July 13, 2023

Carl Slimp
Engineer II
Puget Sound Clean Air Agency
1904 Third Avenue, Suite 105
Seattle, WA 98101
E-mail: CarlS@PSCleanAir.gov

Subject: Bonney Watson Memorial Park - Modeling Report for Mercury and Hexavalent Chromium for New Crematory

Dear Mr. Slimp:

On behalf of American Crematory Equipment Company (American Crematory), Yorke Engineering, LLC (Yorke) is submitting this modeling analysis to demonstrate compliance with the Washington Administrative Code (WAC) acceptable source impact levels (ASIL) for mercury (Hg) and hexavalent chromium (Cr(VI)).

BACKGROUND

American Crematory is proposing to install a new A-250 Instant Access crematory as a replacement to the existing Matthews PPII crematory at the Bonney Watson Memorial Park (PSCAA AOP#: 29111) located in SeaTac, WA. American Crematory has submitted the application for a Notice of Construction (NOC) to the Puget Sound Clean Air Agency (PSCAA) for the installation of the new A-250 crematory and retirement of the existing Matthews PPII crematory.

The permit application summarizes the proposed request, and this report presents the air quality evaluation for the proposed new crematory operation. The air quality evaluation includes an assessment of toxic air pollutant (TAP) emissions from the proposed project compared to the Washington Administrative Code (WAC) small quantity emission rate (SQER) thresholds. All TAPs were determined to be below the SQER thresholds, except for Hg and Cr(VI). Therefore, the emissions of Hg and Cr(VI) are subject to modeling to verify their emissions would not exceed the WAC acceptable source impact levels (ASIL).

This modeling analysis for Hg and Cr(VI) has been prepared in support of the submitted NOC permit application.

EMISSIONS

Emissions for each TAP were calculated as the net increase from the existing unit to the new unit. The resulting increase for each TAP was compared to the SQER thresholds. Emissions are summarized in Table 1, and emission calculations are provided in Attachment 1.

The Hg and Cr(VI) emissions are the only TAPs to exceed the SQER threshold limits in WAC 173-460-150. PSCAA Regulation 3, Article 2 (Section 2.05) specifies the screening evaluation requirements for TAP emissions that would result in the exceedance of an ASIL contained in WAC 173-460-150. Therefore, the emissions of Hg and Cr(VI) are subject to modeling to verify whether these emissions would exceed the ASIL values.

Table 1: TAP Emissions – Crematory

TAP	Emission Factor	Averaging Period	Net Daily PTE (lb/day)	Net Annual PTE (lb/year)	Modeling Input PTE (lb/hr)
Hg	PSCAA (long-term >1 hour)	24-hour	6.80E-3	–	2.83E-4
Cr(VI)	PSCAA	Annual	–	1.03E-3	1.17E-7

AIR DISPERSION MODELING METHODOLOGY

Air dispersion modeling was performed using the U.S. Environmental Protection Agency's (U.S. EPA's) AERMOD modeling system (computer software) to assess odor impacts based on post-project emissions. AERMOD is a steady-state plume dispersion model that incorporates air dispersion calculations based on planetary boundary layer turbulence structure and scaling concepts. AERMOD includes the treatment of both surface and elevated sources, as well as both simple and complex terrain. AERMOD uses algorithms to characterize the atmospheric processes that disperse pollutants emitted by a source. Based on emission rates, exhaust parameters, terrain characteristics, and meteorological inputs, AERMOD calculates pollutant concentrations at selected downwind receptor locations. AERMOD is recommended by both the U.S. EPA and the PSCAA for air dispersion modeling projects.

AERMOD version 22112 was used for this project implemented through the Lakes Environmental Software implementation/user interface, AERMOD View™ 11.2.0.

Air Dispersion Parameters

The air dispersion modeling parameters used for the modeling analysis are as follows:

Meteorological Data

AERMOD-specific meteorological (MET) data for the Seattle/Tacoma Airport station was used for the dispersion modeling. A 5-year data set from 2017 through 2021 was obtained from the PSCAA in a preprocessed format suitable for use in AERMOD.

Modeling Options

Regulatory defaults were used with the "Urban" modeling and "Elevated" terrain options.

AERMOD allows for the use of urban or rural dispersion coefficients. The determination of whether the facility is in an urban or rural area followed the Auer method noted in the References section of 40 CFR Part 51, Appendix W. The Auer method requires drawing a circle with a 3-kilometer radius centered on the centroid of the emissions source locations and classifying the land use types within the circle as urban or rural according to a set of criteria.

With more than 50% of the land use types that meet the urban criteria (I1-Heavy Industrial, I2-Light-Moderate Industrial, C1-Commercial, R2 and R3-Compact Residential), the facility is classified as an urban area. A population of 30,525 was used based on the SeaTac City 2022 Census Estimate.[1]

[1] U.S. Census Bureau QuickFacts: SeaTac city, Washington.

Elevation Data

The AERMOD runs used the regulatory default elevated terrain option. Terrain data were imported directly into AERMOD View™ using the WebGIS import feature. The terrain data were from the United States Geological Survey (USGS) National Elevation Dataset (NED) and had a spatial resolution of approximately 30 meters (1 arcsecond). The terrain data files were processed by AERMOD View™ using AERMAP version 18081 and elevations were assigned to receptors, buildings, and emissions sources accordingly.

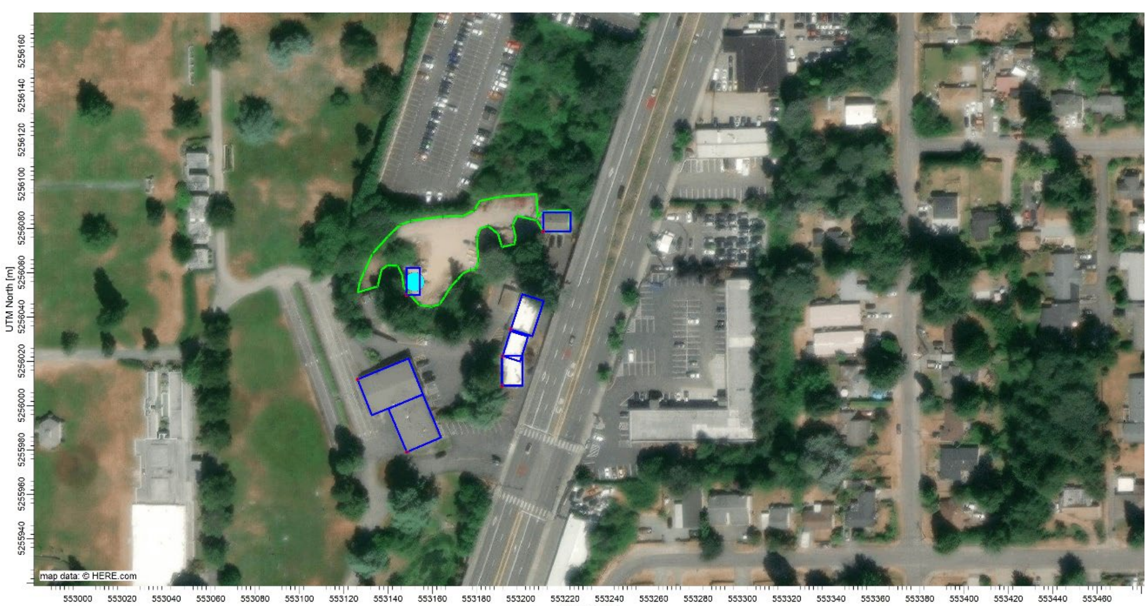
Buildings

All significant buildings were included in the dispersion model for the purpose of estimating building downwash. These included the buildings shown in Figure 1 in blue. Buildings were included in AERMOD that have a potential for downwash effects. Building downwash was assessed using building locations and dimensions from the Building Profile Input Program for PRIME (BPIPPRIME) and included with the AERMOD project files.

Receptor Grid and Modeling Domain

Satellite maps within the AERMOD View™ program were used for visualizing the results of the health risk assessment (HRA) and developing the receptor grid. This program used the World Geodetic System 1984 (WGS84) zone 10 for displaying Universal Transverse Mercator (UTM) coordinates and was used throughout the project. The facility boundary can be seen in red in Figure 1, while Figure 2 shows the locations of the receptors.

Figure 1: Facility Boundary and Source Location



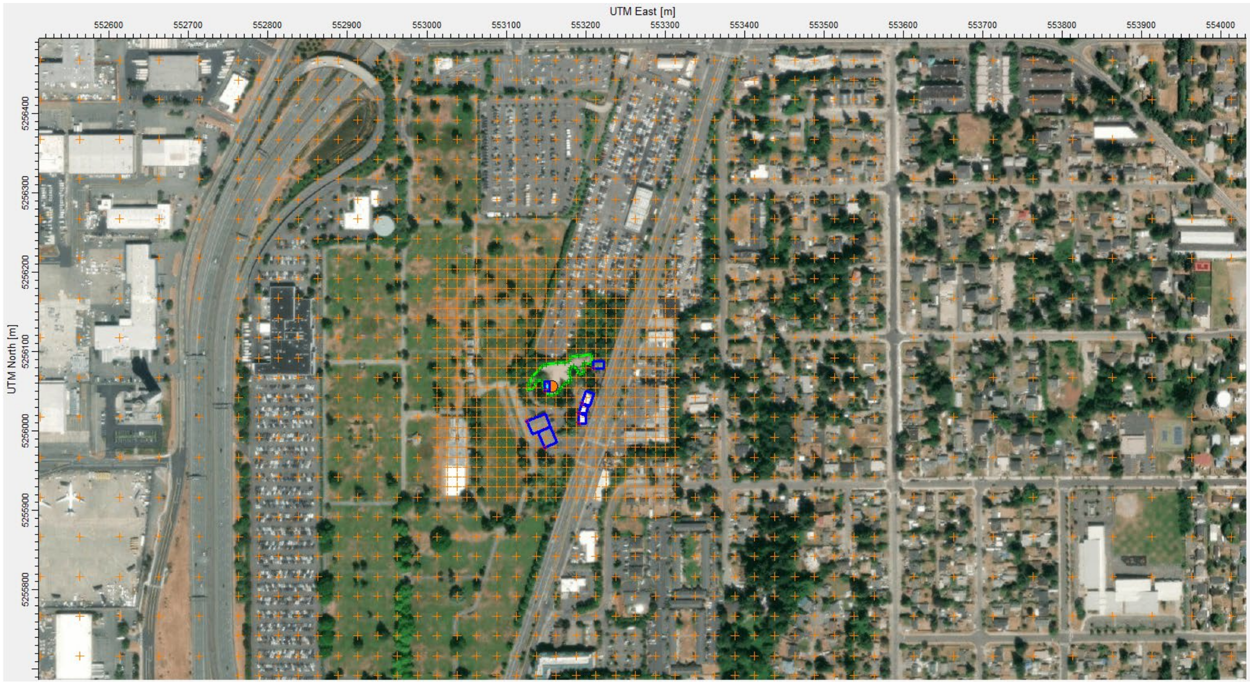
Notes:

Light Blue Circle – Point Source

Dark Blue Lines – Nearby Buildings

Green Line – Facility Boundary

Figure 2: Grid Receptors



Notes:
Orange Cross – Risk Receptor Grid
Orange Circle – Discrete Receptor in front of cremator unit

Source Characteristics

The source characteristics used for the modeling analysis are provided in Table 2. The location of the crematory stack is shown in Figure 1, as indicated by the light blue circle.

Table 2: Source Characteristics

Parameter	Source Characteristics
Source Type	Point
Release Height (ft)	23
Stack Diameter (ft)	1.67
Stack Temperature (°F)	800
Flow Rate (acfm)	1,952

MODELING RESULTS

The results of the modeling analysis in Tables 3 and 4 and contour plots in Figures 3 and 4 indicate that the facility will comply with the WAC ASIL thresholds for Hg and Cr(VI), respectively. Modeling files will be provided electronically.

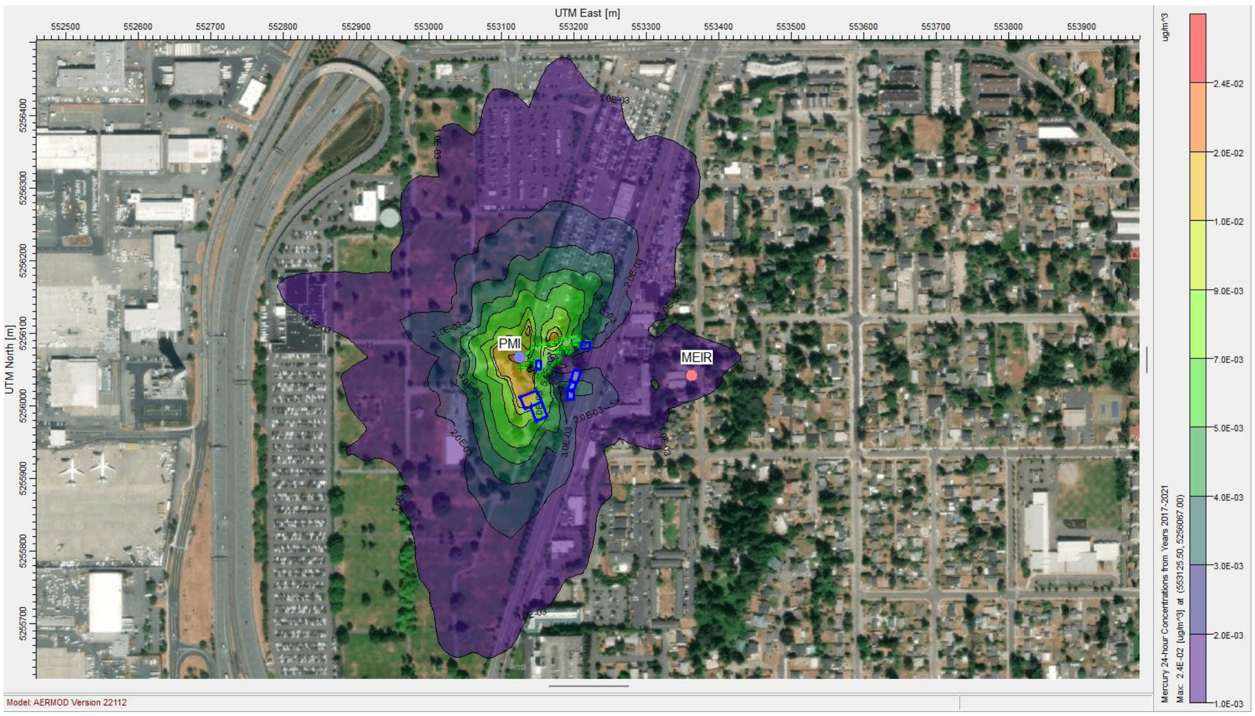
Mercury Results

The Hg 24-hour concentrations at all receptors were predicted to be below the ASIL threshold. The point of maximum impact (PMI) was predicted to occur to the west of the facility along the fenceline of the facility. The peak residential concentration was predicted to occur to the east of the facility.

Table 3: Hg Modeling Results

Pollutant	Emission Rate (lb/hr)	Averaging Period	Modeled Concentration ($\mu g/m^3$)		ASIL Threshold	Exceed ASIL?
			PMI	Resident		
Hg	2.83E-4	24-Hour	2.40E-2	1.27E-3	3.00E-2	No

Figure 3: Modeling Results – Hg Isopleths



Notes:

Peach Circle – Resident

Purple Circle – PMI

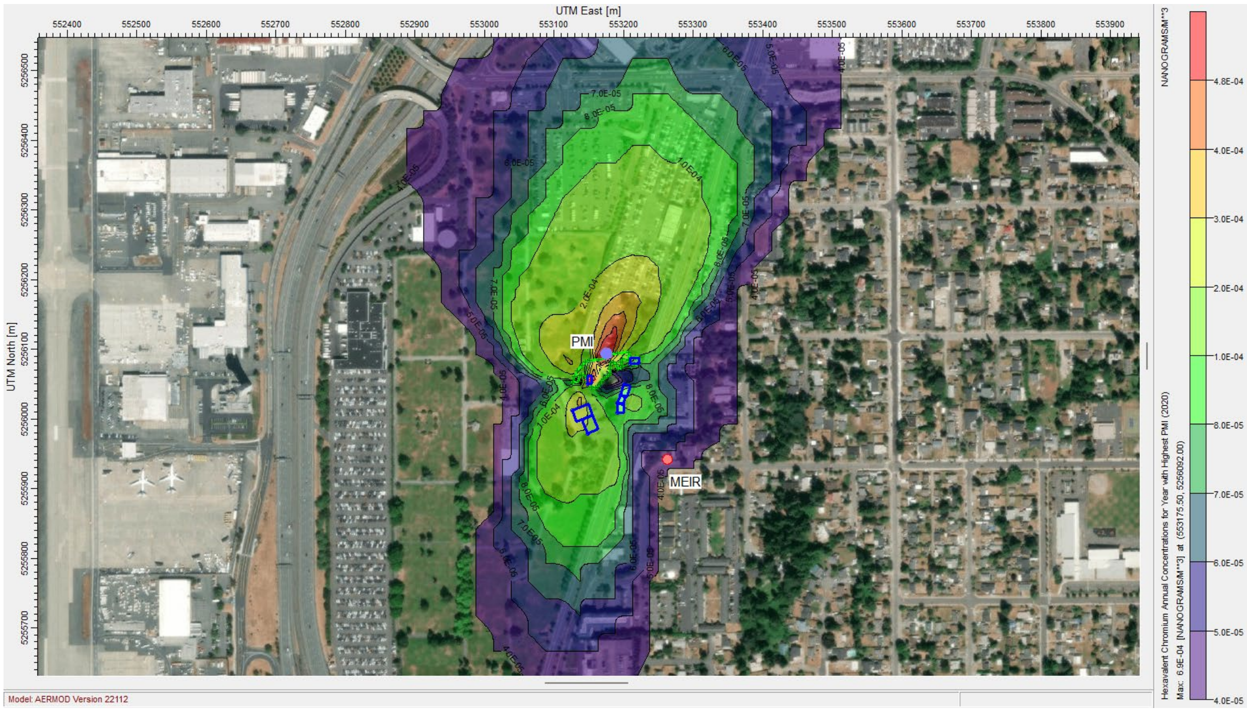
Hexavalent Chromium Results

The annual Cr(VI) concentrations at all receptors were predicted to be below the ASIL threshold. The PMI was predicted to occur to the north of the facility along the fenceline of a neighboring parking lot. The peak residential concentration was predicted to occur to the southeast of the facility.

Table 4: Cr(VI) Modeling Results

Pollutant	Emission Rate (lb/hr)	Averaging Period	Modeled Concentration ($\mu g/m^3$)		ASIL Level ($\mu g/m^3$)	Exceed ASIL?
			PMI	Resident		
Cr(VI)	1.17E-7	Annual	6.90E-7	5.00E-8	4.00E-6	No

Figure 4: Modeling Results– Cr(VI) Isopleths



Notes: The contour scale is in **ng/m³**.

Peach Circle – Resident

Purple Circle – PMI

CONCLUSION

The results from the modeling analysis indicate that the Hg and Cr(VI) concentrations are well below the WAC ASIL thresholds at the PMI and all other receptors.

Should you have any questions or concerns, please contact me at (949) 324-7764.

Sincerely,

Vahe J. Baboomian

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cc: Mike Burwell, American Crematory Equipment Company
Nick Gysel, PhD, Yorke Engineering, LLC
Julie Mitchell, Yorke Engineering, LLC

Enclosures:

1. Attachment 1 – Emission Calculations

ATTACHMENT 1 – EMISSION CALCULATIONS

YorkeENGINEERING, LLC
www.YorkeEngr.com

Bonney Watson
Crematory TAC Emissions

Criteria Pollutants	ppmv @ 7%O2	Emission Factor	Emission Factor Units	Emission Factor Source	Projected Crematory Emissions lb/yr	Projected Crematory Emissions lb/day	Projected Crematory Emissions lb/hr	Actual Crematory Emissions lb/yr	Actual Crematory Emissions lb/day	Actual Crematory Emissions lb/hr	Net Increase in Emissions lb/yr	Net Increase in Emissions lb/day	Net Increase in Emissions lb/hr	SQER (lb/averaging period)	Averaging period	Exceed SQER?	Exceed SQER Project alone?
Nitrogen Oxides (NOx)	140	223.27	lb/mmscf		786.76	3.15	0.39	97.46	1.51	0.37	689.30	1.64	0.02	0.87	1-hr	No	No
Carbon Monoxide (CO)	50	48.55	lb/mmscf		171.10	0.69	0.09	21.19	0.33	0.08	149.90	0.36	0.00	43.00	1-hr	No	No
Sulfur Oxides (SOx)		2.20	lb/ Tons Charged		275.15	1.10	0.14	28.87	0.45	0.11	246.28	0.66	0.03	1.20	1-hr	No	No
Volatile Organic Compounds (VOC)		0.31	lb/ Tons Charged		39.31	0.16	0.02	4.12	0.06	0.02	35.18	0.09	0.00				
Particulate Matter (PM10)											0.00	0.00	0.00				

TACs	CAS	Emission Factor	Emission Factor Units	Emission Factor Source	Projected lb/yr	Projected lb/day	Projected lb/hr	Actual lb/yr	Actual lb/day	Actual lb/hr	Net Increase lb/yr	Net Increase lb/day	Net Increase lb/hr	SQER (lb/averaging period)	Averaging period	Exceed SQER?	Exceed SQER Project alone?	AERMOD Input (lb/hr)
1,2,3,4,6,7,8-HpCDD	35822469	3.83E-08	lb/ Tons Charged	NCEA	4.78E-06	1.91E-08	2.39E-09	5.01E-07	7.75E-09	1.91E-09	4.27E-06	1.14E-08	4.78E-10	4.3E-04	year	No	No	
1,2,3,4,6,7,8-HpCDF	67562394	4.60E-08	lb/ Tons Charged	NCEA	5.74E-06	2.30E-08	2.87E-09	6.02E-07	9.31E-09	2.30E-09	5.14E-06	1.37E-08	5.75E-10	4.3E-04	year	No	No	
1,2,3,4,7,8,9-HpCDF	55673897	4.68E-09	lb/ Tons Charged	NCEA	5.84E-07	2.34E-09	2.92E-10	6.12E-08	9.47E-10	2.34E-10	5.22E-07	1.39E-09	5.85E-11	4.3E-04	year	No	No	
1,2,3,4,7,8-HxCDD	39227286	3.17E-09	lb/ Tons Charged	NCEA	3.95E-07	1.58E-09	1.98E-10	4.15E-08	6.41E-10	1.58E-10	3.54E-07	9.42E-10	3.96E-11	4.3E-05	year	No	No	
1,2,3,4,7,8-HxCDF	70648269	1.11E-08	lb/ Tons Charged	NCEA	1.38E-06	5.53E-09	6.91E-10	1.45E-07	2.24E-09	5.53E-10	1.23E-06	3.29E-09	1.38E-10	4.3E-05	year	No	No	
1,2,3,6,7,8-HxCDD	57653857	4.72E-09	lb/ Tons Charged	NCEA	5.90E-07	2.36E-09	2.95E-10	6.19E-08	9.57E-10	2.36E-10	5.28E-07	1.41E-09	5.91E-11	4.3E-05	year	No	No	
1,2,3,6,7,8-HxCDF	57117449	1.07E-08	lb/ Tons Charged	NCEA	1.33E-06	5.35E-09	6.68E-10	1.40E-07	2.17E-09	5.35E-10	1.19E-06	3.18E-09	1.34E-10	4.3E-05	year	No	No	
1,2,3,7,8,9-HxCDD	19408743	4.87E-09	lb/ Tons Charged	NCEA	6.07E-07	2.43E-09	3.04E-10	6.37E-08	9.85E-10	2.43E-10	5.44E-07	1.45E-09	6.08E-11	4.3E-05	year	No	No	
1,2,3,7,8,9-HxCDF	72918219	1.39E-08	lb/ Tons Charged	NCEA	1.74E-06	6.97E-09	8.71E-10	1.83E-07	2.82E-09	6.97E-10	1.56E-06	4.15E-09	1.74E-10	4.3E-05	year	No	No	
1,2,3,7,8-PeCDD	40321764	2.09E-09	lb/ Tons Charged	NCEA	2.61E-07	1.05E-09	1.31E-10	2.74E-08	4.24E-10	1.05E-10	2.34E-07	6.23E-10	2.62E-11	4.3E-06	year	No	No	
1,2,3,7,8-PeCDF	57117416	3.89E-09	lb/ Tons Charged	NCEA	4.85E-07	1.94E-09	2.43E-10	5.09E-08	7.88E-10	1.94E-10	4.35E-07	1.16E-09	4.86E-11	1.5E-04	year	No	No	
2,3,4,6,7,8-HxCDF	60851345	1.04E-08	lb/ Tons Charged	NCEA	1.30E-06	5.21E-09	6.52E-10	1.37E-07	2.11E-09	5.21E-10	1.16E-06	3.10E-09	1.30E-10	4.3E-05	year	No	No	
2,3,4,7,8-PeCDF	57117314	1.08E-08	lb/ Tons Charged	NCEA	1.35E-06	5.42E-09	6.77E-10	1.42E-07	2.19E-09	5.42E-10	1.21E-06	3.22E-09	1.35E-10	1.5E-05	year	No	No	
2,3,7,8-TCDD	1746016	6.94E-10	lb/ Tons Charged	NCEA	8.67E-08	3.47E-10	4.34E-11	9.09E-09	1.41E-10	3.47E-11	7.76E-08	2.07E-10	8.68E-12	4.3E-06	year	No	No	
2,3,7,8-TCDF	51207319	5.42E-09	lb/ Tons Charged	NCEA	6.76E-07	2.71E-09	3.39E-10	7.09E-08	1.10E-09	2.71E-10	6.05E-07	1.61E-09	6.77E-11	4.3E-05	year	No	No	
Acenaphthene		1.78E-06	lb/ Tons Charged	Avg WebFire and CATEF	2.22E-04	8.90E-07	1.11E-07	2.33E-05	3.60E-07	8.90E-08	1.99E-04	5.29E-07	2.22E-08	-	-	-	-	
Acenaphthylene		1.57E-06	lb/ Tons Charged	Avg WebFire and CATEF	1.97E-04	7.87E-07	9.84E-08	2.06E-05	3.19E-07	7.87E-08	1.76E-04	4.69E-07	1.97E-08	-	-	-	-	
Acetaldehyde	75070	1.84E-03	lb/ Tons Charged	Avg WebFire and CATEF	2.30E-01	9.21E-04	1.15E-04	2.41E-02	3.73E-04	9.21E-05	2.06E-01	5.48E-04	2.30E-05	6.0E+01	year	No	No	
Anthracene		4.20E-06	lb/ Tons Charged	Avg WebFire and CATEF	5.25E-04	2.10E-06	2.63E-07	5.51E-05	8.51E-07	2.10E-07	4.70E-04	1.25E-06	5.26E-08	-	-	-	-	
Benzene	71432	7.20E-04	lb/ Tons Charged	SDAPCD	8.98E-02	3.60E-04	4.50E-05	9.42E-03	1.46E-04	3.60E-05	8.04E-02	2.14E-04	9.00E-06	2.1E+01	year	No	No	
Benzo(a)anthracene	56553	1.57E-07	lb/ Tons Charged	Avg WebFire and CATEF	1.96E-05	7.86E-08	9.82E-09	2.06E-06	3.18E-08	7.86E-09	1.76E-05	4.68E-08	1.96E-09	8.9E-01	year	No	No	
Benzo(a)pyrene	50328	5.54E-07	lb/ Tons Charged	Avg WebFire and CATEF	6.92E-05	2.77E-07	3.46E-08	7.26E-06	1.12E-07	2.77E-08	6.19E-05	1.65E-07	6.93E-09	1.6E-01	year	No	No	
Benzo(b)fluoranthene	205992	2.46E-07	lb/ Tons Charged	Avg WebFire and CATEF	3.07E-05	1.23E-07	1.54E-08	3.22E-06	4.97E-08	1.23E-08	2.74E-05	7.31E-08	3.07E-09	8.9E-01	year	No	No	
Benzo(k)fluoranthene	207089	2.14E-07	lb/ Tons Charged	Avg WebFire and CATEF	2.67E-05	1.07E-07	1.34E-08	2.80E-06	4.34E-08	1.07E-08	2.39E-05	6.37E-08	2.68E-09	8.9E-01	year	No	No	
Cadmium	7440439	1.61E-04	lb/ Tons Charged	SDAPCD	2.00E-02	8.03E-05	1.00E-05	2.10E-03	3.25E-05	8.03E-06	1.79E-02	4.78E-05	2.01E-06	3.9E-02	year	No	No	
Chromium, nonhexavalent	7440473	2.00E-05	lb/ Tons Charged	"Reevaluation of the Trace Element Content…"	2.50E-03	1.00E-05	1.25E-06	2.62E-04	4.05E-06	1.00E-06	2.23E-03	5.95E-06	2.50E-07	-	-	-	-	
Hexavalent chromium	18540299	9.20E-06	lb/ Tons Charged	A factor of 0.46 is applied to the total chromium emissions to estimate hexavalent chromium emissions. This is ratio is calculated based on emission	1.15E-03	4.60E-06	5.75E-07	1.20E-04	1.86E-06	4.60E-07	1.03E-03	2.74E-06	1.15E-07	6.5E-04	year	Yes	Yes	1.17E-07
Chrysene		6.24E-07	lb/ Tons Charged	Avg WebFire and CATEF	7.78E-05	3.12E-07	3.90E-08	8.17E-06	1.26E-07	3.12E-08	6.97E-05	1.86E-07	7.80E-09	8.9E+00	year	No	No	
Copper	7440508	4.00E-04	lb/ Tons Charged	SDAPCD	4.99E-02	2.00E-04	2.50E-05	5.24E-03	8.10E-05	2.00E-05	4.47E-02	1.19E-04	5.00E-06	1.9E-01	1-hr	No	No	
Dibenz(a,h)anthracene	53703	1.94E-07	lb/ Tons Charged	Avg WebFire and CATEF	2.42E-05	9.69E-08	1.21E-08	2.54E-06	3.92E-08	9.69E-09	2.16E-05	5.76E-08	2.42E-09	8.2E-02	year	No	No	
Fluoranthene		2.54E-06	lb/ Tons Charged	Avg WebFire and CATEF	3.16E-04	1.27E-06	1.58E-07	3.32E-05	5.13E-07	1.27E-07	2.83E-04	7.54E-07	3.17E-08	-	-	-	-	
Fluorene		5.87E-06	lb/ Tons Charged	Avg WebFire and CATEF	7.33E-04	2.94E-06	3.67E-07	7.69E-05	1.19E-06	2.94E-07	6.56E-04	1.75E-06	7.34E-08	-	-	-	-	
Formaldehyde	50000	3.72E-03	lb/ Tons Charged	Avg WebFire, CATEF and SDAPCD	4.64E-01	1.86E-03	2.32E-04	4.87E-02	7.53E-04	1.86E-04	4.15E-01	1.11E-03	4.65E-05	2.7E+01	year	No	No	
Hydrogen chloride	7647010	1.02E+00	lb/ Tons Charged	Avg WebFire, CATEF and SDAPCD	1.28E+02	5.12E-01	6.40E-02	1.34E+01	2.07E-01	5.12E-02	1.14E+02	3.05E-01	1.28E-02	6.7E-01	24-hr	No	No	
Hydrogen fluoride	7664393	1.00E-02	lb/ Tons Charged	Avg WebFire, CATEF and SDAPCD	1.25E+00	5.01E-03	6.26E-04	1.31E-01	2.03E-03	5.01E-04	1.12E+00	2.98E-03	1.25E-04	1.0E+00	24-hr	No	No	
Indeno(1,2,3-cd)pyrene		2.20E-07	lb/ Tons Charged	Avg WebFire and CATEF	2.75E-05	1.10E-07	1.38E-08	2.89E-06	4.46E-08	1.10E-08	2.46E-05	6.56E-08	2.76E-09	8.9E-01	year	No	No	
Lead	7439921	9.80E-04	lb/ Tons Charged	SDAPCD	1.22E-01	4.90E-04	6.12E-05	1.28E-02	1.98E-04	4.90E-05	1.09E-01	2.91E-04	1.22E-05	1.4E+01	year	No	No	
Naphthalene	91203	3.21E-03	lb/ Tons Charged	Avg WebFire and CATEF	4.01E-01	1.61E-03	2.01E-04	4.21E-02	6.51E-04	1.61E-04	3.59E-01	9.56E-04	4.02E-05	4.8E+00	year	No	No	
OCDD	3268879	5.98E-08	lb/ Tons Charged	NCEA	7.47E-06	2.99E-08	3.74E-09	7.84E-07	1.21E-08	2.99E-09	6.68E-06	1.78E-08	7.48E-10	1.5E-02	year	No	No	
OCDF	39001020	1.84E-08	lb/ Tons Charged	NCEA	2.30E-06	9.21E-09	1.15E-09	2.41E-07	3.73E-09	9.21E-10	2.06E-06	5.48E-09	2.30E-10	1.5E-02	year	No	No	
Phenanthrene		2.87E-05	lb/ Tons Charged	Avg WebFire and CATEF	3.58E-03	1.43E-05	1.79E-06	3.75E-04	5.80E-06	1.43E-06	3.20E-03	8.53E-06	3.58E-07	-	-	-	-	
Pyrene		2.30E-06	lb/ Tons Charged	Avg WebFire and CATEF	2.87E-04	1.15E-06	1.44E-07	3.01E-05	4.66E-07	1.15E-07	2.57E-04	6.84E-07	2.87E-08	-	-	-	-	
Selenium	7782492	6.50E-04	lb/ Tons Charged	SDAPCD	8.12E-02	3.25E-04	4.06E-05	8.52E-03	1.32E-04	3.25E-05	7.27E-02	1.93E-04	8.13E-06	1.5E+00	24-hr	No	No	
Toluene	108883	9.92E-03	lb/ Tons Charged	SDAPCD	1.24E+00	4.96E-03	6.20E-04	1.30E-01	2.01E-03	4.96E-04	1.11E+00	2.95E-03	1.24E-04	3.7E+02	24-hr	No	No	
Xylenes	1330207	2.80E-03	lb/ Tons Charged	SDAPCD	3.50E-01	1.40E-03	1.75E-04	3.67E-02	5.68E-04	1.40E-04	3.13E-01	8.34E-04	3.50E-05	1.6E+01	24-hr	No	No	
Mercury (long-term >1 hr)	7439976	3.40E-03	lb/ Body Charged	PSCAA (CT DEEP)	4.24E+00	1.70E-02	-	6.60E-01	1.02E-02	-	3.58E+00	6.80E-03	-	2.2E-03	24-hr	Yes	Yes	2.83E-04

Parameter	Projected	Actual	Comment
Permitted Burner rating (MMBtu/hr)	1.8	1.7	
Natural gas usage (mmscf/hr)	0.00176	0.00167	calculated from rating
Daily Natural gas usage (mmscf/day)	0.0141	0.0068	calculated
Annual Natural gas usage (mmscf/yr)	3.52	0.44	calculated
	Projected	**Actual**	**Units**
Avg Charge Wt	200	135	lb
Annual Charges	1248	194	cases/yr
Annual Tons Charged	124.8	13.095	ton/year
Average time per charge	1.6	1.35	hours/case
Annual Hours of Operation	1996.8	261.9	hours/year
Max Daily Charges	5	3	cases/day
Daily Hours of Operation	8	4.05	hours/day
Max Dailly Cremation Rate	0.5	0.2025	ton/day
Max Hourly Crem. Rating	125	100	lb/hr
Max Hourly Crem. Rating	0.0625	0.05	tons/hr
Charges/Hour	1	1	for Mercury

Parameter	Value	Comment
%O_2 Emission Basis	7	PSCAA
Fd - F-factor Natural Gas (dscf/mmBtu)	8710	Default
MW CO	28.01	Default
MW NO_x	46	Default
Molar Gas Volume at 68F (scf/lb-mole)	385.3	Default
Natural Gas Fuel HHV (Btu/scf)	1020	Default
Stack Temperature (F)	800	permit app
Stack Exhaust Flow (wacfm)	1952	permit app
Stack Exhaust Flow (wscfm)	818.0	calculated
Stack Exhaust Flow (dscfm)	757.4	calculated
Stack Moisture (fraction)	0.08	Assumed
MW Cr	51.9961	Default