Kimley»Horn

MEMORANDUM

To: Ahmed Zuwawa, P.E., Kimley-Horn and Associates, Inc.

From: Ace Malisos, Kimley-Horn and Associates, Inc.

Date: June 15, 2026

Subject: Townsite 2 Data Center – Air Quality Analysis

Purpose

The purpose of this memorandum is to evaluate the air quality emissions associated with the Townsite 2 (TS2) Data Center Project (Project), located in Boulder City, Nevada. This memorandum provides a planning-level preliminary air quality analysis for a proposed Clark County data center with 53 biodiesel[1] backup generators rated at 3.25 megawatts (MW) each, including a Tier 4-equivalent emissions estimate and a preliminary screening framework. Clark County Division of Air Quality is the permitting authority for stationary sources in Clark County and administers both minor and major preconstruction review and Title V permits.

Project Location

The Project site is located within the municipal boundaries of the City of Boulder City, Clark County, Nevada, approximately 15 miles southeast of the City of Las Vegas. The developed Boulder City area is located approximately three to five miles northeast of the Project site. Specifically, the site is situated immediately west of U.S. Route 95 and approximately 2,100 feet south of U.S. Route 93/Interstate 11, within the largely undeveloped Eldorado Valley area desert area that is characterized by utility-scale solar facilities and open land. The Project site lies north of the Eldorado Solar development area and west of the broader Eldorado Valley solar energy development area. In addition, the Desert Star 500-MW natural gas-fired power plant and associated transmission lines are located in the vicinity of the Project site.

Project Description

The proposed TS2 Data Center is a high-density, utility-scale digital infrastructure facility planned within the Eldorado Valley area of Boulder City, Nevada. The proposed Project includes a total electrical demand of approximately 167 MW and an estimated 133.6 MW of IT load

[1] Biodiesel is a renewable, biodegradable alternative to petroleum-based diesel fuel, manufactured from organic resources such as vegetable oils, animal fats, or recycled restaurant grease. Biodiesel can be used in most unmodified diesel engines. Biodiesel is substantially cleaner than regular diesel and reduces exhaust pollutants like particulate matter and carbon monoxide.

capacity based on a Power Usage Effectiveness (PUE) of 1.25. Backup generation would be provided by 53 biodiesel-fired generators (52 primary units plus one redundant unit) with a combined standby capacity of approximately 172 MW, ensuring uninterrupted operations during grid outages.

Data center cooling would be achieved using an advanced closed-loop, air-cooled (dry) system that incorporates direct-to-chip liquid cooling and dry cooling towers. The system is designed to reject the full 167 MW of thermal load to the atmosphere through sensible (non-evaporative) heat transfer. As a result, the data center portion of the facility would operate with effectively zero water consumption during normal operations, aside from negligible volumes a purified water/propylene glycol solution required for periodic maintenance. Bathrooms and kitchens associated with the facility are anticipated to require approximately 2,000 gallons of water per day.

Environmental Setting

The Project is located in the Eldorado Valley area of Clark County, Nevada, within the Mojave Desert and Basin-and-Range physiographic province of the southwestern United States. This region is characterized by arid climatic conditions, high solar radiation, and limited precipitation, consistent with southern Nevada's desert environment. Nevada is recognized as the driest state in the United States, with southern portions experiencing extremely low annual precipitation and frequent drought conditions.[2]

Climate conditions in Clark County are characterized by very hot summers and mild winters. Summer temperatures commonly exceed 100 degrees Fahrenheit (°F), with episodic extreme heat events, while winter temperatures are generally mild with occasional cold nighttime conditions. Annual precipitation in the Las Vegas–Clark County region averages approximately four to five inches per year[3], with most precipitation occurring during winter frontal systems and isolated convective events associated with the North American monsoon.[4]

Meteorological conditions in the Eldorado Valley play a key role in the dispersion and transport of air pollutants. Wind speed and direction influence pollutant transport, dilution, and dispersion. The region experiences variable wind patterns controlled by regional pressure gradients and local terrain, including upslope and downslope flows associated with surrounding mountain ranges. The Basin-and-Range topography, which consists of broad desert valleys

[2] NOAA State Climate Summaries, https://statesummaries.ncics.org/chapter/nv/

[3] USDA, *Official Soil Series Descriptions and Series Classification*, https://soilseries.sc.egov.usda.gov/OSD_Docs/L/LAS_VEGAS.html

[4] NOAA, *The North American Monsoon*, https://www.climate.gov/news-features/blogs/enso/north-american-monsoon

separated by north–south trending mountain ranges, strongly influences airflow patterns and pollutant dispersion.

Atmospheric stability is another controlling factor for air quality. Temperature inversions may form when warmer air overlies cooler air near the surface, inhibiting vertical mixing and trapping pollutants at ground level. In southern Nevada, including the Eldorado Valley, inversion conditions most commonly occur during winter months under clear skies and low wind conditions, when rapid nighttime radiative cooling stabilizes the lower atmosphere. These conditions can lead to temporary accumulation of pollutants such as particulate matter (PM) and carbon monoxide (CO) until daytime heating restores atmospheric mixing. This relationship between calm conditions and pollutant accumulation is documented through local monitoring programs in Clark County.

During the summer, strong solar radiation and elevated temperatures generally enhance atmospheric mixing and dispersion. However, these same conditions promote the formation of ground-level ozone (O_3) through photochemical reactions involving nitrogen oxides (NO_X) and volatile organic compounds (VOC). Ozone concentrations in Clark County are influenced by both local emissions and regional and background sources, including long-range transport, wildfire emissions, and stratospheric intrusions, which can contribute substantially to measured ozone levels in the western United States.

Air quality in Clark County is regulated under the federal Clean Air Act through implementation of the National Ambient Air Quality Standards (NAAQS). The region has historically experienced challenges in meeting ozone standards; the Las Vegas Valley (Hydrographic Area 212) is currently classified as a nonattainment area for the 2015 ozone standard, reflecting the influence of both local emissions and regional atmospheric processes.[5] However, Boulder City is located in Hydrographic Area 215 (Black Mountains Area), which is adjacent to Hydrographic Area 212. The Black Mountains Area is classified as in attainment with the NAAQS for all criteria air pollutants. This designation distinguishes the area from the nearby Las Vegas Valley (Hydrographic Area 212), which is currently classified as nonattainment for ozone. As an attainment area, air quality evaluations for impacts at Boulder City receptors are conducted under Prevention of Significant Deterioration (PSD) and general NAAQS compliance frameworks, rather than nonattainment New Source Review requirements.

Topography further influences meteorological conditions in the Eldorado Valley. The Project area is situated within a desert basin bordered by surrounding mountain ranges that rise several

[5] U.S. Environmental Protection Agency, *Finding of Failure to Attain and Reclassification of Las Vegas Area as Serious for the 2015 Ozone National Ambient Air Quality Standards*, December 19, 2024. https://www.federalregister.gov/documents/2024/12/19/2024-29061/finding-of-failure-to-attain-and-reclassification-of-las-vegas-area-as-serious-for-the-2015-ozone

thousand feet above the valley floor, which can restrict airflow and contribute to localized stagnation conditions under stable atmospheric regimes. These terrain features also generate diurnal drainage and upslope wind patterns that affect pollutant transport.

Overall, the combination of arid climate, strong solar insolation, complex basin-and-range topography, and episodic atmospheric stability governs meteorological conditions in the Eldorado Valley. These factors influence both the dispersion of pollutants and the formation of secondary pollutants such as ozone and are critical considerations in the evaluation of potential air quality impacts associated with Project -related emissions.

Meteorological conditions for the area surrounding the Project site have been reviewed based on data provided by the U.S. National Oceanic and Atmospheric Administration (NOAA). Historical meteorological normals based on a 30-year period (1991-2020) were available and reviewed for the Project site. Since not all meteorological monitoring stations are equipped to monitor all conditions, the meteorological data was taken from the nearest, most appropriate, monitoring stations. The normal, mean, and other weather conditions nearest the Project area are provided in **Table 1: Monthly Meteorological Conditions**.

Table 1: Monthly Meteorological Conditions

Month	Normal Maximum Temperature (ºF)[1]	Normal Minimum Temperature(ºF)[1]	Normal Precipitation (inches)[2]
1	59.8	40.6	0.63
2	63.9	45.2	0.93
3	72.8	51.8	0.62
4	80.7	58.5	0.16
5	91.4	65.8	0.09
6	102.6	77.3	0.06
7	107.1	84.3	0.34
8	105	81.6	0.62
9	98	72.8	0.24
10	83.7	59.3	0.37
11	69.1	49.5	0.46
12	59.7	39.5	0.32

1. Data retrieved from the Alan Bible Visitor Center Monitoring Station (USC00260125), located approximately 7.5 miles northeast of the Project site.
2. Data retrieved for the Boulder City Monitoring Station (USC00261071), located approximately 4.3 miles northeast of the Project site.

Source: NOAA, *Standards of Quality for Ambient Air*. https://www.ncei.noaa.gov/products/land-based-station/us-climate-normals. Accessed May 2026.

Air Quality Conditions

Background ambient concentrations for the area surrounding the Project site have been estimated based on data from the U.S. Environmental Protection Agency (USEPA) monitoring stations, which the agency publishes on a calendar year basis, and that presents the pollutant monitoring information in the same terms (averaging periods, percentiles, etc.) as the respective NAAQS. Historical background monitoring data was retrieved from the nearest, most appropriate, monitoring station. **Table 2: Ambient Background Pollutant Concentrations** summarizes the ambient background concentrations for each monitored pollutant and averaging period of interest between 2023 and 2025. As shown below, no concentrations near the Project Site exceeded NAAQS or NvAAQS thresholds between 2023 and 2025.

Table 2: Ambient Background Pollutant Concentrations

Pollutant	Averaging Period/Threshold	Concentration[1]		
		2023	2024	2025
Ozone (O_3)	1-hour—Maximum (NvAAQS = 0.12 ppm)	0.052	0.054	0.052
Ozone (O_3)	8-hour—4th Highest (NAAQS = 0.070 ppm)	0.049	0.051	0.049
Fine Particulate Matter ($PM_{2.5}$)	24-hour—98th Percentile (NAAQS = 35 µg/m^3)	3.32	3.84	3.58
Coarse Particulate Matter (PM_{10})	24-hour—Maximum (NAAQS/NvAAQS = 150 µg/m^3)	16.78	17.26	16.15

NAAQS = National Ambient Air Quality Standards; NvAAQS = Nevada Ambient Air quality Standards; ppm = parts per million; µg/m^3 = micrograms per cubic meter

1. Data collected from the Garrett Jr. High Monitoring Station located at 1200 Ave G. Boulder City, NV, approximately four miles northeast of the Project site.

Source: USEPA, *Interactive Map of Air Quality Monitors*. https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors. Accessed May 2026.

Regulatory Setting

Federal

National Ambient Air Quality Standards

Air quality is federally protected by the Federal Clean Air Act (FCAA) and its amendments. Under the FCAA, the USEPA developed the primary and secondary National Ambient Air Quality Standards (NAAQS) for the six "criteria" air pollutants including ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb). Depending on whether the NAAQS are met or exceeded, the local air basin is classified as in "attainment" or "nonattainment." Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires that each state prepare a State Implementation Plan (SIP) to demonstrate how it will attain the NAAQS within the federally

imposed deadlines. **Table 3: NAAQS Summary and Local Attainment Status** summarizes the primary NAAQS and respective attainment status for the Project area.

Table 3: NAAQS Summary and Local Attainment Status

Pollutant	Averaging Time	NAAQS	Form	Attainment Status
Ozone (O_3)	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	Attainment
Carbon Monoxide (CO)	1-hour	35 ppm	Not to be exceeded more than once per year	Attainment
Carbon Monoxide (CO)	8-hour	9 ppm	Not to be exceeded more than once per year	Attainment
Nitrogen Dioxide (NO_2)	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	Attainment
Nitrogen Dioxide (NO_2)	1-year	53 ppb	Annual Mean	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3	98th percentile, averaged over 3 years	Attainment
Fine Particulate Matter ($PM_{2.5}$)	1-year	12 µg/m^3	Annual Mean, averaged over 3 years	Attainment
Coarse Particulate Matter (PM_{10})	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years	Attainment
Sulfur Dioxide (SO_2)	1-hour	75 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	Attainment
Lead (Pb)	3-month	0.15 µg/m^3	Maximum arithmetic mean of 3 consecutive monthly means in a 3-year period	Attainment

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter

Source: USEPA, *Current Nonattainment Counties for All Criteria Pollutants*. https://www3.epa.gov/airquality/greenbook/ancl.html.; USEPA, NAAQS Table. https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed May 2026.

State of Nevada

Nevada Ambient Air Quality Standards

Air quality regulations and air permitting are administered at the state level by the Nevada Department of Environmental Protection (NDEP). Although the NAAQS are utilized for determining attainment or nonattainment, Nevada has developed its own Nevada Ambient Air Quality Standards (NvAAQS). These are used when NDEP is considering issuing air permits for stationary sources. In many cases, the NvAAQS are similar or the same as the NAAQS for respective pollutants. **Table 4: NvAAQS Summary** summarizes the NvAAQS.

Table 4: NvAAQS Summary

Pollutant	Averaging Time	NvAAQS	Attainment Status
Ozone (O_3)	1-hour	0.12 ppm	Attainment
Carbon Monoxide (CO)	1-hour	35 ppm	Attainment
Carbon Monoxide (CO)	8-hour	9 ppm[1]	Attainment
Nitrogen Dioxide (NO_2)	1-year	0.053 ppm	Attainment
Coarse Particulate Matter (PM_{10})[2]	24-hour	150 µg/m^3	Attainment
Coarse Particulate Matter (PM_{10})[2]	1-year	50 µg/m^3	Attainment
Sulfur Dioxide (SO_2)	3-hour	0.5 ppm	Attainment
Sulfur Dioxide (SO_2)	24-hour	0.14 ppm	Attainment
Sulfur Dioxide (SO_2)	1-year	0.030 ppm	Attainment
Lead (Pb)	Quarterly	1.5 µg/m^3	Attainment
Hydrogen Sulfide (H_2S)	1-hour	0.08 ppm	Attainment

ppm = parts per million; µg/m^3 = micrograms per cubic meter

1. At or greater than 5,000 feet above mean sea level (amsl), the standard is 6 ppm (7,000 µg/m^3).
2. Nevada does not have a state standard for fine particulate matter ($PM_{2.5}$).

Source: NDEP. *Standards of Quality for Ambient Air*. https://ndep.nv.gov/uploads/documents/NAAQS_Table__state_air_quality_regulations.pdf. Accessed May 2026.

Screening Analysis

The potential to emit (PTE) of the facility, determined based on the emission rates and operating scenarios will be compared to the Significance Emission Rates (SER), which serve as a screening mechanism under the Prevention of Significant Deterioration (PSD) program. Pollutants for which the Proposed Action would not result in a "significant" increase per 40 CFR 52.21(b)(23) will be screened out, and no further analysis or dispersion modeling will be performed. **Table 5: USEPA SERs** summarizes the SER for each pollutant to be analyzed, including for secondary pollutants by precursor emissions.

Table 5: USEPA SERs

Pollutant	Direct Emission SER	Precursor Emission[1] SERs
Ozone (O_3)	-	40 tpy of VOCs; 40 tpy of NO_X
Carbon Monoxide (CO)	100 tpy	-
Nitrogen Oxides (NO_X)	40 tpy	-
Fine Particulate Matter ($PM_{2.5}$)	10 tpy	40 tpy of SO_2; 40 tpy of NO_X[2]
Coarse Particulate Matter (PM_{10})	15 tpy	-
Sulfur Dioxide (SO_2)	40 tpy	-

SER = significant emission rates; tpy = tons per year

1. Emissions of a secondary pollutant (O_3 or $PM_{2.5}$) would be considered significant if emissions of one or more of its precursors exceed their respective SERs.
2. Emissions equaling or exceeding 40 tpy of NO_X would result in significant emissions of $PM_{2.5}$ unless NO_X emitted is determined not to be a $PM_{2.5}$ precursor.

Source: 40 CFR 52.21(b)(23).

The USEPA PSD program is a preconstruction air permitting program. It applies to new major stationary sources or major modifications at existing sources. This program functions in areas classified as attainment or unclassifiable for National Ambient Air Quality Standards. A new facility triggers PSD review if its Potential to Emit (PTE) any regulated NSR pollutant meets or exceeds specific mass-based annual limits:

- **100 tons per year (tpy)**: Applies if the facility belongs to one of the 28 listed source categories defined in 40 CFR 51.166(b)(1)(i) (e.g., petroleum refineries, chemical process plants, fossil-fuel-fired steam electric plants).
- **250 tons per year (tpy)**: Applies to any unlisted stationary source category.

Potential to Emit

New Source Performance Standards

Per 40 CFR 60 Subpart, emergency generators installed by the facility would be required to meet USEPA Tier 2 emission standards. Local regulations do not specify a more stringent emission configuration; however, Tier 4 certified engines may be required as a condition of certain types of permits in order to maintain emission levels below applicable thresholds, if necessary.

Emergency Generator Operating Limits

Emergency generators are subject to operating limits (40 CFR Part 60.4211). Emergency stationary generators may operate up to 50 hours per calendar year in non-emergency situations, which is included in the up to 100 hours per year allowed for maintenance and testing recommended by federal, state, or local government or manufacturers, vendors, transmission organizations, or insurance companies.[6] There is no limit on use of emergency generators in emergency situations.

Criteria and Hazardous Air Pollutants

The Project would consist of data halls, each designed to accommodate a designated electrical load. To support this demand, the Project would propose installation of biodiesel-fueled emergency back-up generators, in addition to generators providing redundancy and operational flexibility in the event of equipment failure, maintenance outages, or unexpected load fluctuations. Air pollutants of most concern from the facility would be NO_X and VOCs, but also include SO_2, PM, and HAPs.

[6] NDEP, *Frequently Asked Questions for Stationary Internal Combustion Engines*, September 26, 2022, https://ndep.nv.gov/uploads/air-permitting-docs/220926_faqs_for_ic_engines.pdf.

Potential to emit (PTE) analysis typically considers scenarios with varying engine certifications (USEPA Tier 2 and Tier 4 emission standards) and varying operational limits. These scenarios are then compared to relevant PSD and Title V thresholds, summarized in **Table 6: Applicable Permitting Thresholds**. The scenario evaluated below involves the operation of Tier 4-certified generators operating for a maximum of 100 hours per year, consistent with NDEP and USEPA regulatory limits. The Project would propose 53 primary and backup biodiesel-fueled emergency generators, each rated at 3.25 MW. The 53 biodiesel-fueled generators include redundancy and operational flexibility in the event of equipment failure, maintenance outages, or unexpected load fluctuations.

Table 6: Applicable Permitting Thresholds

Source	Criteria Pollutant Emissions (tons per year)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Facility-Wide Generator PTE[1]	26	13	66	0.1	1	1
Significant Emission Rate[2]	*40*	*40*	*100*	*40*	*15*	*10*
Exceed SER Threshold?	*No*	*No*	*No*	*No*	*No*	*No*
Title V[3]	*100*	*100*	*100*	*100*	*100*	*100*
Exceed Title V Threshold?	*No*	*No*	*No*	*No*	*No*	*No*
PSD[4]	*250*	*250*	*250*	*250*	*250*	*250*
Exceed PSD Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

1. Facility-wide includes 53 Tier 4-certified biodiesel generators, each operating for 100 hours per year.
2. Per 40 CFR 52.21(b)(23).
3. Per 42 U.S. Code § 7602 (Definitions). Under the Clean Air Act, the 100 tons per year limit is the default major source threshold for USEPA Title V Operating Permits. If a facility has the PTE 100 tons per year or more of any regulated air pollutant, it is legally required to obtain a Title V permit.
4. Per 40 CFR 52.21(b) and 40 CFR 51.166(b)(1)(i).

Source: Refer to Appendix A.

Under 40 CFR Part 63 (NESHAP) and Part 60 (NSPS), the USEPA allows for a PTE calculation based on permitted or restricted hours of operation. It should be noted that PSD permitting is pollutant-specific, whereas designation as a major source under Title V would apply to all pollutants if any one pollutant's PTE is above the threshold.

Title V applicability is evaluated independently from New Source Review (NSR) applicability. While NSR requirements are triggered based on comparisons to Significant Emission Rates (SERs) and major source thresholds under the PSD program, Title V applicability is based solely on a facility's potential to emit. A facility with a potential to emit less than 100 tpy of any criteria pollutant is not subject to Title V operating permit requirements. Based on the controlled Tier 4 emissions and enforceable operational limits, the Project's emissions remain below 100 tpy for all regulated pollutants and would therefore not be subject to Title V permitting requirements. Additionally, with Tier 4-certified biodiesel generators operating within NDEP's regulatory limits

for non-emergency use, the Project would not be considered a major source and avoid a PSD designation.

Potential Impacts to Sensitive Receptors

The closest sensitive receptors in Boulder City are located approximately 2.5 miles (13,000 feet) or more from the Project site. The closest residents are located 2.7 miles (14,000 feet) to the northeast. At this distance receptors are considered off-site community receptors rather than near-field/fenceline receptors. Pollutant dispersion will be governed by mid-field atmospheric transport, rather than building downwash and near-field plume effects. Impacts are typically substantially reduced relative to on-site or adjacent receptors due to plume dilution.

Project-related pollutant concentrations would decrease rapidly with distance due to atmospheric mixing, wind dispersion, and vertical plume rise. This dispersion would result in significantly reduced pollutant concentrations relative to near-source conditions. The primary pollutant of concern for biodiesel generator operations is nitrogen dioxide (NO_2); however, even under conservative assumptions (e.g., simultaneous operation and worst-case meteorology), the Project's incremental contribution at these receptors is expected to be minor due to plume dilution over distance. Particulate matter and carbon monoxide impacts would be further reduced given lower emission rates and their tendency to produce localized effects near the source. Overall, Project-related air quality impacts at Boulder City receptors are anticipated to be small relative to regional background concentrations and would not be expected to result in substantial adverse air quality effects.

Conclusion

As discussed above, the Project's emissions (biodiesel fueled Tier 4-equivalent generators with limited annual operating hours) would not exceed Significant Emission Rate (SER) thresholds, would not exceed PSD major source thresholds (100 tpy), and would not exceed Title V applicability thresholds. Accordingly, the Project would be subject to minor NSR review, but a dispersion modeling assessment is still appropriate to evaluate potential impacts at off-site receptors, including nearby communities such as Boulder City.

The Project would likely require a synthetic minor permit, rather than a major-source/Title V permit, with the implementation of enforceable operating limits and specified control technology. Nevada's general major-source/Class I threshold is 100 tpy for any one regulated pollutant, and Clark County is the reviewing authority in the Project area. The Tier 4 controlled NO_X estimate remains below that threshold at 100 hours per year.

The synthetic minor permit would likely include the following enforceable elements:

1. **Emergency-engine status for all gensets.** All generators should be permitted and operated as emergency stationary compression ignition engines under Subpart IIII/ZZZZ.[7, 8]

2. **Emergency use and testing only.** Ordinary demand-response use should be prohibited.

3. **Testing/maintenance hour limits.** The permit should cap non-emergency testing/maintenance hours at 100 hours/year per engine (per 40 CFR Part 60.4211), and the Project should consider an additional site-wide simultaneous testing schedule to limit short-term impacts.

4. **Vendor guaranteed low-NOx / low-PM rates.** The permit application should be built around guaranteed engine-control-package rates, not general emission factors (e.g., USEPA AP-42 factors). Clark County and USEPA both distinguish between permit limits and generic emission factors, and AP-42 itself warns against using its factors as source-specific permit limits. The permit process will verify these operating conditions and typically takes 2-3 months and includes application review, engineering review, authority to construct (operating conditions), and permit to operate (verification and source testing).

5. **ULSD fuel only.** The engines should be limited to ultra-low sulfur diesel fuel consistent with federal engine requirements. It is noted that the project meets this requirement as it would use Tier 4 biodiesel backup generators. Biodiesel is significantly cleaner than regular diesel. It has a high oxygen content and lack of sulfur that drastically reduces exhaust pollutants like sulfur oxides, particulate matter, and carbon monoxide.

6. **Monitoring, testing, and records.** Require non-resettable hour meters, separate logs for emergency and maintenance/testing operation, fuel certifications, and initial/periodic stack testing or certified vendor test documentation for representative engines.

Separate from the air permit, the Project will also need to coordinate with Clark County Fire/Building for generator fuel-storage and combustible-liquid permitting. Clark County's generator fire permit guide requires documentation such as site plans, tank information, venting, secondary containment, and protection measures.

Disclaimer

[7] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-IIII
[8] https://www.epa.gov/stationary-engines/compliance-requirements-stationary-engines

This report is based on publicly accessed data sources obtained through desktop research. No site visits or agency consultations were conducted. The emissions calculations presented herein are preliminary in nature and are intended solely for planning-level evaluation and general feasibility assessment. These estimates are based on representative or standard emission factors and generalized operating assumptions, rather than on Project-specific equipment specifications or manufacturer-certified emission data.

The Project design, including generator specifications, control technologies, operating profiles, and equipment layout, has not yet been fully defined. As such, the emissions estimates do not reflect final design conditions and may change as additional Project details become available.

Accordingly, these calculations should not be relied upon for regulatory permitting purposes, nor should they be interpreted as final or enforceable emission rates. A comprehensive, permit-grade emissions inventory would be required following finalization of Project design and equipment selection. Such analysis should be based on site-specific parameters, manufacturer-provided emission guarantees, and applicable regulatory guidance, and would be subject to review and approval by the appropriate permitting authority.

Appendix A

Emissions Calculations

PTE Calculation

Assumptions	
Capacity	172.25 MW
Operation	100 hours/year

Controlled Emission Factors (lb/MWh) (Tier IV)					
NO_X	CO	VOC	SO_X	PM10	PM2.5
1.48	7.68	3.01	0.01	0.06	0.06

Generator PTE

Capacity Options and Permitting Thresholds

Capacity - Maximum

Pollutant	Emission Rate	Capacity	Operation	Total Emissions	Total Emissions	Title V Thresholds	Exceeds Title V?	PSD Thresholds	Exceeds PSD?
	lb/MWh	MW	hrs/yr	lb/yr	tpy	tpy		tpy	
NO_X	1.48	172	100	25,452	13	100	No	250	No
CO	7.68	172	100	132,349	66	100	No	250	No
VOC	3.01	172	100	51,922	26	100	No	250	No
SO_X	0.01	172	100	255	0.1	101	No	251	No
PM10	0.06	172	100	1,018	1	102	No	252	No
PM2.5	0.06	172	100	1,018	1	103	No	253	No