STATEMENT OF BASIS FOR A PROPOSED PERMIT TO CONSTRUCT AN AIR CONTAMINANT SOURCE

h	Lincoln-Lancaster County Health Department	Patricia D. Lopez, RN, MSN Health Director
LINCOLN LANCASTER COUNTY, HEALTH DEPARTMENT	Environmental Public Health Division Air Quality Program 3131 O Street Lincoln, Nebraska 68510-1514	Brock Hanisch, MS, MPH, REHS Environmental Public Health Division Manager Gary R. Bergstrom, Jr.
	Phone: (402) 441-8040 Fax: (402) 441-3890	Air Quality Program Supervisor
LLCHD Air Quality P	rogram Source Number:	00421
LLCHD Air Quality P	229	
Proposed Effective	DATE TBD	

The Lincoln-Lancaster County Health Department (LLCHD) has made the preliminary determination to issue a permit to construct / reconstruct / modify an air contaminant source to the following:

Permit Holder Name:	Agate LLC
Address:	251 Little Falls Drive
City, State, ZIP:	Wilmington, DE 19808

The proposed permit allows for construction/reconstruction/modification at the following source:

Facility Site Name:	Agate
Facility Address:	SW 1/4 of Section 20, Township 11N, Range 7E
City, County, State, ZIP:	Lincoln, Lancaster County, NE 68514
Facility NAICS:	518210: Data Processing, Hosting, and Related Services

In accordance with requirements set forth under Article 2, Section 14 of the Lincoln-Lancaster County Air Pollution Control Programs Regulations and Standards (LLCAPCPRS), the LLCHD may not issue a construction permit until the public has been given the opportunity to comment on the draft permit.

Within the 30-day public comment period, any interested person, agency, group, or affected state may request or petition the Director of the LLCHD for a public hearing. All requests for public hearing must be made in writing, and must state the nature of the issues to be raised and all arguments and factual grounds supporting their position. If a public hearing is granted by the Director, the hearing will be advertised by public notice at least 30 days prior to its occurrence.

A final determination on this permit will be made following the opportunity of the public to review and comment on the draft permit, and any/all comments received have been addressed.

The conclusion of this document will include a recommendation to either approve or deny the issuance of a construction permit for this source.

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Definitions

Unless otherwise defined, or a different meaning is clearly required by context, the terms used in this permit shall be as defined in Lincoln-Lancaster County Air Pollution Control Program Regulations and Standards (LLCAPCPRS) Article 2, Section 1 (Definitions), or as defined in Attachment A to this document.

Abbreviations, Symbols, and Units of Measure

Abbreviations, symbols, and units of measure used in this document shall be as follows:

Factors, Voir, Statubrary Point & Area NANCES National Ambient Art Quality Standards for Hazardous BACT Best Available Control Technology Air Pollutants Bhy Best Management Practice NOx Nitrogen dixide BWP Best Management Practice NOx Nitrogen dixide Bu Bytish thermal unit NSPS New Source Review CAA Clean Air Act PAL Plant-wide applicability limit CDT/CST Control equipment PAL Plant-wide applicability limit CDT/CST Control ous emissions monitoring system PM Particulate matter CEM Continuous emissions monitoring system PM Particulate matter CCM Cotinuous emissions monitoring system PM Particulate matter Notico or less than 2.5 microns CQ Carbon monoxide ppb Parts per million No volume, dry basis CQ Construction permit ppm Parts per million by volume, dry basis CPM Continuous emisagement information System PM Parts per million by volume, dry basis CPM Prevention of	AP-42	Compilation of Air Pollutant Emission	MW	Megawatt
BACTNational Emission Standards for Prazat buosBACTRest Available Control TechnologyAir PollutantsbhpBrake horsepowerNO2Nitrogen oxidesBtuBritish thermal unitNSPNew Source Performance StandardbuBushelNSRNew Source ReviewCAAClean Air AtNSRNew Source ReviewCDT/CSTCentral Daylight Time/Central Standard TimePALPlant-wide applicability limitCDT/CSTCentrol equipmentPEMSPredictive Emissions Monitoring SystemCEMContinuous emissions monitorPMParticulate matterCEMSContinuous emissions monitoring systemPM10Particulate matter with and aerodynamicCGcarbon monoxidediameter equal to or less than 10 micronsCQ:Code of Federal RegulationsPM10Particulate matter with and aerodynamicCOcarbon monoxideppmParts per millionCO:Carbon monoxideppmVParts per millionCO:Construction permitppmVParts per million by volumeCPMSContinuous Parametric Monitoring SystemppmVParts per million by volume, dy basisPY standard cubic feetPSDPrevention of Significant Deterioration of AirCubic feetSignificant Deterioration of AirCualityCPMSEnterstore propiltatorRTARelative Accuracy Test AuditENSEmission unitRMPRisk Management PlanFDCPFuelty edus control plan\$SectionFIP		Factors, vol. I, Stationary Point & Area	NAAQS	National Ambient Air Quality Standards
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BMUBest Management PracticeNDxNitrogen oxidesBuBushelNSPSNew Source ReviewCAAClean Air ActPALPlant-wide applicability limitCAAClean Air ActPALPlant-wide applicability limitCEControl augmentPbLead (chemical abbreviation)CEContinuous emissions monitorPMParticulate matterCEMContinuous emissions monitoring systemPMParticulate matterCode of Federal RegulationsPMParticulate matter with and aerodynamicCOCarbon monoxidepppParts per billionCOCarbon monoxideppmParts per billionCO2Code of Federal RegulationsPMParticulate matter with and aerodynamicCO3Carbon dioxideppParts per billionCO4Carbon dioxideppmParts per millionCO2CO2 equivalentppmParts per millionCPMSConstruction permitppmvParts per millionCPMSConstruction permitppmvParts per millionCPMSConstruction permitRVPReid vapor pressureESPElectrostatic precipitatorRATARelative Accuray Test AuditEVEmission unitRMPRisk Management PlanFID#Fadity Identification NumberRTORegenerative thermal oxidizerFIPFederal Inglementation PlanSDSSafety Data Safiety DataFIRFourier Transform InfraredSO2Sulfur dioxide <t< td=""><td>bnp</td><td>Brake norsepower</td><td>NO₂</td><td>Nitrogen dioxide</td></t<>	bnp	Brake norsepower	NO ₂	Nitrogen dioxide
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MMscf One million standard cubic feet VOC Volatile organic compound	MMBtu	One million British thermal units	VMT	Vehicle miles traveled
I	MMscf	One million standard cubic feet	VOC	Volatile organic compound

1.01 – Description of Project

On March 20, 2023, Agate, LLC (hereinafter referred to as 'Agate') submitted an application to construct a facility for data processing, handling, and related services (i.e., data center) on a property located at the northwest corner of the intersection of Highway 77 and Interstate-80 in Lincoln, NE. This is a 'greenfield' construction project, as there are currently no existing facilities or emission units at the proposed facility location.

This permit is being issued using 'minor New Source Review' (minor-NSR) permitting procedures, based on the following:

- This facility does not meet any of the source applicability criteria set forth in 40 CFR Part 52, §52.21(b)(1)(i)(a) which would establish the facility as a 'major stationary source' for the purposes of PSD permitting at a threshold of 100 tons per year (TPY) of any regulated NSR pollutant; and
- The owner/operator has elected to accept federally enforceable limitations on fuel use that will limit emissions of all regulated NSR pollutants to no more than 249.00 tons during any consecutive twelve (12) month period, thus avoiding classification as a 'major stationary source' for PSD permitting pursuant to 40 CFR Part 52, §52.21(b)(1)(i)(b).

Section 2 – Permitting History

2.01 – Proposed Issuance of Construction Permit #229

There is no prior air permitting history associated with this source. The sections that follow provide more information on the source, the nature of emissions from the proposed construction, evaluation of the potential to emit, and a discussion of the conditions set forth in the draft permit.

Section 3 – Emission Unit Characterization

3.01 – Permitted Emission Units

This permit allows for the <u>construction and operation</u> of the following emission unit(s) in accordance with the conditions and requirements established in the proposed permit. For the purposes of the proposed permit and this 'statement of basis', refer to Attachment A of this document for further information on how 'Diesel' is defined.

Emission Unit (EU)	SCC Code	Emission Point Description	Emission Segment Description
B1G1	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G2	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G3	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G4	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G5	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G6	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G7	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G8	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G9	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G10	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G11	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel

Agate, LLC

LLCHD Source #: 00421

Emission Unit (EU)	SCC Code	Emission Point Description	Emission Segment Description
B1G12	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G13	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G14	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G15	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G16	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G17	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G18	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G19	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G20	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G21	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G22	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G23	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G24	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G25	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G26	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G27	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G28	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G29	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G30	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G31	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G32	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G33	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1G34	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B1CG1	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG2	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG3	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG4	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG5	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG6	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1CG7	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1LTG1	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1LTG2	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B1LTG3	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2G1	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G2	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G3	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G4	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G5	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G6	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel

Emission Unit (EU)	SCC Code	Emission Point Description	Emission Segment Description
B2G7	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G8	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G9	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G10	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G11	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G12	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G13	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G14	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G15	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G16	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G17	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G18	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G19	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G20	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G21	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G22	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G23	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G24	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G25	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G26	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G27	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G28	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G29	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G30	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G31	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G32	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G33	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2G34	2-01-001-02	Type 1 – Tier 2 Diesel Emergency Engine	Diesel
B2CG1	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG2	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG3	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG4	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG5	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG6	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2CG7	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2LTG1	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2LTG2	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
B2LTG3	2-01-001-02	Type 2 – Tier 2 Diesel Emergency Engine	Diesel
FP-1	2-01-001-02	350 kW Tier 2 Diesel Fire Pump Engine	Diesel

Emission Unit (EU)	SCC Code	Emission Point Description	Emission Segment Description
GH-1	2-01-001-02	500 kW Tier 2 Diesel Guard House Engine	Diesel
B1CT1	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT2	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT3	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT4	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT5	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT6	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT7	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT8	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT9	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT10	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT11	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B1CT12	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT1	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT2	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT3	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT4	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT5	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT6	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT7	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT8	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT9	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT10	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT11	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
B2CT12	3-85-001-01	5,160 gallon-per-minute Cooling Tower	Cooling Tower
TANKS	3-90-900-04	Diesel Storage Tanks*	Fugitive VOC & HAP

* - This emission unit consists of ninety (90) diesel storage tanks up to 5,255 gallon capacity.

3.02 - Insignificant Equipment

There are no additional units that warrant identification as 'Insignificant Equipment' associated with the construction of this facility.

3.04 – Source Location & Layout

The following image reflects the property boundary (yellow) and the proposed location of facility structures (blue) on the site.



Section 4 – Emission Characterization

4.01 – Emission Calculation Factors and Methods

The emission factors, methods, and procedures for performing emission calculations are based on information provided in Agate LLC's approved application. Agate will be required to utilize such factors and methods to provide the emissions information required for the annual emissions inventory. Agate used manufacturer data and emission factors from the US Environmental Protection Agency's (US EPA) Compilation of Air Pollutant Emission Factors (AP-42) to calculate emissions for the respective units.

4.02 – Maximum Potential to Emit (MPTE)

4.02.01 - MPTE: Criteria Pollutants, Greenhouse Gases, & Total Hazardous Air Pollutants (HAPs)

The following table reflects the maximum potential emissions of criteria pollutants, as well as GHGs and total HAPs associated with the construction of this facility. Emissions are provided in units of pounds per year.

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	CO	CO ₂ e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
EPB1G1-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G2-1	1,851,864 gals	5,600	5 <i>,</i> 600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G3-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G4-1	1,851,864 gals	5,600	5 <i>,</i> 600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G5-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G6-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G7-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G8-1	1,851,864 gals	5,600	5 <i>,</i> 600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G9-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G10-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G11-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G12-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G13-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G14-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G15-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G16-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G17-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G18-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G19-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	СО	CO ₂ e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
EPB1G20-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G21-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G22-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G23-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G24-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G25-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G26-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G27-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G28-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G29-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G30-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G31-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G32-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G33-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1G34-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB1CG1-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG2-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG3-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG4-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG5-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG6-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1CG7-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1LTG1-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1LTG2-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB1LTG3-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2G1-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G2-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G3-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G4-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G5-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	СО	CO2e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
EPB2G6-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G7-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G8-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G9-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G10-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G11-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G12-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G13-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G14-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G15-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G16-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G17-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G18-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G19-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G20-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G21-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G22-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G23-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G24-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G25-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G26-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G27-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G28-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G29-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G30-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G31-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G32-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G33-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2G34-1	1,851,864 gals	5,600	5,600	463,500	470.2	7,800	89,520	45,361,271	-	427
EPB2CG1-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	СО	CO ₂ e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
EPB2CG2-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2CG3-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2CG4-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2CG5-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2CG6-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2CG7-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2LTG1-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2LTG2-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPB2LTG3-1	1,066,968 gals	3,600	3,600	307,380	275	7,800	46,520	26,500,910	-	249
EPFP-1	230,388 gals	2,880	2,880	61,540	9,168	10,660	10,660	5,287,570	-	123
EPGH-1	329,376 gals	4,120	4,120	87,900	78	15,220	15,220	7,553,671	-	71
B1CT1-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT2-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT3-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT4-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT5-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT6-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT7-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT8-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT9-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT10-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT11-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT12-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT1-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT2-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT3-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT4-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT5-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT6-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT7-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	СО	CO ₂ e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
B2CT8-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT9-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT10-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT11-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT12-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
TANKS-1	147,825,876 gals	-	-	-	-	2,280	-	-	-	2.28
Total Emis	ssions (pounds/year)	469,304	465,512	37,815,040	46,720	762,560	7,043,640	3,627,425,869	0	34,212
Total E	missions (tons/year)	234.65	232.76	18,908	23.36	381.28	3,521.80	1,813,713	0	17.106

4.02.02 - MPTE: Individual Hazardous Air Pollutants (HAPs)

The following table reflects the maximum potential emissions of individual HAPs associated with the construction of this facility. Emissions are provided in units of pounds per year.

HAP Name	CAS #	Emissions (lbs)	Emissions (tons)
Formaldehyde	50-00-0	1,747.9	0.87
Benzene	71-43-2	16,855.1	8.43
Acetaldehyde	75-07-0	571.1	0.29
Naphthalene	91-20-3	2,823.3	1.41
1,3-Butadiene	106-99-0	1.2	0.00
Acrolein	107-02-8	174.3	0.09
Toluene	108-88-3	6,106.2	3.05
Xylenes	1330-20-7	4,193.5	2.10
Polycyclic Organic Matter		1,779.1	0.89

4.03 - Limited/Controlled Potential to Emit (LCPTE)

4.03.01 – LCPTE: Criteria Pollutants, Greenhouse Gases, & Total Hazardous Air Pollutants

The following table reflects the potential emissions for criteria pollutants, as well as GHGs and total HAPs associated with the construction of this facility after the incorporation of applicant-elected limitations on production, throughput, emissions, and/or emission controls as identified in Section 6 of the approved application. Emissions are provided in units of pounds per year.

Emission Unit (EU)	Maximum Annual Process Rate	PM ₁₀ (lbs)	PM _{2.5} (lbs)	NO _x (lbs)	SO₂ (lbs)	VOC (lbs)	CO (lbs)	CO ₂ e	LEAD (lbs)	Total HAP (lbs)
All Diesel Engines*	1,863,000 gallons (all eng. combined)	7,896.7	7,896.7	497,421.0	1,047.7	13,625.7	111,041.3	43,930,519.8	-	413.6
B1CT1-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT2-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT3-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT4-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT5-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT6-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT7-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT8-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT9-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT10-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT11-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B1CT12-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT1-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT2-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT3-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT4-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT5-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT6-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT7-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT8-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT9-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT10-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-

Emission	Maximum Annual	PM ₁₀	PM _{2.5}	NOx	SO ₂	VOC	СО	CO₂e	LEAD	Total HAP
Unit (EU)	Process Rate	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
B2CT11-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
B2CT12-1	2,712,096,000 gals	396	238	-	-	2,000	-	-	-	-
TANKS-1	1,863,000 gals	-	-	-	-	103.5	-	-	-	0.10
Total Emissio	ons (pounds per year)	17,401	13,609	497,421	1,047.7	61,729	111,041	43,930,520	-	413.7
Total Emiss	ions (tons per year)	8.70	6.80	248.71	0.52	30.87	55.52	21,965	-	0.21

* - "All Diesel Engines" shall mean the following emission units:

• Type 1 engines B1G1 through B1G34 and B2G1 through B2G34;

• Type 2 engines B1CG1 through B1CG7, B1LTG1 through B1LTG3, B2CG1 through B2CG7, and B2LTG1 through B2LTG3;

• Fire Pump engine FP-1 and Guard House engine GH-1.

4.03.02 – LCPTE: Individual Hazardous Air Pollutants

The following table reflects the maximum potential emissions of individual HAPs associated with the construction of this facility after the incorporation of applicant-elected limitations on production, throughput, emissions, and/or emission controls as identified in Section 6 of the approved application. Emissions are provided in units of pounds per year.

HAP Name	CAS #	Emissions (lbs)	Emissions (tons)
Formaldehyde	50-00-0	23.00	0.012
Benzene	71-43-2	204.40	0.102
Acetaldehyde	75-07-0	8.16	0.004
Naphthalene	91-20-3	34.10	0.017
1,3-Butadiene	106-99-0	0.08	0.000
Acrolein	107-02-8	2.25	0.001
Toluene	108-88-3	74.16	0.037
Xylenes	1330-20-7	50.94	0.025
Polycyclic Organic Matter		21.50	0.011

4.04 – PTE: Comparison of MPTE and LCPTE to Relevant Permit Thresholds

The following table compares the 'maximum potential to emit' to the 'limited/controlled potential to emit' and compares the 'limited/controlled potential to emit' to both PSD and minor-NSR permitting thresholds for regulated NSR pollutants. The table also compares the 'limited/controlled potential to emit' for HAPs to 'best available control technology for air toxics' (T-BACT) thresholds established in LLCAPCPRS Article 2, Section 27, paragraph (B). Several PSD-regulated pollutants have been omitted from the table below, as they are not relevant to this permitting action.

Regulated NSR Pollutants	МРТЕ (tpy)	LCPTE (tpy)	PSD Major Source Thresholds (tpy)	Is LCPTE >/= PSD Thresholds?	Minor-NSR Thresholds (tpy)	Is LCPTE >/= minor-NSR Thresholds?
PM ₁₀	234.65	8.70	250.0	No	15.0	No
PM _{2.5}	232.76	6.80	250.0	No	10.0	No
NO _X ª	18,908	248.71	250.0	No	40.0	Yes
SO ₂	23.36	0.52	250.0	No	40.0	No
VOC	381.28	30.87	250.0	No	40.0	No
CO	3,522	55.52	250.0	No	50.0	Yes
Lead	-	-	250.0	No	0.6	No
CO ₂ e	1,813,713	21,965	75,000 ^b	No	N/A	N/A
Hazardous Air Pollutants (HAPs)	МРТЕ (tpy)	LCPTE (tpy)	PSD Significance Thresholds (tpy)	ls LCPTE >/= PSD Thresholds?	T-BACT & Minor- NSR Thresholds (tpy)	Is LCPTE >/= T-BACT & minor-NSR Thresholds?
Greatest Single HAP	8.428	0.102	N/A	N/A	2.50	No
Total HAPs	17.106	0.209	N/A	N/A	10.0	No

^a - Calculated as NO₂.

^b - GHGs are only regulated under PSD permitting if a stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO2e or more, or if a stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO2e or more.

4.05 – Permit Threshold Evaluation

Lancaster County is in attainment/unclassifiable status for all regulated NSR pollutants, and as such, non-attainment NSR does not apply to this permitting action.

4.05.01 – Prevention of Significant Deterioration of Air Quality Applicability (PSD) Determination

For the purposes of determining applicability of minor-NSR and PSD, the Department has determined that this facility does not belong in any of the 'named source categories' set forth in 40 CFR Part 52 \$52.21(b)(1)(i)(*a*). As such, the PSD major source emission threshold for this facility is 250 tons/year for any regulated NSR pollutant pursuant to 40 CFR Part 52 \$52.21(b)(1)(i)(*b*).

The construction of this facility <u>is not</u> subject to PSD permitting requirements, as the limited/controlled emissions of all regulated NSR pollutants are lower than the PSD major source thresholds.

4.05.02 – Minor New Source Review (minor-NSR) Determination

As shown in the tables in Section 4.04, maximum potential emissions certain regulated NSR pollutants exceed the minor-NSR construction permit thresholds.

Limited/controlled emissions of NO_X and CO both exceed the minor-NSR permitting threshold. GHGs are not regulated for minor-NSR permitting purposes. Because both the maximum potential emissions and the limited/controlled emissions from this project exceed the minor-NSR permitting thresholds for NO_X and CO, a minor-NSR construction permit is required.

4.05.03 – Operating Permit Determination

Upon issuance of the proposed Construction Permit #229, Agate will be considered a Class I facility because potential emissions of NOx exceed 100 tons per year. In accordance with LLCAPCPRS Article 2, Section 7, paragraph (B)(2), Agate must file an application for a Class I operating permit within 12 months of startup of operation.

4.06 – Air Toxics 'Best Available Control Technology' (T-BACT) Applicability Determination and Discussion

In accordance with LLCAPCPRS Article 2, Section 27, paragraph (B), an owner/operator may not construct/reconstruct/modify a source where the potential to emit HAPs equals or exceeds 2.5 tons per year for any individual HAP, or equals or exceeds 10 tons per year for total HAPs, without applying 'best available control technology'.

For this project, the limited/controlled emissions of both individual and total HAPs are lower than these thresholds. As such, the owner/operator is not required to apply best available control technology for HAP emissions.

4.07 – Ambient Air Quality Impact Analysis

In accordance with LLCAPCPRS Article 2, Section 17, paragraph (H), the Director may require construction permit applicants to perform an air quality impact analysis to determine the concentration of pollutants expected to occur in the vicinity of the source. Consistent with the approach used by the NDEE, air dispersion modeling is required for any construction, modification, or reconstruction when the significant net emissions increase equals or exceeds the 'Significant Emission Rates' (SER) set forth in the NDEE's modeling guidance. As reflected in Section 4.04, limited/controlled emissions of NO_X (calculated as NO_2) exceed the SERs listed in the table below, and as such, an 'ambient air quality impact analysis' is required for this project. An 'increment

analysis' is not required for this permitting action, as this source will not be classified as a major source of emissions for PSD purposes.

Pollutant	SER (tons/year)
PM ₁₀	15.0
PM _{2.5}	10.0
NO ₂	40.0
SO ₂	40.0
СО	100.0
Lead	0.6
Total Reduced Sulfur (inc. H ₂ S)	10.0

	Significant	Emission	Rates	(SERs)
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Reference: 40 CFR Part 51, §51.166 (23)(i)

4.07.01 – Dispersion Modeling Requirements & Applicable NAAQS

The air quality impact analysis for the proposed Agate, LLC (Agate) facility consists of a refined modeling analysis for NO₂ to demonstrate that the proposed facility will not cause or contribute to any violations of applicable primary or secondary National Ambient Air Quality Standards (NAAQS) for those pollutants with concentrations above the respective significant impact levels (SILs) in Table 1.0-1 of the NDEE's '*PSD and Minor Source Modeling Guidance*' (Sept. 2022). A refined analysis was completed for annual NO₂, because this is the pollutant and averaging period for which the maximum concentration from the proposed Agate facility was predicted to exceed the SIL. The NAAQS are identical to the ambient air quality standards for Nebraska and Lancaster County, Nebraska (i.e., State/Local AAQS). The NAAQS and State/Local AAQS are shown in the table below.

National and State/Local Ambient Air Quality Standards for NO₂

Dollutant	Primary/ Averaging		Ambient Air Quality Standards			
Pollutant	Secondary	Period	National	State/Local		
NO	Primary	1-hour ¹	100 ppb (188 µg/m³)	100 ppb (188 μg/m³)		
NO ₂	Primary & Secondary	Annual	53 ppb (100 μg/m³)	53 ppb (100 μg/m³)		

¹ Calculated as the 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

² The level of the annual NO₂ standard is 0.053 ppm. It is shown here in units of ppb for comparability to the 1-hour standard. For additional reference, 1 ppb NO₂ = $1.88 \mu g/m^3$.

This ambient air quality impact analysis accounts for the combined impacts of allowable emissions from the proposed Agate facility, actual emissions from nearby major and minor sources, and background concentrations attributable to distant major and minor sources, and natural sources. Comparing the combined impacts from the proposed facility, nearby sources, and background concentration, this analysis demonstrates that the facility is expected to be in compliance with the National and State/Local AAQS for NO₂.

4.07.02 – Background Concentration

Adding an appropriate background concentration to the modeled impact accounts for that portion of NO₂ background concentration attributable to natural sources, unidentified nearby

sources in the vicinity of the project, and regional transport contributions from distant sources. The EPA recommends use of the most recent quality assured ambient air monitoring data collected in the vicinity of the source. The ambient air monitoring data should be of sufficient completeness and follow appropriate data validation procedures.

When choosing a monitor to use as a background concentration, it is required the monitor has three current consecutive years of data and satisfies EPA's minimum data completeness criteria.

In addition, LLCHD looks for representative nearby population, land use, terrain, climate, and the existence of large nearby sources, and traffic patterns that may be impacting the monitor. Also, consideration is given to the pollutant's residence time and how inert or reactive that pollutant is in the atmosphere.

The Agate facility will be located approximately one (1) kilometer northwest of the intersection of Highway 77 and Interstate-80 north in north Lincoln, Nebraska. This is a rural/urban/suburban location of primarily agricultural land use with some light commercial development. Prevailing wind patterns for Lincoln, NE are North and South.

Because the State of Nebraska only has a NO_X monitor instead of a NO_2 monitor, LLCHD utilized NO_2 monitors located in the State of Kansas to determine background concentration. The selected monitors in the State of Kansas have similar land use, climate, terrain, and prevailing wind patterns representative of Nebraska's land use, climate, terrain, and prevailing wind patterns.

 NO_2 is a highly reactive air pollutant, with a short residence time. Of the available State of Kansas NO_2 monitors, monitor ID #20-133-0003 was chosen as the most representative for the Agate project location. The NO_2 monitor is located at 1500 West 7th St., Chanute, KS, approximately 2.75 km south/southeast from a large concrete manufacturing plant (a significant source of NO_2 emissions).

4.07.03 – Meteorological Data

Currently, there are ten automated surface observing system (ASOS) stations with sufficient data to process consecutive 5-year meteorological (met) datasets in the State of Nebraska.

The Lincoln Municipal Airport ASOS station (LNK) is about 11.3 kilometers from the proposed Agate facility, and is the closest ASOS weather station to the site. As such, it is the most representative of the climate at the Agate site.

The 2018 through 2022 dataset was processed using AERMET v. 21112 AERSURFACE v. 20060, and AERMINUTE v. 15272. These were the current versions of the AERMET suite of programs at the time the dataset was provided to the facility.

4.07.04 – Dispersion Modeling Results

Comparing the combined impacts from the proposed facility, nearby sources, and background concentration, this analysis demonstrates that the facility is expected to be in compliance with the annual standard for NO₂. The dispersion modeling results indicated that NO₂ concentrations associated with Agate exceeded the 'Significant Impact Level' (SIL) for NO₂ of 1.0 μ g/m³ (0.53 ppb) for the annual primary and secondary NO₂ standard set forth in NDEE's '<u>PSD and Minor Source Modeling Guidance</u>'. As a result, a comprehensive modeling analysis was required to demonstrate compliance with the annual primary and secondary NAAQS for

NO₂. Results, provided as follows, indicated the highest predicted annual average concentration is $16.22 \ \mu g/m^3$ (shown in bold text).

				_			
Voar	XUTM	YUTM	Background	Agate	Nearby	Total	F/S/L AAQS
Teal	(m)	(m)	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)
2018	697646.8	4531565.2		1.02	0.02	16.04	
2019	697646.8	4531565.2		1.00	0.02	16.02	
2020	697647.2	4531550.0	15	1.13	0.02	16.15	100
2021	697646.8	4531565.2		1.20	0.02	16.22	
2022	697647.2	4531550.0		1.17	0.02	16.19	

Maximum Annual Ambient NO₂ Concentrations

4.07.05 – Air Quality Impact Summary

As demonstrated in the modeling results discussed above, Agate will be in compliance with the annual primary and secondary NAAQS for NO₂.

To ensure that assumptions used in the modeling remain valid, the facility will have to meet stack height requirements for the various point sources (e.g., engine exhaust), conduct best management practices for maintenance of the haul roads, conduct performance testing to verify emissions from major point sources, and restrict public access to the facility in a manner consistent with the U.S. EPA's '<u>Revised Policy on Exclusions from "Ambient Air"</u> (Dec. 2, 2019). If the results of the testing are significantly higher than the corresponding values used in the modeling, then the facility may need to remodel to show compliance with the NAAQS and increment.

Section 5 – Applicable Regulations & Requirements

5.01 – Applicable Regulations under the LLCAPCPRS

The following sections (§) of the LLCAPCPRS are requirements of the proposed permit:

Table 1-A: Applicable	Regulations of	the LLCAPCPRS
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Article 1: Admi	inistration and Enforcement	
§1	Intent	
§2	Unlawful Acts – Permits Required	
§3	Violations – Hearings – Orders	
§4	Appeal Procedure	
§5	Variance	
§6	Fees	
§7	Compliance – Actions to Enforce – Penalties for Non-Compliance	
§8	Procedure for Abatement	
§9	Severability	
Article 2: Regu	lations and Standards	
§1	Definitions	
§2	Major Sources – Defined	
§4	Ambient Air Quality Standards	
§6	Emissions Reporting – When Required	
§14	Permits – Public Participation	
§15	Permit Modifications – Reopening for Cause	
§16	Stack Heights – Good Engineering Practice	
§17	Construction Permits – When Required	
§18	New Source Performance Standards	
§20	Particulate Limitations and Standards	
§28	Hazardous Air Pollutants — Source Category Emissions Standards	
§29	Operating and Construction Permit Emission Fees	
§32	Duty to Prevent Escape of Visible Airborne Dust	
§33	Time Schedule for Compliance	
§34	Emission Source Testing and Monitoring	
§35	Compliance – Exceptions Due to Startup, Shutdown, or Malfunction	
§36	Control Regulation Circumvention — When Excepted	
§37	Compliance – Responsibility of Owner/Operator Pending Review by Director	
§38	Emergency Episodes — Occurrence, Control, and Contingency Plans	
Appendices		
I	Emergency Emission Reduction Regulations	
II	Hazardous Air Pollutants Sorted by Pollutant Name	
	Hazardous Air Pollutants Sorted by CAS Number	

5.02 – Non-Applicable Regulations under the LLCAPCPRS

The following sections of the LLCAPCPRS are not requirements of the proposed permit:

Table 1-B: LLCAPCPRS Regulations not Incorporated in Permit

Article 2: Regulations and Standards				
§5	Operating Permits – When Required ^a			
§7	Operating Permits – Application ^a			
§8	Operating Permits – Content			
§9	General Permits			

Article 2: Regu	lations and Standards	
§10	Operating Permits for Temporary Sources	
§11	Emergency Operating Permits – Defense	
§12	Operating Permit Renewal and Expiration	
§13	Class I Operating Permit – EPA Review – Affected States Review	
§19	Prevention of Significant Deterioration of Air Quality	
§21	Compliance Assurance Monitoring	
§22	Incinerator Emission Standards	
§23	National Emission Standards for Hazardous Air Pollutants (NESHAPs)	
§24	Sulfur Compound Emission Standards for Existing Sources	
§25	Nitrogen Oxide Emissions Standards for Existing Sources	
§26	Acid Rain	
§27	Hazardous Air Pollutants – Maximum Achievable Control Technology (MACT)	
§3, §30, §31	Reserved	
^a - While operating permit requirements are not relevant to this permitting action, the owner/operator will be		
a major source of criteria pollutant emissions for operating permit purposes, and will be required to submit		
an application for a Class I operating permit within twelve (12) months of startup of operation.		

5.03 – Non-Applicable Regulations under the NDEE Title 129 Air Quality Regulations

The following regulation(s) set forth under Title 129 of the Nebraska Administrative Code (Nebraska Air Quality Regulations) are not requirements of the proposed permit:

Table 1-C: Non-Applicable State Air Quality Regulations

Regulation	Regulation Title
Chapter 4	Prevention of Significant Deterioration of Air Quality

5.04 – Applicable Federal Regulations

The following Federal Regulations, including those not currently delegated to the LLCHD or not yet included in the LLCAPCPRS, <u>are</u> requirements of the proposed permit:

40 CFR Part 60: New Source Performance Standards (NSPS)		
Subpart	Subpart Subject	
A	General Provisions	
	NSPS for Stationary Compression Ignition Internal Combustion Engines (CI ICE)	
40 CFR Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
(Source Category NESHAPs)		
Subpart	Subpart Subject	
A	General Provisions	
ZZZZ	Source Category NESHAP for Reciprocating Internal Combustion Engines (RICE)	

Table 1-D: Applicable Federal Regulations

Section 6 – Discussion of Proposed Permit Requirements

The following conditions of the proposed permit contain monitoring, reporting, notification, and record keeping requirements. A brief description of these conditions is provided below:

6.01 – General Conditions

The LLCHD has developed standard and general conditions that apply to most all sources of air pollution that are required to obtain an air quality construction permit. These conditions include requirements that apply to a wide variety of sources of air pollutants. These conditions are not typically subject to frequent change and provide a level of consistency for this portion of the permit regardless of the source. This standardization helps maintain consistency between permitting

actions and reduces or eliminates the need for additional review, comment, or changes to this portion of the permit during the permitting process. There will not be an in-depth discussion of these requirements, except to note the following General Conditions specifically related to monitoring, reporting, notification, and record-keeping:

- VI Fees
- XI Annual Emission Reporting
- XII(E) Notification of Source Modifications
- XIV(E) Permit Copy Maintenance and Retention
- XXI(G) 'Credible Evidence Rule'
 - XXII Startup, Shutdown, and Malfunction (SSM) Provisions
- XXVI(E) Record Keping and Retention

6.02 – Specific Conditions

The following are specific conditions of the proposed construction permit.

- XXVII. <u>Source-Wide Requirements.</u> These conditions apply to the facility and to any emission units identified specifically under the requirements of this condition.
 - (A) <u>Operating Requirements, Throughput Limits, and/or Work Practice</u> <u>Standards.</u>

The requirements set forth under this condition serve to:

- ensure that the facility is constructed in a manner that is consistent with the approved application;
- ensure that emission units are operated in such a manner that their contributions to air pollution are minimized;
- ensure that the permitted emission units are operated and maintained in a manner that is consistent with manufacture specifications and/or good air pollution control practices;
- recognize that it is the responsibility of the source to implement operating and maintenance procedures according to good air pollution control practices; and
- incorporate any elections made in the approved application by reference.

(B) <u>Emission Limits and Emission Control Requirements.</u>

The requirements set forth under this condition serve to:

- ensure that all required emission controls (if any) are constructed and operated in a manner that is consistent with good air pollution control practices; and
- ensure that all equipment is maintained in such a manner as to minimize excess emissions of uncontrolled air pollutants.
- (C) Monitoring and Record Keeping Requirements.

The requirements set forth under this condition serve to:

- establish the means by which the owner/operator will demonstrate ongoing status as a 'minor source' for PSD purposes;
- ensure that the source maintains adequate records to confirm the accuracy of all required emission calculations for both the purposes of complying with emission limits, as well as for submitting annual

emission inventories (Note: the owner/operator has supplied emission calculations in which EPA-approved emission factors were used to demonstrate compliance with emission limits); and

- ensure that the owner/operator maintains records adequate to demonstrate that permitted emission units are operated and maintained in a manner that is consistent with manufacture specifications and/or good air pollution control practices.
- (D) <u>Notification and Reporting Requirements.</u>

The requirements set forth under this condition serve to:

- reiterate the requirement that the owner/operator is to submit an annual emission inventory;
- require the owner/operator to notify the Department of any changes to emission units or associated control equipment (if any) that have the potential to increase emissions and render emissions modeling or performance testing as no longer representative of actual emissions.
- (E) <u>Other Requirements.</u>

The requirements set forth under this condition serve to:

- establish the duration of the applicability of the permit conditions;
- ensure that the Department is aware of any changes at this source that would result in significant changes to actual emissions as well as the source's potential to emit, including changes to application materials;
- establish the legal basis for the Department's ability to perform inspections, review records, take action to control air pollution discharges, require testing and sampling, and perform permitting actions; and
- ensure timely compliance with any requirements that would require additional emission controls or monitoring, beyond what has been established in the proposed permit.
- XXVIII. <u>Requirements for Emergency Generator Engines.</u> These conditions apply to all emission units identified in Table 28 of the proposed permit.
 - (A) <u>Operating Requirements, Throughput Limits, and/or Work Practice</u> <u>Standards.</u>

The requirements set forth under this condition serve to:

- establish a combined fuel use limitation that is consistent with the owner/operator's approved permit application, and the provided supporting documentation;
- establish limits on the hours of operation that are consistent with federal regulations pertaining to emergency generator engines; and
- incorporate all operational requirements and/or work practice standards established pursuant to federal regulations incorporated in Conditions XXVIII(F-G).

Furthermore, the requirements set forth under this condition have been established on the following bases:

- The proposed construction permit for this facility incorporates a 500 hour/year limit on the hours of operation for each engine, with only 100 of those 500 hundred hours to be used for non-emergency purposes such as maintenance, and readiness testing. The construction permit further restricts the owner/operator to operating no more than eight (8) engines at one time for nonemergency purposes, and only between the hours of 7:00 AM and 7:00 PM, though there is a limited exception to that restriction granted for large-scale electrical infrastructure maintenance (refer to Conditions XXVIII(A)(1-2)). It is the LLCHD's understanding that a test for readiness on an emergency engine generally takes between 30 minutes to 4 hours per engine, but large-scale electrical infrastructure maintenance may require a longer operating duration with simultaneous operation of a larger number of engines. The operating restrictions prescribed in Conditions XXVIII(A)(1-2) allow for readiness tests and maintenance to be completed during the prescribed periods as well as for the source to operate under other non-emergency situations. Regardless of the operating scenario, the engines are subject to hour limitations prescribed in the permit and also for non-emergency situations in 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.
- The restrictions on operation for maintenance (including large-scale electrical infrastructure maintenance) and readiness testing are intended to:
 - Align engine operation with the US EPA's March 1, 2011 memo by Tyler Fox (Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard) regarding intermittent emissions, which states, "Another aspect of intermittent emissions worth noting is the distinction between intermittent emissions that can be schedule with some degree of flexibility vs. intermittent emissions that cannot be scheduled. For example, a portion of emissions from an emergency generator are likely to be associated with regular testing of the equipment that may be required to ensure its reliable operation, while that portion of emergency generator emissions associated with actual emergency use typically cannot be scheduled. In this case it may be appropriate to include a permit condition that restricts operation of the emergency generator during testing certain hours of the day, which may mitigate that source's contribution to ambient NO₂ levels based on dispersion conditions.";
 - Align engine operation with modeled input file parameters to ensure the assumptions used in the air quality impact analysis remain valid;

- Limit non-emergency operation hours to those times of the day when maximum convective vertical dispersion is anticipated to occur, which in turn limits ground level concentrations of NO₂ from the emergency engines; and
- Reduces the direct impact of emissions on ambient air quality by disallowing simultaneous testing and maintenance on all 90 emergency engines.
- (B) <u>Emission Limits and Emission Control Requirements.</u>

The requirements set forth under this condition serve to:

- incorporate emission limits based upon the manufacturer-specified 'potential site variation' emissions data;
- incorporate applicable emission limits as specified in LLCAPCPRS Article 2, Section 20; and
- incorporate by reference any applicable emission limits established pursuant to federal regulations incorporated in Conditions XXVIII(F-G).

(C) Monitoring and Record Keeping Requirements.

The requirements set forth under this condition serve to:

- ensure that any emission controls are operated in a manner that is consistent with the control unit manufacturers' specifications (or a Department-approved equivalent);
- ensure that the owner/operator maintains a full and up-to-date accounting of the emission units present at the site, allowing LLCHD staff to inspect units as needed and to track units due for emissions performance testing and/or NO_x emissions screening;
- establish record keeping requirements to ensure tracking of operating hours and fuel use;
- ensure adequate record keeping to demonstrate compliance with the operating limits in Conditions XXVIII(A)(1-2);
- ensure that fuel sulfur content is consistent with federal requirements and emissions data provided in the approved application;
- provide a means by which the owner/operator can demonstrate compliance with PM emission limits established pursuant to LLCAPCPRS Article 2, Section 20, paragraph (B); and
- incorporate all monitoring and record keeping requirements established pursuant to federal regulations incorporated in Conditions XXVIII(F-G).

(D) <u>Notification and Reporting Requirements.</u>

The requirements set forth under this condition serve to:

- ensure the owner/operator keeps the Department informed regarding the commencement of construction and operation of emission units at the facility;
- ensure the owner/operator provides adequate notification of performance testing and/or emissions screening in order to allow

LLCHD personnel to review test plans, and also to be present and observe the testing/screening;

- ensure the LLCHD is made aware of any physical or operational changes at the facility in a timely manner (exceptions granted where compliance is demonstrated using a CEMS, PEMS, or COMS);
- reserve the right of the LLCHD to request any operating, throughput, or emissions information deemed necessary to verify ongoing compliance with limits established in the proposed permit; and
- incorporate all notification and reporting requirements established pursuant to federal regulations incorporated in Conditions XXVIII(F-G).
- (E) <u>Performance Testing Requirements.</u>

The requirements set forth under this condition have been established on the following bases:

- Emission factors for PM, NO_X, CO, and VOC are derived using emissions data from the engines' manufacturers. The manufacturers' emissions data sheets indicate that values are 'potential site variability' and not guaranteed emission rates verified through performance testing. Therefore, initial NO_X screening and performance testing will be required in accordance with Conditions XXVIII(E)(2-3) to be conducted on a subset of the engines to verify the accuracy of the emissions data.
- It is the Department's understanding that not all sixty-eight (68) Type 1 and twenty (20) Type 2 engines will be installed and started up at the same time, but will be installed and started up in groups based on zones in each building. For this permitting action, there are two (2) buildings with two (2) zones in each building for a total of four (4) zones. For the purposes of this permitting action, each building zone is defined as a 'testing zone' (see Attachment A of this document). Once the engines are installed and have reached 'facility ready status' (see Attachment A of this document), Conditions XXVIII(E)(2-3) require the source to notify the Department of the specific engine(s) to be screened or tested, and to submit a protocol indicating how the required emissions screening and/or performance testing will be conducted. Conditions XXVIII(E)(2-3) also establish deadlines by which required emissions screening and performance testing must be conducted.
- The owner/operator must submit NO_X emission screening protocols and performance testing protocols to the LLCHD for approval at least thirty (30) days prior to scheduled date of any NO_X emission screening or performance testing. This will allow the LLCHD to review the analysis and testing protocols to ensure they meet standards for data accuracy and compliance with applicable requirements under the CFR. The requirement to submit amendments to the NO_X emission screening or performance test protocols at least ten (10) days prior to screening/testing serves to

allow the LLCHD to review and approve any changes to approved protocols prior to the scheduled screening/testing. The LLCHD understands that unforeseen technical, personnel, weather, or other issues may arise within the (10) days prior to the scheduled performance test date, and the intent of the submittal of this amendment is not to address these issues.

- Because site-wide potential emissions for NO_X are just below the major source thresholds for the NSR program, the NO_X screenings provide a method of verifying manufacturer guarantees and emission factors used to calculate the site-wide potential to emit. Of each type of engine permitted under this permitting action, a minimum of fifty percent (50%) of each engine 'type' (i.e., Type 1 or Type 2 engines) in each 'testing zone' are subject to NO_X emission screenings. In this case, fifty percent (50%) of seventeen (17) Type 1 engines in each testing zone is eight and one-half (8.5), which must be rounded up to the next highest integer of nine (9), then multiplied by four (4) testing zones for a total of thirty-six (36) Type 1 engines site-wide that must be screened. In addition, fifty percent (50%) of five (5) Type 2 engines in each testing zone is two and one-half (2.5), which must be rounded up to the next highest integer of three (3), then multiplied by four (4) testing zones for a total of twelve (12) Type 2 engines site-wide that must be screened. These screenings are not intended to be a final demonstration of compliance, but an indication that additional analysis may be required to demonstrate compliance with applicable permitted emissions limitations. In addition, NO_X screening results that show emission rates greater than the NO_X emission limits established in the permit shall not constitute a finding of 'excess emissions' or a violation of a permit limit. A standard NO_x analyzer screening protocol requires approval by the Department to verify the testing and calculation methodologies are consistent and will provide valid, demonstrative results.
- If the NO_X analyzer indicates emission rate(s) greater than the NO_X permit limits for any screened engine, then all engines of that engine type that are also included in the same 'testing zone' must undergo NO_X analyzer screenings. Any engine(s) for which the NO_X screening shows emission rates greater than the associated NO_X emission limit must also undergo performance testing. Performance testing is only required for ten percent (10%) of each type of engine in each 'testing zone', as described in Condition XXVIII(E)(3), however, all engines with NO_X analyzer screenings indicating NO_X emission rates greater than the NO_X emission rates greater than the NO_X emission limit (s) must undergo performance testing. Engines which are performance tested as a result of a NO_X screening indicating NO_X emission limits may be counted toward the requirement to performance test ten percent (10%) of each engine type in each 'testing zone'.

Performance testing at data centers in other states have shown significant variation in testing results among engines of the same type. Only ten percent (10%) of each engine type in each 'testing zone' authorized under this permitting action are required to undergo initial performance testing. In this case, ten percent (10%) of seventeen (17) Type 1 engines in each testing zone is one and seven-tenths (1.7), which must be rounded up to the next highest integer of two (2), then multiplied by four (4) testing zones for a total of eight (8) Type 1 engines site-wide that must be performance tested. In addition, ten percent (10%) of five (5) Type 2 engines in each testing zone is one-half (0.5), which must be rounded up to the next highest integer of one (1), then multiplied by four (4) testing zones for a total of four (4) Type 2 engines site-wide that must be performance tested.

(F) <u>Requirements of the New Source Performance Standard (NSPS) set forth</u> in Title 40, Part 60 of the Code of Federal Regulations (40 CFR Part 60). The requirements set forth under this condition serve to incorporate applicable requirements of 40 CFR Part 60, Subparts A and IIII into the permit, by reference. Subpart A applies because the engines at this facility are subject to Subpart IIII. Attachment A of the proposed permit provides a listing of applicable provisions under Subpart IIII as of the date of issuance of the permit. The applicable provisions of Subpart IIII identified in Attachment A of the proposed permit are based on the following criteria:

- All emergency engines at this facility will be diesel engines, which are compression ignition internal combustion engines (CI ICE);
- The Type 1, Type 2, and 'Guard House' emergency engines were manufactured after April 1, 2006;
- The 'Fire Pump' emergency engine was manufactured after July 1, 2006;
- Construction will commence after July 11, 2005;
- For the Type 1, Type 2, and 'Guard House' emergency engines, applicable provisions are based on these engines being emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines;
- For the 'Fire Pump' emergency engine, applicable provisions are based on this engine being a fire pump engine with a displacement of less than 30 liters per cylinder;
- The engines will be operated consistent with the definition of an 'Emergency stationary internal combustion engine' set forth in 40 CFR Part 60, Subpart IIII §60.4219.
- **NOTE:** The owner/operator must operate and maintain each engine throughout its lifespan according to the manufacturer's emission-related written instructions, or additional requirements may apply under this subpart.

(G)

- <u>Requirements of the National Emissions Standards for Hazardous Air</u>
 <u>Pollutants for Source Categories (Source Category NESHAPs) set forth in</u>
 <u>Title 40, Part 63 of the Code of Federal Regulations (40 CFR Part 63).</u>
 The requirements set forth under this condition serve to incorporate applicable requirements of 40 CFR Part 63, Subparts A and ZZZZ into the permit, by reference. Subpart A applies because the engines at this facility are subject to Subpart ZZZZ. Attachment B of the proposed permit provides a listing of applicable provisions under Subpart ZZZZ as of the date of issuance of the permit. The applicable provisions of Subpart ZZZZ identified in Attachment B of the proposed permit are based on the following criteria:</u>
 - The engines meet the definition of 'stationary reciprocating internal combustion engines' (stationary RICE) in 40 CFR 63 Subpart ZZZZ §63.6675;
 - The regulated source is an area source of HAP emissions, as HAP emissions from the facility will be lower than HAP major source thresholds;
 - All engines are considered 'new' stationary RICE pursuant to 40 CFR 63 Subpart ZZZZ §63.6590 paragraph (a)(2)(iii), as the facility is an area source of HAPs and construction will commence after June 12, 2006; and
 - New stationary RICE located at area sources of HAP emissions are required to comply with 40 CFR 63 Subpart ZZZZ by complying with 40 CFR 60 Subpart IIII (for compression ignition engines) pursuant to 40 CFR 63 Subpart ZZZZ §63.6590 paragraphs (c) and (c)(1).
- XXIX. <u>Requirements for Cooling Towers.</u> These conditions apply to all emission units identified in Table 29 of the proposed permit.
 - (A) <u>Operating Requirements, Throughput Limits, and/or Work Practice</u> <u>Standards.</u>

The requirements set forth under this condition serve to:

- establish conditions related to total dissolved solids (TDS) and drift loss (%) that ensure consistency between the operation of the source and the emissions data provided in the approved application.
- (B) <u>Emission Limits and Emission Control Requirements.</u> The requirements set forth under this condition serve to:
 - establish conditions for periodic monitoring of TDS and record keeping for drift loss (%) to demonstrate ongoing compliance with the requirements in Condition XXIX(A)(1).

- XXX. <u>Requirements for Diesel Storage Tanks.</u> These conditions apply to all emission units identified in Table 30 of the proposed permit.
 - (A) <u>Operating Requirements, Throughput Limits, and/or Work Practice</u> <u>Standards.</u>

The requirements set forth under this condition serve to:

- establish conditions related to the type and quantity of fuel that may be combusted in the emergency engines associated with this facility.
- (B) <u>Emission Limits and Emission Control Requirements.</u> The requirements set forth under this condition serve to:
 - establish monitoring and record keeping requirements necessary to demonstrate ongoing compliance with the requirements in Condition XXX(A)(1-2).

6.03 – Permit Attachments

- <u>Attachment A:</u> This attachment is provided to incorporate applicable federal regulations set forth under 40 CFR Part 60 by reference, including applicable sections, subsections, and paragraphs. The incorporated requirements have been based on the applicability criteria described earlier in Section 6.02.
- <u>Attachment B:</u> This attachment is provided to incorporate applicable federal regulations set forth under 40 CFR Part 63 by reference, including applicable sections, subsections, and paragraphs. The incorporated requirements have been based on the applicability criteria described earlier in Section 6.02.

Section 7 – Summary of Permit Conditions Enforceable by Agency

- (1) LLCHD (Local) All conditions indicated in this permit.
- (2) EPA (Federal) All conditions indicated in this permit.

Section 8 – Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) requirements set forth under 40 CFR Part 64 only applies to operating permit actions, and thus is not an applicable requirement under this permit.

Section 9 – Pollution Prevention Opportunities

The Department encourages the owner/operator to continually examine its operations for pollution prevention opportunities. The Department's Technical Assistance Program can provide resources to aid the facility in exploring available pollution prevention options.

Section 10 – Environmental Justice Considerations

The Department utilized the U.S. EPA's Environmental Justice Screening Tool (EJSCREEN) to determine if there are environmental justice concerns in the area surrounding this facility. The U.S. EPA's '*Technical Guidance for Assessing Environmental Justice in Regulatory Analysis*' (June 2016) states that, "When using EJSCREEN, the 80th percentile is a suggested starting point for the purpose of identifying geographic areas in the United States that may warrant further consideration, analysis, or outreach. That is, if any of the EJ indexes for the areas under consideration are at or above the 80th percentile nationally, then further review may be appropriate."

For rural areas, the Department analyzes a 2-mile radius around the center of the regulated facility. The EJSCREEN analysis performed by LLCHD personnel for this permitting action indicated that, in the 2-mile radius surrounding the approximate center of the facility, there is an affected population of 287 people. For that population, all 'Environmental Justice Indexes' were lower than the 80th percentile nationally, and also for the state of Nebraska. It is worth noting that that all 'Socioeconomic Indicators' and 'Supplemental Indexes' were also lower than the 80th percentile, both nationally and for the state of Nebraska.

For the 'Pollution and Sources' indicators provided by the EJSCREEN tool, all indicators were lower than the 80th percentile, both nationally and for the state of Nebraska, with the exception of 'Wastewater Discharge'. Issues related to wastewater discharge are outside the scope of NSR permitting action.

It is the Department's determination that the construction and operation of this facility will have no measurable detrimental air quality impacts on nearby populations as related to environmental justice.

Section 11 – Air Quality Program Recommendation

The Department proposes approval of a construction permit for this facility. Enforceable permit conditions have been provided in the draft permit. A final determination on this permit will be made following the opportunity of the public to comment on the draft permit, and any comments received have been addressed.

Section 12 – Public Participation

The following notice is scheduled for publication in the **March 15, 2024** edition of the Lincoln Journal Star, which is a newspaper of general circulation in Lancaster County, Nebraska.

This notice, along with the draft permit, statement of basis, and permit application will also be made available on the Lincoln-Lancaster County Health Department (LLCHD) Air Quality Program website at the following URL:

https://www.lincoln.ne.gov/City/Departments/Health-Department/Environmental/Air#section-6

NOTICE OF INTENT TO ISSUE PERMIT

LINCOLN-LANCASTER COUNTY HEALTH DEPARTMENT (LLCHD)

- A. In accordance with Article 2, Section 14 of the Lincoln-Lancaster County Air Pollution Control Program Regulations and Standards (LLCAPCPRS), the LLCHD gives notice of the preliminary determination to approve the following permitting action(s) for the source identified in item 'B' below. The 30-day public comment period commences March 15, 2024 and ends on April 14, 2024.
 - 1. Proposed issuance of a minor new source review (minor NSR) construction permit to allow the installation of diesel-fired emergency engines, cooling towers, and diesel fuel storage tanks associated with data processing, hosting, and related services.
- B. Issuance of the proposed permit allows for construction at the subject emission source within Federal, State and Local requirements. Provided below are the name, address, and the North America Industry Classification System (NAICS) code describing the nature of business at the subject emission source:
 - 1. Permit Holder Name: Agate, LLC
 - 2. Source Name: Agate
 - 3. Source Location: 9385 N 56th St., Lincoln, NE 68514
 - 4. NAICS Code(s): 518210 Data Processing, Hosting, and Related Services
- C. The construction of this facility will result in the potential emissions of regulated air pollutants at levels that do not equal or exceed any Prevention of Significant Deterioration of Air Quality (PSD) significance

thresholds, but that will exceed thresholds established for minor NSR permitting set forth under Article 2, Section 17 of the LLCAPCPRS. A minor NSR construction permit is being issued for this project.

D. The proposed permit will allow for emissions of the following regulated air pollutants in the associated guantities. All guantities are in units of tons per year (tpy).

Particulate matter <10 micrometers in diameter (PM ₁₀)	8.70 tpy
Particulate matter <2.5 micrometers in diameter (PM _{2.5})	6.80 tpy
Nitrogen Oxides (NO _x)	248.71 tpy
Sulfur Oxides (SO _X)	0.52 tpy
Volatile Organic Compounds (VOCs)	30.87 tpy
Carbon Monoxide (CO)	55.52 tpy
Lead (Pb)	0.00 tpy
Greenhouse Gases (as CO ₂ equivalents)	21,965.00 tpy
Total Combined Hazardous Air Pollutants (HAPs)	0.21 tpy

- E. Lancaster County is an 'attainment/unclassifiable' area for all pollutants subject to the National Ambient Air Quality Standards (NAAQS), meaning air quality in Lancaster County meets or is cleaner than the national standards. This permitting action is not expected to change that status.
- F. The proposed permit, statement of basis, permit application, and a copy of this public notice document are available online at: <u>http://lincoln.ne.gov</u>, keyword search "<u>air</u>". Those materials are also available for inspection during business hours at the office of the LLCHD at 3131 O Street, Lincoln, NE 68510. Telephone inquiries regarding this public notice may be directed to the Air Quality Program at (402) 441-8040. If alternate formats of materials are needed, please notify the Department by calling (402) 441-8040 or (402) 441-6284 for TDD users.
- G. Within the 30-day public comment period, any interested person, agency, or group may submit comments on the proposed permit(s), or request or petition the Director of the LLCHD for a public hearing in accordance with item 'H' below. Comments on the proposed permit(s) may be mailed to the attention of the Air Quality Program Supervisor at the address provided in item 'F' above, or submitted via e-mail to <u>health@lincoln.ne.gov</u> using the subject line 'Comment on Air Quality Permit'. Individuals commenting via e-mail are asked to provide their home address and phone number for follow-up correspondence.
- H. Requests for public hearing must be made in writing, and must state the nature of the issues to be raised and all arguments and factual grounds supporting their position. If a public hearing is granted by the Director, the hearing will be advertised by public notice at least 30 days prior to its occurrence.
- The LLCHD does not discriminate on the basis of race, color, national origin, disability, age, or sex in administration of its programs or activities, and LLCHD does not intimidate or retaliate against any individual or group because of their participation in or opposition to actions protected or prohibited by 40 CFR Part 7, or for the purpose of interfering with any right or privilege guaranteed by 40 CFR Part 7.

Attachment A

Additional Definitions

The following shall be used to define terms used in Construction Permit No. 229 (C.P. #229) that are not found in Article 2, Section 1 of the LLCAPCPRS:

- *Commencement of operation*: As applied to the *testing zones* defined this attachment, 'commencement of operation' shall mean the date upon which the first engine in an individual testing zone has reached *facility ready status*, as defined in this attachment.
- *Diesel:* For the purposes of this permit, 'diesel' will refer to both 'Ultra-low sulfur diesel' (ULSD) and 'Hydrotreated vegetable oil' (HVO) fuel types, provided that any HVO combusted contains no more than 0.0015% sulfur (15 ppm).
- *Facility Ready Status*: As applied to the emission units identified in Table 28-E1 of C.P. #229, this shall be the time at which the physical infrastructure, power, and cooling equipment have been installed, all initial turn-up/testing is complete, and the engine is ready for emergency use as documented in records kept by the owner/operator.
- *Testing Zone(s)*: As applied to the two (2) buildings associated with the emission units identified in Table 28-E1 of C.P. #229, each building shall be divided into two (2) testing zones, for a total of (4) testing zones identified as follows:
 - Building 1 Zone 1
 - Building 1 Zone 2
 - Building 2 Zone 1
 - Building 2 Zone 2