DOCKETED	
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Lisa Worrall
California Energy Commission
1516 9th St., MS-46
Sacramento, CA 95814

August 8, 2019

Subject: Laurelwood Data Center (19-SPPE-01) Chiller Greenhouse Gas Emissions and Health Risk Assessment Results

Dear Ms. Worrall,

The purpose of this submittal is to docket responses to two informal data requests from Staff. The first request is to docket two tables from the Health Risk Assessment spreadsheets included with the June 27, 2019 filing (Transaction Number 228854). The second request is to provide greenhouse gas emission estimates for the refrigerant used in the comfort cooling chillers discussed in the July 31st thermal plume filing (Transaction Number 229160).

Comfort Cooling Chiller Greenhouse Gas Emission Estimates

Based on the manufacturers data, each of the 144 chillers contains 441.3 pounds of refrigerant R-134A. This equates to 63,547.2 pounds of R-134A. Based on the allowable annual leak rate of 10 percent for comfort cooling equipment with more than 50 pounds of refrigerant found in 40 CFR 82.157(c)(2)(iii), the maximum expected refrigerant leak mass is 6,354.7 pounds per year. Using a global warming potential of 1300 (from 5th Assessment Report – AR5) results in a maximum allowable refrigerant release of 3,747 metric tons of carbon dioxide equivalent (CO_2E). Using a reported industry standard chiller leak rate[1] of 2 percent, a more realistic estimate of annual refrigerant CO_2E emissions from chiller leakage is 749 metric tons.

The two requested Health Risk Assessment tables are attached.

Please contact me (916-286-0207 | Jerry.Salamy@jacobs.com) or Matt Muell (303-961-7965 | matt.muell@edgecore.com) if you have any questions about the information contained in this submittal.

Regards,

Jerry Salamy

Jacobs, Principal Project Manager

Copies to: Matt Muell/EdgeCore
Wylie Nelson/EdgeCore
Jeff Harris/ESHD

[1] (https://www.trane.com/content/dam/Trane/Commercial/global/products-systems/equipment/chillers/water-cooled/centrifugal-liquid/CTV-SLB022-EN_060316.pdf

Attachment Health Risk Assessment Tables from Transaction Number 228854

Table DR-2-R1
Facility-Wide Operational HRA Results at the Point of Maximum Impact
EdgeCore LDC
Revised June 2019

Risk Type	Risk Value[a]	Receptor Number	Receptor Coordinates	
			UTM Easting (m)	UTM Northing (m)
Acute	0.319	45	591,451	4,138,059
Chronic	3.936E-03	23	591,654	4,137,893
Cancer Worker	1.234 (in 1 million)	23	591,654	4,137,893
Cancer Residential	14.648 (in 1 million)	23	591,654	4,137,893

Notes:
[a] Risk values calculated using HARP2.
PMI = Point of Maximum Impact
m = meters
UTM = Universal Transverse Mercator, North American Datum 1983, Zone 10

Table DR-3-R1
Single Unit Operational HRA Results at the PMI
EdgeCore LDC
Revised June 2019

Risk Type	Risk Value[a]	Receptor Number	Receptor Coordinates	
			UTM Easting (m)	UTM Northing (m)
Acute	0.012	29	591,558	4,137,864
Chronic	1.019E-04	42	591,447	4,137,991
Cancer Worker	0.032 (in 1 million)	42	591,447	4,137,991
Cancer Residential	0.379 (in 1 million)	42	591,447	4,137,991

Notes:
[a] Risk values calculated using HARP2.
PMI = Point of Maximum Impact
m = meters
UTM = Universal Transverse Mercator, North American Datum 1983, Zone 10

Table DR-1-R1
Facility-Wide Construction HRA Results at the Point of Maximum Impact
EdgeCore LDC
Revised June 2019

Risk Type	Risk Value[a]	Receptor Number	Receptor Coordinates	
			UTM Easting (m)	UTM Northing (m)
Acute	Not applicable[b]			
Chronic	0.052	21	591,693	4,137,910
Cancer	75.26 (in 1 million)	21	591,693	4,137,910

Notes:

[a] Risk values calculated using OEHHA methodology, consistent with Appendix DR32-D of the Response to Data Request 32, and the maximum annual modeled concentration of 0.25853 micrograms per cubic meter ($\mu g/m^3$).

[b] Acute health risks were not analyzed for construction activities because there are no acute non-cancer characteristics for diesel particulate matter, which is the only toxic air contaminant modeled.

PMI = Point of Maximum Impact
m = meters
UTM = Universal Transverse Mercator, North American Datum 1983, Zone 10