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C1's Clarification and Response to Bay Area Air Quality Management District's Comment Letter on Sequoia Data Center Initial Study/Mitigated Negative Declaration

Comment #3 – Health Risk Assessment and Cumulative Toxic Air Contaminant Impacts

As reported Section 5.2 in the Air Quality Technical Report submitted to the CEC in Appendix F to the Application for Small Power Plant Exemption (SPPE), Ramboll performed a Cumulative Impact Assessment of sources that emit Toxic Air Contaminants. Ramboll used the BAAQMD Stationary Source Screening Tool for Santa Clara County¹ to identify existing permitted stationary sources within 1,000 feet of the Maximally Exposed Individual Sensitive Resident (MEISR). BAAQMD's Recommended Methods for Screening and Modeling Local Risks and Hazards state that "a 1,000 foot radius is recommended for assessing risks and hazards from both individual sources and the cumulative effects of multiple nearby sources (i.e. proposed project plus existing and foreseeable future projects)"². Ramboll submitted a stationary source inquiry form to the BAAQMD to request screening risk values for the stationary sources. **Table 1** summarizes the risks and hazards at the MEISR from existing stationary sources. To be conservative, Ramboll identified any source within approximately 2,000 feet of the Project boundary in the GIS tool provided by BAAQMD and included this in this analysis. The yellow dots in **Figure 1** represent the sources that are included in the cumulative analysis and the pink dots are the airport sources that are farther away from the Facility boundary. Based on the GIS tool, Ramboll identified eight stationary sources within roughly 2,000 feet from the project boundary and the total cancer risk impact from these sources at the MEISR is 1.04 in a million. The total chronic HI is 0.0015. For most of these sources, data on acute noncancer HI and annual PM2.5 concentration was not available.

The health impacts of major surface streets, railways, and highways were evaluated using BAAQMD's screening tools provided by BAAQMD as raster files in GIS³. The raster files consist of 20 by 20 m grid cells with cancer risk and PM2.5 concentration associated with roads, railways, and nearby major streets. Risk and PM2.5 concentration values at the location of the MEISR were determined based on the maximum impact of a raster cell located within the Project buildings. The raster files provided by the BAAQMD account for the most recent OEHHA risk assessment guidelines. As shown in **Table 1**, cancer risk from major streets, highways and railways total 46.2 in a million with most of the impacts coming from railway sources.

¹ Bay Area Air Quality Management District (BAAQMD). 2012b. Stationary Source Screening Analysis Tool. May. Available at: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/google-earth-layersmay-25-2012/santa_clara_2012.kml?la=en

² Bay Area Air Quality Management District (BAAQMD). Recommended Methods for Screening and Modeling Local Risks and Hazards. May 2011. Available at: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/baaqmd-modeling-approach.pdf>

³ Received by Varsha Gopalakrishnan at Ramboll through Personal Communication with Areana Flores from BAAQMD on April 20, 2018. Available online at: <https://www.dropbox.com/sh/r0d12b66m4scwlc/AADpA16Bsv1-9A5zIH3L9EAza?dl=0>

Table 1
Summary of Cumulative Health Risk Impacts to the MEISR
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California

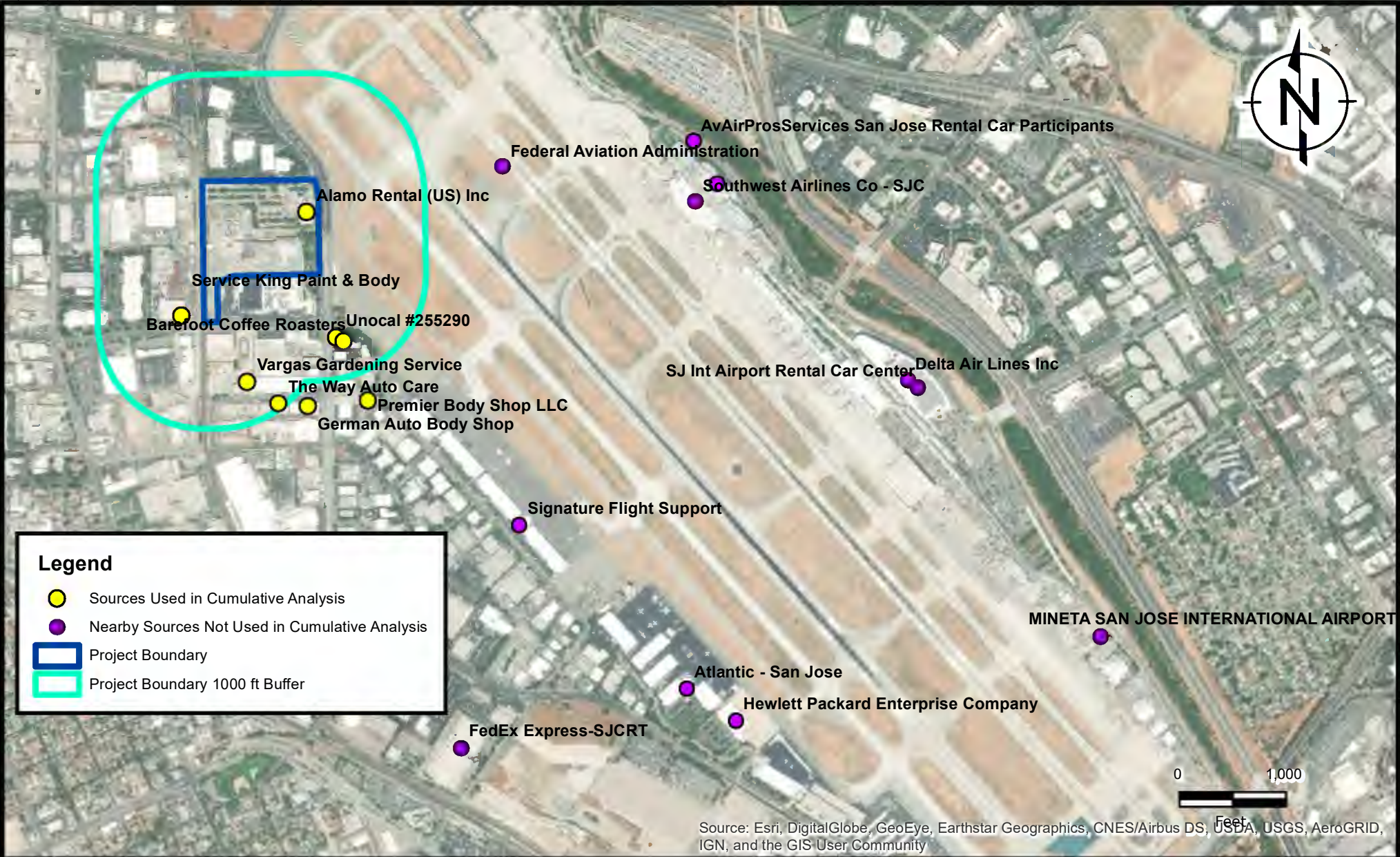
Emission Source	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index	Annual PM_{2.5} Concentration (ug/m³)
Project Operational Generators	0.19	5.1E-05	0.10	2.6E-04
Subtotal, Project Impacts	0.19	5.1E-05	0.10	2.6E-04
Existing Stationary Sources ¹				
German Autobody Shop	0.42	0.001	--	--
Premier Body Shop LLC	0.044	--	--	--
Service King Paint & Body	0.05	--	--	--
The Way Auto Care	0.077	--	--	--
Barefoot Coffee Roasters	0.034	--	--	--
Unocal #255290 ²	0.416	0.0005	--	--
Vargas Gardening Service ³	--	--	--	--
Alamo Rental (US) Inc. ³	--	--	--	--
Subtotal, Background stationary sources	1.04	0.0015	0.00	0.00
Existing Rail and Roadway Sources ⁴				
Railroad	30.9	NA	NA	0.055
Major Streets	7.1	NA	NA	0.2
Highways	8.1	NA	NA	0.2
Subtotal, Background mobile sources	46.2	0.0	0.0	0.4
Total Cumulative Impact	47	0.002	0.103	0.397
BAAQMD Significance Threshold	100	10	10	0.8

Notes:

1. The nearest permitted stationary source to the MEISR (of the sources located within 2000 ft of project facility) is greater than 1,000 ft from receptor; distances are thus treated as 1,000 ft in BAAQMD's Health Risk Calculator from MEIR to be conservative. Stationary source emissions within 2000 ft of the project facility boundary were obtained via a Stationary Source Inquiry Form submitted to BAAQMD in June 2019.
2. Facility emissions data was unavailable for speciated Toxic Air Contaminant (TAC) emissions. BAAQMD Stationary Source Screening Analysis KML Tool for Santa Clara county was used in place of emissions data, and scaled by BAAQMD GDF Distance Calculator. KML tool last updated May 2012; available at: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>
3. Data was unavailable for speciated Toxic Air Contaminant (TAC) emissions, as well as risks from BAAQMD KML tool. Throughput from both Vargas Gardening and Alamo Rental facilities were less than 50% of Unocal #255290 throughput and are >300m distance from MEISR; thus, risks are considered negligible for these facilities.
4. Cancer risks and Annual PM_{2.5} concentrations for mobile emission sources were obtained from BAAQMD's raster tool.

Abbreviations:

- BAAQMD - Bay Area Air Quality Management District
- HI - health index
- MEISR - Maximally Exposed Individual Sensitive Receptor
- PM_{2.5} - fine particulate matter
- ug/m³ - micrograms per cubic meter
- UTM - Universal Transverse Mercator coordinate system



Facility Boundary with Existing Nearby Sources

FIGURE
1

CyrusOne Data Center
Santa Clara, California