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LA PALOMA GENERATING PROJECT PETITION FOR MODIFICATION

SJVAPCD GHG Significance

The proposed project falls within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). On December 17, 2009, SJVAPCD adopted the guidance: *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the policy: *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific greenhouse gas (GHG) emissions on global climate change during the environmental review process, as required by CEQA.

The SJVAPCD has developed Administrative Policy Review 2015 (APR2015) to detail how small increases in greenhouse gas (GHG) emissions for permitted sources are handled during the application review process. APR2015 establishes a level below which project-specific increases in GHG emissions are considered equivalent to zero for SJVAPCD permitting purposes. Establishment of APR2015 maximizes reductions in GHG emissions and improves efficiencies in the permitting process by identifying projects which have no potential achieve substantial GHG reductions.

The proposed project is a stationary source project but is not subject to BPS because it falls under a category of permitted sources having a zero equivalency for GHGs pursuant to SJVAPCD policy APR2015. Pursuant to APR2015, GHG emissions of 230 metric tons of carbon dioxide equivalents per year ($MTCO_2e$/year) or less are considered zero for SJVAPCD permitting purposes. Accordingly, for purposes of evaluating GHG impacts, the proposed project has adopted 230 $MTCO_2e$ as a "bright-line" threshold of significance to determine if the project would have a significant GHG impact.

As shown Table 1, the proposed project's annual GHG Emissions would be 47.09 $MTCO_2e$, which would be less than significant.

Table 1: GHG Emissions for the La Paloma 1,829 bhp Diesel-Fired Emergency Standby Internal Combustion Engine

Pollutant	Emission Factor	Emission Factor Reference	Converted Emission Factor (g/kW-hr)	Engine Rating (hp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/year)	Daily Emissions (lb/day)	Annual Emissions (lb/year)	Annual Emissions (tons/year)	Annual CO_2e Emissions (tons/year)	$MTCO_2e$
CO_2	688.14 g/kW-hr	ARB/EPA Certification	688.14	1,829	24	50	49,658.41	103,455.03	51.73	51.91	47.09
CH_4	3.0×10^{-03} kg/MMBtu	40 CFR 98 Table C-2 for Petroleum Products	0.028	1,829	24	50	2.03	4.23	0.0021		
N_2O	6.0×10^{-04} kg/MMBtu	40 CFR 98 Table C-2 for Petroleum Products	0.0056	1,829	24	50	0.41	0.85	0.00042		

Proposed Project GHG Calculations:

The CH_4 and N_2O emission factors in 40 CFR 98 Table C-2 are converted to units of g/kW-hr using the following equations:

$$\frac{0.028\ g\ CH_4}{kW\text{-}hr} = \left(\frac{0.003\ kg\ CH_4}{10^6\ Btu}\right) \times \left(\frac{1{,}000\ g}{kg}\right) \times \left(\frac{7{,}000\ Btu}{hp\text{-}hr}\right) \times \left(\frac{1\ hp}{0.7457\ kW}\right)$$

$$\frac{0.0056\ g\ N_2O}{kW\text{-}hr} = \left(\frac{0.0006\ kg\ N_2O}{10^6\ Btu}\right) \times \left(\frac{1{,}000\ g}{kg}\right) \times \left(\frac{7{,}000\ Btu}{hp\text{-}hr}\right) \times \left(\frac{1\ hp}{0.7457\ kW}\right)$$

Daily emissions are calculated using the following equations:

$$\frac{49{,}658.41\ lb\ CO_2}{day} = \left(\frac{688.14\ g\ CO_2}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{24\ hrs}{day}\right)$$

$$\frac{2.03\ lb\ CH_4}{day} = \left(\frac{0.028\ g\ CH_4}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{24\ hrs}{day}\right)$$

$$\frac{0.41\ lb\ N_2O}{day} = \left(\frac{0.0056\ g\ N_2O}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{24\ hrs}{day}\right)$$

Annual emissions are calculated using the following equations:

$$\frac{103{,}455.03\ lb\ CO_2}{year} = \left(\frac{688.14\ g\ CO_2}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{50\ hrs}{year}\right)$$

$$\frac{4.23\ lb\ CH_4}{year} = \left(\frac{0.028\ g\ CH_4}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{50\ hrs}{year}\right)$$

$$\frac{0.85\ lb\ N_2O}{year} = \left(\frac{0.0056\ g\ N_2O}{kW\text{-}hr}\right) \times \left(\frac{0.7457\ kW}{1\ hp}\right) \times \left(\frac{1\ lb}{453.6\ g}\right) \times (1{,}829\ hp) \times \left(\frac{50\ hrs}{year}\right)$$

$$\frac{51.73\ tons\ CO_2}{year} = \left(\frac{103{,}455.03\ lb\ CO_2}{year}\right) \times \left(\frac{1\ ton}{2{,}000\ lb}\right)$$

$$\frac{0.0021\ tons\ CH_4}{year} = \left(\frac{4.23\ lb\ CH_4}{year}\right) \times \left(\frac{1\ ton}{2{,}000\ lb}\right)$$

$$\frac{0.00042 \text{ tons } N_2O}{\text{year}} = \left(\frac{0.85 \text{ lb } N_2O}{\text{year}}\right) \times \left(\frac{1 \text{ ton}}{2{,}000 \text{ lb}}\right)$$

$$\frac{51.91 \text{ tons } CO_2e}{\text{year}} = \left[\left(\frac{51.73 \text{ tons } CO_2}{\text{year}}\right) \times 1\right] + \left[\left(\frac{0.0021 \text{ tons } CH_4}{\text{year}}\right) \times 25\right] + \left[\left(\frac{0.00042 \text{ tons } N_2O}{\text{year}}\right) \times 298\right]$$