39.562336, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAC100 - DEN02 Emergency Generator	39.562453, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAD100 - DEN02 Emergency Generator	39.562508, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAE100 - DEN02 Emergency Generator	39.562567, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAF100 - DEN02 Emergency Generator	39.562622, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAG100 - DEN02 Emergency Generator	39.562683, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAH100 - DEN02 Emergency Generator	39.562739, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
TBD	GENAZ100 - DEN02 Emergency Generator	39.562394, -104.829542	2.24	44.73	4.57	717.09	82.72	0.36	Capped
Total Change:			24.62						

Point Sources									
Pollutant:	CO								
Source ID	Description	Location LAT/LONG	Emission Rate ¹ (tpy)	Emission Rate (lb/hr)	Source Release Height Above Ground (m)	Stack Gas Exit Temperature (K)	Stack Gas Exit Velocity (m/s)	Stack Inside Diameter (m)	Capped, J-tube, or Horizontal release?
TBD	GEN01000 - DEN01 Emergency Generator (North)	39.561469, -104.827970	0.03	0.54	3.71	685.93	115.13	0.15	Capped
TBD	GEN02000 - DEN01 Emergency Generator (North)	39.561433, -104.827970	0.03	0.54	3.71	685.93	115.13	0.15	Capped
TBD	GEN03000 - DEN01 Emergency Generator (North)	39.561400, -104.827970	0.03	0.54	3.71	685.93	115.13	0.15	Capped
TBD	GEN04000 - DEN01 Emergency Generator (North)	39.561399, -104.828102	0.03	0.54	3.71	685.93	115.13	0.15	Capped
TBD	GENBA100 - DEN01 Emergency Generator (South)	39.561153, -104.827967	0.03	0.54	3.28	685.93	0.85	1.78	No
TBD	GENBA200 - DEN01 Emergency Generator (South)	39.561267, -104.827967	0.03	0.54	3.28	685.93	0.85	1.78	No
TBD	GENBA300 - DEN01 Emergency Generator (South)	39.561150, -104.828014	0.03	0.54	3.28	685.93	0.85	1.78	No
TBD	GENBA400 - DEN01 Emergency Generator (South)	39.561267, -104.828014	0.03	0.54	3.28	685.93	0.85	1.78	No
TBD	GENOY100 - DEN02 House Generator	39.562787, -104.829483	0.09	1.71	2.90	807.76	44.56	0.25	Capped
TBD	GENAA100 - DEN02 Emergency Generator	39.562278, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAB100 - DEN02 Emergency Generator	39.562336, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAC100 - DEN02 Emergency Generator	39.562453, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAD100 - DEN02 Emergency Generator	39.562508, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAE100 - DEN02 Emergency Generator	39.562567, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAF100 - DEN02 Emergency Generator	39.562622, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAG100 - DEN02 Emergency Generator	39.562683, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAH100 - DEN02 Emergency Generator	39.562739, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
TBD	GENAZ100 - DEN02 Emergency Generator	39.562394, -104.829542	0.24	4.77	4.57	717.09	82.72	0.36	Capped
Total Change:			2.45						

¹ Emission rates are calculated by multiplying emission factors by the engine rating (BHP), then by multiplying by engine count to get highest possible PTE. Emissions factors for condensable PM, SOX, and VOC per AP-42, Table 3.4-1 and 3.4-2. Filterable PM, NOX, and CO emission factors per manufacturer specifications.

APPENDIX C. PROJECT EMISSION CALCULATIONS

Campus-wide Emissions Summary

Pollutant	DEN01 Emissions		DEN02 Emissions		Miscellaneous NG Combustion Emissions		Total Emissions		Title V Major Source Threshold ¹	Exceeds Threshold?	Modeling Thresholds		Exceeds Threshold?	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr) ³	(lb/day) ⁴	(ton/yr)	(ton/yr)	short-term (lb/hr) or (lb/day) ²	(ton/yr)	short-term	(ton/yr)
PM filterable	0.43	0.02	10.62	0.53	0.00	0.01	0.58	-	0.56	No	-	-	N/A	N/A
PM condensable	0.34	0.02	1.55	0.08	0.01	0.02	0.09	-	0.11	No	-	-	N/A	N/A
PM10	0.78	0.04	12.17	0.61	0.01	0.02	0.66	3.67	0.67	No	82	-	No	N/A
PM2.5	0.78	0.04	12.17	0.61	0.01	0.02	0.66	3.67	0.67	No	11	5	No	No
SO _x	0.08	0.00	0.35	0.02	0.00	0.00	0.02	-	0.02	No	2.28	40	No	No
NO _x	77.71	3.89	414.78	20.74	0.09	0.28	22.37	-	24.90	No	1.14	40	See Note 5	No
VOC	4.22	0.21	18.75	0.94	0.01	0.02	1.05	-	1.16	No	-	-	N/A	N/A
CO	4.35	0.22	44.64	2.23	0.05	0.16	2.39	-	2.61	No	23	-	No	No
Total HAPs	0.07	0.00	0.30	0.01	0.00	0.01	0.02	-	0.02	No	-	-	N/A	N/A

1. The NO_x and VOC thresholds represent both the Title V and NNSR major source thresholds. The PSD thresholds for each pollutant are 250 tpy.

2. PM10 and PM2.5 short-term modeling thresholds are on a lb/day basis. The remaining short-term thresholds are on a lb/hr basis.

3. Hourly emissions are based on the maximum engine lb/hr rate, up to 4 engines at DEN01 may undergo 30 minutes of maintenance and testing at the same time, but DEN02 will only test one engine at a time.

4. The engines are intermittent sources so the lb/day emissions of PM10/PM2.5 were calculated by smearing the annual emissions across 365 days.

5. The emergency engines are intermittent sources that will each operate 0.5 hrs periodically for testing. Due to the engine configuration, DEN01 tests up to four engines simultaneously for 30 minutes. DEN02 will test each engine separately for 0.5 hr each. The intermittent nature holds and PMU policy regarding not modeling intermittent sources for the NO_x 1-hour standard should apply, especially since four DEN01 engines operating for 30 minutes simultaneously is less than one DEN02 engine operating for 30 minutes. All engines at DEN02 will be tested separately and up to four engines at DEN01 will be tested simultaneously.

DEN01 Engine Calculations

Engine Specs¹

Model	MTU 12V1600 DS550
Count	8.00
Operating Hours (hr/yr)	100.00
Rating (kW)	613.00
Rating (BHP)	822.00
Fuel Consumption (gal/hr)	40.00
Fuel Consumption (MMBtu/hr)	5.55

1. Engine specifications per manufacturer provided spec sheet.

Emission Rates

Pollutant	Emission Factors ¹ (lb/hp-hr)	DEN01 Potential Emissions	
		(lb/hr)	(ton/yr)
PM filterable	6.61E-05	0.435	0.022
PM condensable	5.20E-05	0.342	0.017
PM10 (total) ²	1.18E-04	0.777	0.039
PM2.5 (total) ²	1.18E-04	0.777	0.039
SO _x ³	1.21E-05	0.080	0.004
NO _x	1.18E-02	77.707	3.885
VOC ⁴	6.42E-04	4.219	0.211
CO	6.61E-04	4.349	0.217
Total HAPs		0.066	0.003

1. Emissions factors for condensable PM, SO_x, and VOC per AP-42, Table 3.4-1 and 3.4-2. Filterable PM, NO_x, and CO emission factors per manufacturer specifications.

2. Assumed PM2.5/PM10 emissions were equal to total PM emissions.

3. Assumed 0.0015 percent by weight sulfur content for diesel fuel.

4. 91% of TOC is nonmethane per AP-42 Tale 3.4-1

HAP Emission Rates

Pollutant	Diesel Engines > 600 hp (lb/MMBtu) ⁵	DEN01 Potential Emissions	
		(lb/hr)	(ton/yr)
Benzene	7.76E-04	3.44E-02	1.72E-03
Toluene	2.81E-04	1.25E-02	6.24E-04
Xylene	1.93E-04	8.57E-03	4.28E-04
Formaldehyde	7.89E-05	3.50E-03	1.75E-04
Acetaldehyde	2.52E-05	1.12E-03	5.59E-05
Acrolein	7.88E-06	3.50E-04	1.75E-05
Naphthalene	1.30E-04	5.77E-03	2.88E-04

5. Emission factors for large stationary diesel engine operation per AP-42 Sections 3.4

DEN02 Engine Calculations

	Operating Hours	
	Engine Count	(hr/yr)
House Engine (Cat C18)	1	100
Generator Engines (Cat 3516C)	9.00	100.00

Engine Specs¹

	Cat C18				Cat 3516C			
	1.00	0.50	0.25	10%	100%	75%	50%	10%
Load Scenario	600.00	300.00	150.00	60	2250	1687.5	1125	225
Rating (ekW)	900.00	454.00	244.00	114	3147	2391	1634	424
Rating (BHP)	42.70	24.20	12.40	6.7	156.2	122.7	89.2	28.5
Fuel Consumption (gal/hr)	5.37	3.02	3.97	2.56	44.73	26.89	13.98	6.99
NOx Emissions (lb/hr) ²	1.71	0.46	0.5	0.79	4.42	2.68	2.49	4.77
CO Emissions (lb/hr) ²	0.13	0.1	0.04	0.04	1.06	1.14	1.16	0.89
PM Emissions (lb/hr) ²	6.21				6.07			
NOx Emissions (g/hp-h) ²	0.87				0.6			
CO Emissions(g/hp-h) ²	0.07				0.04			
PM Emissions (g/hp-h) ²								

1. Engine specifications and emission rates per manufacturer provided spec sheet.
2. Manufacturer provided emission rates include potential site variation.

Emission Rates

Pollutant	Emission Factors ¹ (lb/hp-hr)	House Engine Emissions		Individual Generator Engines		Total Generator Engines Emissions		Total DEN02 Potential Emissions	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
PM Filterable	1.54E-04 / 8.82E-05	0.18	0.009	1.16	0.058	10.44	0.522	10.62	0.53
PM condensable	5.07E-05 / 5.30E-05	0.05	0.002	0.17	0.008	1.50	0.075	1.55	0.08
PM10 (total) ²	2.05E-04 / 1.39E-04	0.23	0.011	1.33	0.066	11.94	0.597	12.17	0.61
PM2.5 (total) ²	2.05E-04 / 1.39E-04	0.23	0.011	1.33	0.066	11.94	0.597	12.17	0.61
SOx ³	1.21E-05	0.01	0.001	0.04	0.002	0.34	0.017	0.35	0.02
NOx	1.37E-02 / 1.34E-02	12.21	0.611	44.73	2.237	402.57	20.129	414.78	20.74
VOC ⁴	6.42E-04	0.58	0.029	2.02	0.101	18.17	0.909	18.75	0.94
CO	1.92E-03 / 1.32E-03	1.71	0.086	4.77	0.239	42.93	2.147	44.64	2.23
Total HAPs		0.01	0.000	0.03	0.002	0.29	0.015	0.30	0.01

1. SOx, VOC, and condensable PM emissions factors per AP-42, Tables 3.4-1 and 3.4-2. Filterable PM, NOx, and CO emission rates per manufacturer specifications.
2. Assumed PM10/PM2.5 emissions were equal to total PM emissions.
3. Assumed 0.0015 percent by weight sulfur content for diesel fuel.
4. 91% of TOC is nonmethane per AP-42 Table 3.4-1

Fuel Consumption (MMBtu/hr)	Cat C18	Cat 3516C
21.66	5.92	

HAP Emission Rates

Pollutant	Diesel Engines > 600 hp (lb/MMBtu) ⁵	House Engine Emissions		Individual Generator Engines		Total Generator Engines Emissions		Total DEN02 Potential Emissions	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Benzene	7.76E-04	4.60E-03	2.30E-04	1.68E-02	8.41E-04	1.51E-01	7.57E-03	1.56E-01	7.80E-03
Toluene	2.81E-04	1.66E-03	8.32E-05	6.09E-03	3.04E-04	5.48E-02	2.74E-03	5.65E-02	2.82E-03
Xylene	1.93E-04	1.14E-03	5.72E-05	4.18E-03	2.09E-04	3.76E-02	1.88E-03	3.88E-02	1.94E-03
Formaldehyde	7.89E-05	4.67E-04	2.34E-05	1.71E-03	8.55E-05	1.54E-02	7.69E-04	1.59E-02	7.93E-04
Acetaldehyde	2.52E-05	1.49E-04	7.46E-06	5.46E-04	2.73E-05	4.91E-03	2.46E-04	5.06E-03	2.53E-04
Acrolein	7.88E-06	4.67E-05	2.33E-06	1.71E-04	8.54E-06	1.54E-03	7.68E-05	1.58E-03	7.92E-05
Napthalene	1.30E-04	7.70E-04	3.85E-05	2.82E-03	1.41E-04	2.53E-02	1.27E-03	2.61E-02	1.31E-03

5. Emission factors for large stationary diesel engine operation per AP-42 Section-3.4

Insignificant Sources - Natural Gas-Fired Heat Exchangers

	Burner Count	Operating Hours ² (hr/yr)	Rating (MMBtu/hr)
Aaon RN-030 NG Heat Exchanger	1	5840	0.326
Aaon RN-010 NG Heat Exchanger ¹	4.00	5840.00	0.17

1. Only four of eight the RN-010 heat exchangers are expected to be running at once. The remaining units will be redundant.
2. Operating hours for the heat exchangers are based on a maximum of 8 months of the year operation for comfort heating. Actual operating hours are expected to be less.

Emission Rates

Pollutant	Emission Factors ¹ (lb/MMscf)		RN-030		RN-010		Total RN-010 Emissions		Total Heat Exchanger	
	Small Boilers (<100 MMBtu/hr)	Residential Furnaces (<0.3 MMBtu/hr)	(lb/hr) ³	(ton/yr)	(lb/hr) ³	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
PM filterable	1.90	1.90	0.00	0.00	0.000	0.001	0.001	0.004	0.002	0.005
PM condensable	5.70	5.70	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.016
PM10 (total) ²	7.60	7.60	0.002	0.007	0.001	0.004	0.005	0.015	0.007	0.022
PM2.5 (total) ²	7.60	7.60	0.002	0.007	0.001	0.004	0.005	0.015	0.007	0.022
SO _x	0.60	0.60	0.000	0.001	0.000	0.000	0.000	0.001	0.001	0.002
NO _x	100.00	94.00	0.032	0.093	0.016	0.045	0.062	0.182	0.094	0.275
VOC	5.50	5.50	0.002	0.005	0.001	0.003	0.004	0.011	0.005	0.016
CO	84.00	40.00	0.027	0.078	0.007	0.019	0.027	0.077	0.053	0.156
Total HAPs			0.001	0.002	0.000	0.001	0.001	0.004	0.002	0.005

1. Uncontrolled missions factors for small boilers (<100 MMBtu/hr) and residential furnaces (<0.3 MMBtu/hr) per AP-42, Tables 1.4-1 and 1.4-2.
2. Assumed PM10/PM2.5 emissions were equal to total PM emissions.
3. Assumed natural gas heating value of 1020 Btu/scf per AP-42 Table 1.4-1 footnote a.

HAP Emission Rates

Pollutant	Emission Factors ⁴ (lb/MMscf)		Emission Factors ⁵ (lb/MMBtu)		RN-030		RN-010		Total RN-010 Emissions		Total Heat Exchanger	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Acenaphthene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Acenaphthylene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Anthracene	2.40E-06	2.35E-09	7.67E-10	2.24E-09	3.98E-10	1.16E-09	1.59E-09	4.64E-09	2.36E-09	6.88E-09	2.36E-09	6.88E-09
Benz(a)anthracene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Benzene	2.10E-03	2.06E-06	6.71E-07	1.96E-06	3.48E-07	1.02E-06	1.39E-06	4.06E-06	2.06E-06	6.02E-06	2.06E-06	6.02E-06
Benzo(a)pyrene	1.20E-06	1.18E-09	3.84E-10	1.12E-09	1.99E-10	5.81E-10	7.95E-10	2.32E-09	1.18E-09	3.44E-09	1.18E-09	3.44E-09
Benzo(b)fluoranthene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Benzo(k)fluoranthene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Benzo(g,h,i)perylene	1.20E-06	1.18E-09	3.84E-10	1.12E-09	1.99E-10	5.81E-10	7.95E-10	2.32E-09	1.18E-09	3.44E-09	1.18E-09	3.44E-09
Chrysene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Dibenz(a,h)anthracene	1.20E-06	1.18E-09	3.84E-10	1.12E-09	1.99E-10	5.81E-10	7.95E-10	2.32E-09	1.18E-09	3.44E-09	1.18E-09	3.44E-09
Dichlorobenzene	1.20E-03	1.18E-06	3.84E-07	1.12E-06	1.99E-07	5.81E-07	7.95E-07	2.32E-06	1.18E-06	3.44E-06	1.18E-06	3.44E-06
Fluoranthene	3.00E-06	2.94E-09	9.59E-10	2.80E-09	4.97E-10	1.45E-09	1.99E-09	5.81E-09	2.95E-09	8.61E-09	2.95E-09	8.61E-09
Fluorene	2.80E-06	2.75E-09	8.95E-10	2.61E-09	4.64E-10	1.35E-09	1.86E-09	5.42E-09	2.75E-09	8.03E-09	2.75E-09	8.03E-09
Formaldehyde	7.50E-02	7.35E-05	2.40E-05	7.00E-05	1.24E-05	3.63E-05	4.97E-05	1.45E-04	7.37E-05	2.15E-04	7.37E-05	2.15E-04
Hexane	1.80E+00	1.76E-03	5.75E-04	1.68E-03	2.98E-04	8.71E-04	1.19E-03	3.48E-03	1.77E-03	5.16E-03	1.77E-03	5.16E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
Naphthalene	6.10E-04	5.98E-07	1.95E-07	5.69E-07	1.01E-07	2.95E-07	4.04E-07	1.18E-06	5.99E-07	1.75E-06	5.99E-07	1.75E-06
Phenanthrene	1.70E-05	1.67E-08	5.43E-09	1.59E-08	2.82E-09	8.22E-09	1.13E-08	3.29E-08	1.67E-08	4.88E-08	1.67E-08	4.88E-08
Pyrene	5.00E-06	4.90E-09	1.60E-09	4.67E-09	8.28E-10	2.42E-09	3.31E-09	9.68E-09	4.91E-09	1.43E-08	4.91E-09	1.43E-08
Toluene	2.40E-03	2.35E-06	7.67E-07	2.24E-06	3.17E-06	9.33E-06	1.26E-05	3.78E-05	1.91E-05	5.73E-05	1.91E-05	5.73E-05
2-Methylnaphthalene	2.40E-05	2.35E-08	7.67E-09	2.24E-08	3.98E-09	1.16E-08	1.59E-08	4.64E-08	2.36E-08	6.88E-08	2.36E-08	6.88E-08
3-Methylnaphthalene	1.80E-06	1.76E-09	5.75E-10	1.68E-09	2.98E-10	8.71E-10	1.19E-09	3.48E-09	1.77E-09	5.16E-09	1.77E-09	5.16E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	5.11E-09	1.49E-08	2.65E-09	7.74E-09	1.06E-08	3.10E-08	1.57E-08	4.59E-08	1.57E-08	4.59E-08

4. Emission factors for natural gas combustion per AP-42 Section 1.4, Table 1.4-3
5. Assumed natural gas heating value of 1020 Btu/scf per AP-42 Table 1.4-3 footnote a.

APPENDIX D. ENVIRONMENTAL JUSTICE SUMMARY



COLORADO

Air Pollution Control Division

Department of Public Health & Environment

Environmental Justice Verification Number: 85951575

Jack Peterson
EdgeConneX, Inc.
Denver Campus
Census Block Group: 80350140013

September 23, 2024

Dear Jack Peterson,

We have reviewed the complete Environmental Justice Summary submitted on September 19, 2024 for the Denver Campus facility in Census Block Group 80350140013. Based on this information, the facility is not located in a Disproportionately Impacted Community. You can now move forward with submitting your permit application to the Air Pollution Control Division.

Please include this full document as part of your permit application package. It includes the Environmental Justice Summary information you submitted, as well as this letter of concurrence. The Environmental Justice Summary is part of the permit record. If the main permit application does not include this letter of concurrence and the information attached, it may be rejected as incomplete.

Please note: Sources with any quantifiable amount of **new or modified emissions** of nitrogen oxides (NO_x), sulfur dioxide (SO₂), particulate matter ≤2.5 microns in diameter (PM_{2.5}), carbon monoxide (CO), or BTEX (benzene, toluene, ethylbenzene, and/or xylene) must also submit APCD Form-114 to the Permit Modeling Unit **prior** to submitting their permit application. Learn more about when APCD Form-114 is required and explore Colorado [modeling guidance](#) for air quality permits.



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If you have any questions about the Environmental Justice Summary, please email cdphe_apcd_ejreports@state.co.us.

Thank you,

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

For internal use only

Number of hours spent on Environmental Justice Summary review and approval: 0.5 hours.





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Department of Public Health & Environment

Section 1: Background Information (Company/Facility)

1. Company Name

EdgeConneX, Inc.

2. Facility Name

Denver Campus

3. Facility Address

,

4. Facility Latitude 39.56087

5. Facility Longitude -104.8276

6. Census Block Group(s) in Which the Facility is Located

80350140013

7. Which Type of Air Permit Will You Be Applying For?

Construction Permit

8. What specific outcomes or changes will result from the requested permitting action? An increase in emissions

9. Has This Facility Previously Received an Official Permit or Exemption Letter from the Air Pollution Control Division (APCD)?

10. What is the AIRS ID of this facility?

11. What is the permit number exemption number?

Section 2: Environmental Justice Requirements

1. Based on the Environmental Justice Report Generated, is this Facility Located in a Disproportionately Impacted (DI) Community?





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No

2. What type of Disproportionately Impacted (DI) Community is the facility located in based on the Environmental Justice Report?

Section 3: Description of Proposed Permit Application

1. Is the facility an Affected Construction Source?
No
2. Will this facility emit any Affected Pollutants?
Volatile organic compounds (VOCs); Nitrogen oxides (NOx); Particulate matter ≤ 2.5 microns in diameter (PM_{2.5})
3. Provide a brief description of the proposed permit application.
EdgeConneX is requesting a permit for 18 emergency diesel generators at their Denver Campus.
4. Based on the results of the facility's Environmental Justice Report results and/or engagement with the Disproportionately Impacted Community, describe any:
 - a. Mitigation measures;
 - b. Emission reduction and control strategies; The facility is not located in a DI community.
and/or
 - c. Changes made to the originally planned source equipment or operations.

Section 4: Public Outreach

1. Did the owner/operator of the facility conduct enhanced community outreach to the impacted community prior to submitting the main permit application?





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No

- a. If the option "Planned, in progress, or to be determined" is chosen: describe any measures that are planned, in progress, or to be determined.

Part 1: Know the audience, community, and purpose

1. Did you contact residents within at least one-mile radius of the facility to notify them about the proposed permit or project and how they can provide feedback?
2. Did you contact and/or coordinate with any of the following types of organizations or individuals to understand local audiences and the most effective ways to reach them? (Select all that apply.)
3. (Optional) Provide any additional information about the audience, community, and purpose. Also provide the name of any organizations contacted:

Part 2: Host public meetings at various times and days

1. Meeting date:
2. Meeting time:
3. Meeting type: (Select all that apply.)
4. Meeting location(s) (venue name, street address and/or coordinates):
5. Number of registered participants:
6. Number of public participants and community members in attendance:





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Part 3: Host public meeting(s) in locations that are safe and accessible

1. If the facility hosted in-person or hybrid meetings, did you choose locations that were: (Select all that apply)
2. Location accessibility- the location was accessible by: (Select all that apply.)
3. Did you publish meeting and presentation materials on a publicly accessible website?
 - a. If yes, please add a link to the website.
4. Did you use a facilitator to keep the meeting on track?
5. (Optional) Provide any additional information about hosting considerations:

Part 4: Provide at least 30 days' notice ahead of public meetings

1. Did you provide at least 30 days' notice ahead of public meetings?
2. Did you provide at least one reminder in advance of the meeting?

Part 5: Actively promote outreach and public participation opportunities

1. Communication tactics used for promoting meetings: (Select all that apply.)
2. Were any of the communication tactics provided in multiple languages?
3. If you selected "yes" to the previous question, please list the languages used in communication tactics and why they were chosen:





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4. Did you attend community events or collaborate with trusted partners and organizations to share updates, messages, and public meeting information?
5. (Optional) Provide any additional information about outreach and activities:

Part 6: Ensure language justice, cultural competency, and accessibility in outreach materials

1. Were meetings made available in multiple languages (interpretation services provided for non-English speakers?)
2. Were meeting materials translated into multiple languages?
3. If interpreters were used, please note the vendor who provided the interpretation:
4. If translation was used, please note the vendor who provided the translation:
5. Were [digital accessibility best practices](#) used for web content, digital fliers, social media posts, or other digital communications?
6. (Optional) Provide any additional information about accessibility considerations:

Part 7: Provide various and accessible methods for receiving public feedback

1. Which of the following opportunities and platforms were provided for the public to provide feedback? (Select all that apply).
2. Number of public feedback comments received in writing:
3. Number of public feedback comments received verbally:





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4. How did you review public feedback received and use it to inform the proposed project?
5. (Optional) Provide any additional information about public comments received and considered:

Part 8: Reduce barriers to participation via participation stipends, childcare services, and more

1. Provided for public meeting attendees: (Select all that apply).
2. Included in the public meeting: (Select all that apply).
3. (Optional) Provide a short description of the activities conducted, methods used, and any additional information about reducing barriers for the community:





Environmental Justice Report

Applicant Information

Company Name: EdgeConnex

Facility Name: Denver Campus

Plant AIRS ID Number: TBD

Permit Type: TBD

Permit Number: TBD

Facility location used for generating the report: 39.56087, -104.8276

Environmental Justice Summary

Douglas County

Census Block Group 080350140013

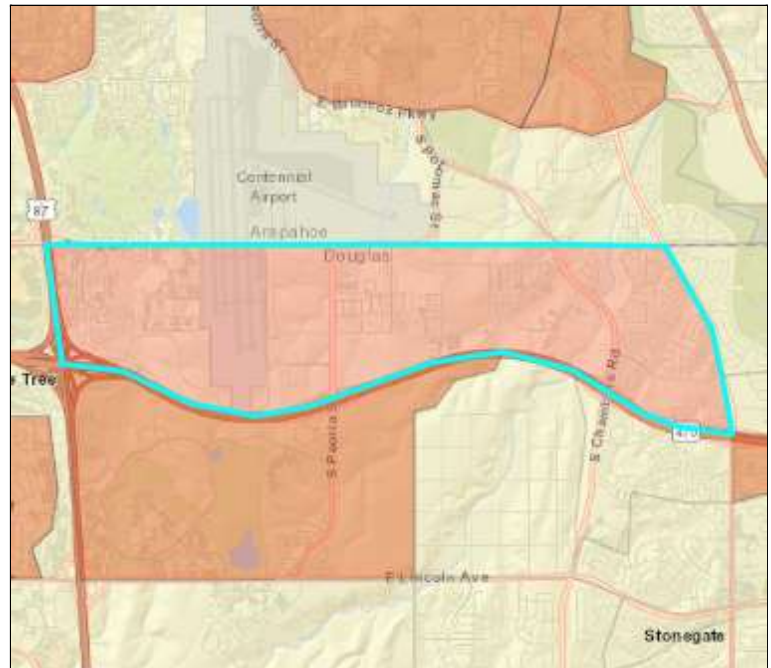
Air Quality Reg. 3 Disproportionately Impacted (DI) Community

No

Air Quality Reg. 3 Community Type

Not Disproportionately Impacted

Low-income Population	13%
People of Color Population	21.6%
Limited English Proficiency Population	1%
Housing Cost Burdened Population	34.6%
CO EnviroScreen Percentile Score	23.87



Environmental Justice Overview

Environmental Exposures Percentile Score 39.98

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 54.19

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 37.12

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 8.55

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.

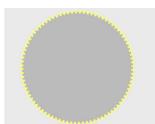
Demographics Percentile Score 39.38

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: Denver Campus



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](https://www.esri.com/en-us/world-imagery)

Pollution and Climate Indicators

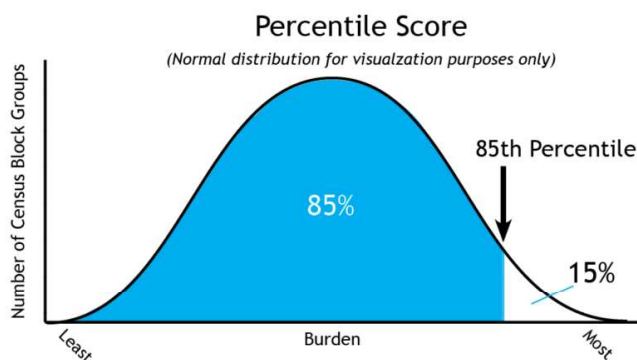
Indicator	Original Unit of Measure	Percentile
Air Toxics Emissions	distance weighted measure of estimated air toxics emissions	65.34
Diesel Particulate Matter	micrograms per cubic meter	55.35
Drinking Water Regulations	population weighted duration (in weeks) of resolved and unresolved health based violations from active community public water systems	18.2
Fine Particle Pollution (PM 2.5)	micrograms per cubic meter	54.05
Impaired Streams and Rivers	average impairment and assessment status of streams	34.5
Lead Exposure Risk	percentage of housing units built before 1960, as an indicator of potential exposure to lead	26.1
Noise	decibels A	45.27
Other Air Pollutants	distance weighted measure of estimated other air pollutant emissions	92.13
Ozone	parts per billion	67.67
Proximity to Hazardous Waste Facilities	distance weighted count of hazardous waste facilities within 5 km	50.93
Proximity to Mining Locations	distance weighted measure of the total number of active coal, hard rock, and construction materials mining permits	83.46
Proximity to National Priorities List Sites	distance weighted count of proposed or listed NPL sites with 5 km	53.68
Proximity to Oil and Gas	distance weighted measure of the total number of active oil and gas locations	86.98
Proximity to Risk Management Plan Sites	distance weighted count of RMP facilities within 5 km	32.19
Traffic Proximity and Volume	amount of vehicular traffic nearby, and distance from roads	21.78
Wastewater Discharge Indicator	toxic chemical concentrations in stream segments per km	75.92
Drought	sum of weekly total percent of an area experiencing a severe, extreme, or exceptional drought	17.98
Extreme Heat Days	average number of high heat days between May and September from 2016 to 2020	40.52
Floodplains	percentage of each geographic area where there is at least a one percent chance of flooding annually	83.1
Wildfire Risk	mean wildfire hazard potential within each geographic area as determined by the US Forest Service, 2021	78.91

Health and Social Indicators

Indicator	Original Unit of Measure	Percentile
Asthma Hospitalization Rate	rate of hospitalization per 100,000 people	49.38
Cancer Prevalence	percent of adults	10.18
Diabetes Prevalence	percent of adults	34.58
Heart Disease in Adults	percent of adults	9.79
Life Expectancy	years	28.57
Low Birth Weight	percent of singleton births	62.7
Mental Health Indicator	percent of adults	2.21
Population over 64 years of age	percent of total population	9.99
Population under 5 years of age	percent of total population	71.01
Disability	percent of total population	22.18
Housing Cost Burdened	percent of total population	63.68
Less Than High School Education	percent of total population	32.16
Linguistic Isolation	percent of total population	58.26
Low Income	percent of total population	27.2
People of Color	percent of total population	44.39

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 E. FACILITY EMISSIONS INVENTORY FORM (APCD-102A)

Form APCD-102a

Colorado Department of Public Health and Environment
Air Pollution Control Division

Facility Wide Emissions Inventory Form

Ver. September, 2019

Company Name: EdgeComeX, Inc.
Source Name: Denver Campus
Source AIRS ID: TBD

2800.00



APEN ID		Permit No.	Description	Uncontrolled Potential to Emit (PTE)												Controlled Potential to Emit (PTE)																																															
				Criteria (TPY)												Criteria (TPY)																																															
				HAPs (lbs/yr)						HAPs (lbs/yr)						HAPs (lbs/yr)																																															
				TSP	PM10	PM2.5	FUG	PM2.5	FUG	PM10	PM2.5	SO2	NOx	VOC	CO	Benzene	Toluene	EB	Xylene	n-Hex	HC100	TSP	PM10	PM2.5	FUG	PM2.5	FUG	PM10	PM2.5	SO2	NOx	VOC	CO	Benzene	Toluene	EB	Xylene	n-Hex	HC100																								
Permitted Sources Subtotal =				0.5	0.6	0.6	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	0.5	0.6	0.6	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	1.6																								
APEN Exempt / Insignificant Sources																																																															
Miscellaneous NG Combustion Sources				0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.16	0.02	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43																							
Insignificant Subtotal =				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	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	0.2	0.0	0.0	0.0	0.0	0.0	0.4																									
Total All Sources =				0.5	0.6	0.6	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	0.5	0.6	0.6	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	2.0																								
Uncontrolled HAPs Summary (TPY) =				0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0					
Controlled HAPs Summary (TPY) =				0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0					
Controlled Total All HAPs (TPY) =				0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0						0.0					

Footnotes:

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