TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit 24-3658
Air Discharge Permit Application S-139

Issued: August 26, 2024

Pet After Life Services

SWCAA ID – 2520

Prepared By: Vannessa McClelland
Air Quality Engineer
Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

ADP.....Air Discharge Permit

AP-42 .....Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA

ASIL.....Acceptable Source Impact Level

BACT.....Best available control technology

BART .....Best Available Retrofit Technology

CAM .....Compliance Assurance Monitoring

CAS#.....Chemical Abstracts Service registry number

CFR.....Code of Federal Regulations

EPA.....U.S. Environmental Protection Agency

EU .....Emission Unit

LAER .....Lowest achievable emission rate

MACT.....Maximum Achievable Control Technologies

mfr.....Manufacturer

NESHAP.....National Emission Standards for Hazardous Air Pollutants

NOV.....Notice of Violation/

NSPS.....New Source Performance Standard

PSD .....Prevention of Significant Deterioration

RACT.....Reasonably Available Control Technology

RCW .....Revised Code of Washington

SCC.....Source Classification Code

SDS .....Safety Data Sheet

SQER .....Small Quantity Emission Rate listed in WAC 173-460

Standard .....Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)

SWCAA .....Southwest Clean Air Agency

T-BACT .....Best Available Control Technology for toxic air pollutants

WAC .....Washington Administrative Code

List of Units and Measures

µg/m³.....Micrograms per cubic meter

µm .....Micrometer (10^{-6} meter)

acfm.....Actual cubic foot per minute

bhp.....Brake horsepower

dscfm.....Dry Standard cubic foot per minute

g/dscm.....Grams per dry Standard cubic meter

gpm .....Gallon per minute

gr/dscf .....Grain per dry standard cubic foot

MMBtu.....Million British thermal unit

MMcf .....Million cubic feet

ppm .....Parts per million

ppmv .....Parts per million by volume

ppmvd .....Parts per million by volume, dry

ppmw.....Parts per million by weight

psig.....Pounds per square inch, gauge

rpm .....Revolution per minute

scfm.....Standard cubic foot per minute

tph .....Ton per hour

tpy .....Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C_3H_8 .....Propane
CH_4.....Methane
CO .....Carbon monoxide
CO_2.....Carbon dioxide
CO_2e.....Carbon dioxide equivalent
H_2S .....Hydrogen sulfide
HAP.....Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
HCl.....Hydrochloric acid
Hg.....Mercury
N_2O .....Nitrous oxide
NH_3 .....Ammonia
NO_2 .....Nitrogen dioxide
NO_x .....Nitrogen oxides
O_2 .....Oxygen
O_3 .....Ozone
PM.....Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10} .....PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$ .....PM with an aerodynamic diameter 2.5 µm or less
SO_2 .....Sulfur dioxide
SO_x .....Sulfur oxides
TAP .....Toxic air pollutant pursuant to Chapter 173-460 WAC
TGOC.....Total Gaseous Organic Carbon
TOC.....Total Organic Carbon
TSP.....Total Suspended Particulate
VOC .....Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Pet After Life Services NW
Applicant Address:	122 Bear Prairie Road Washougal, Washington 98671
Facility Name:	Pet After Life Services
Facility Address:	122 Bear Prairie Road Washougal, Washington 98671
SWCAA Identification:	2520
Contact Person:	Brian Yockey
Primary Process:	Funeral Services and Crematories / Cemeteries and Crematories
SIC/NAICS Code:	7261: Funeral Service and Crematories 812220: Cemeteries and Crematories
Facility Latitude and Longitude:	45° 37' 47.59" N 122° 13' 54.57" W
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

Pet After Life Services NW (Pet After Life Services) operates an animal crematory in Washougal, Washington.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number S-139 dated April 22, 2024. Pet After Life Services NW submitted ADP application S-139 requesting the following:

- Installation of a new animal crematory.
- Correction of the VOC emission factor and emission limit for the existing crematory.

ADP 24-3658 will supersede ADP 18-3270 in its entirety.

4. PROCESS DESCRIPTION

4.a. Animal Cremation. This facility is a pet crematory that receives animals from offsite sources. The crematory operates on a batch load basis with a maximum batch weight of ~200 pounds for the original unit and ~3000 pounds for the new unit. The length of each cremation cycle is dependent on the size of the load. Each crematory is configured with two combustion chambers. Animals are loaded into the primary combustion chamber via a large refractory door. The primary combustion chamber is operated to achieve high

temperature pyrolysis and maximum volume reduction. Exhaust gases from the primary chamber pass into a secondary combustion chamber, where the gases are mixed with secondary air and subject to additional combustion via an afterburner. Exhaust gases from the secondary combustion chamber are discharged to the ambient atmosphere through a dedicated exhaust stack.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Crematory #1. One Therm-Tec model S-27-M crematory configured with two combustion chambers in series. The primary combustion chamber is designed to operate at average temperatures of 1,400-1,500 °F. The secondary chamber is designed to operate at average temperatures of 1,500-1,600 °F. Upon start-up, burner controls lock out the primary chamber burner until the secondary chamber reaches a preheat set point of 1,600 °F.

Primary Combustion Chamber

Volume:	34.4 ft^3
Max Capacity:	200 lbs
Burner Make/Model:	Midco / J-83-DS
Rated Heat Input:	0.4 MMBtu/hr (*propane*)
Exhaust:	Direct exhaust to secondary combustion chamber.

Secondary Combustion Chamber

Volume:	6.1 ft^3
Residence Time:	0.7-1.0 seconds
Burner Make/Model:	Midco / J-83-DS
Rated Heat Input:	0.8 MMBtu/hr (*propane*)
Exhaust:	14" dia vertical stack at 19.8' above ground level. The discharge point is ~8' above the building rooftop. Exhaust flowrate is ~1,200 acfm.

5.b. Crematory #2 (*new*). One Therm-Tec model G-30-P crematory configured with two combustion chambers in series. The primary combustion chamber is designed to operate at average temperatures of 1,400-1,500 °F. The secondary chamber is designed to operate at average temperatures of 1,500-1,600 °F. Upon start-up, burner controls lock out the primary chamber burner until the secondary chamber reaches a preheat set point of 1,600 °F. The crematory does not use chrome containing refractory.

Primary Combustion Chamber

Volume:	184 ft^3
Max Capacity:	3000 lbs
Burner Make/Model:	Powerflame / C2-G-15
Rated Heat Input:	1.75 MMBtu/hr (*propane*)
Exhaust:	Direct exhaust to secondary combustion chamber.

Secondary Combustion Chamber
Volume: 36.8 ft^3
Residence Time: 0.7-1.0 seconds
Burner Make/Model: Midco / J-121-DS
Rated Heat Input: 2.4 MMBtu/hr (*propane*)
Exhaust: 28" internal dia vertical stack at 27'10" above ground level. The discharge point is ~8' above the building rooftop. Exhaust flowrate is ~1,200 acfm.

5.c. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Crematory #1 (Therm-Tec model S-27-M)	Afterburner, controlled combustion
2	Crematory #1 (Therm-Tec model G-30-P)	Afterburner, controlled combustion

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:
(a) Continuous emissions monitoring system (CEMS) data;
(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

Nothing precludes the use, including the exclusive use of any credible evidence or information relevant to identifying or quantifying emissions if methods identified above, in the ADP, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

6.a. Crematory #1. Potential emissions from crematory operation are calculated from an annual material throughput of 58.5 tpy (*75 lb/hr, 30 hr/wk, 52 wk/yr*) and applicable emission factors.

NO_X, CO, and PM emission factors are derived by ratioing available emission test data on a Therm Tec S-27 unit to the allowable emission concentration limits. VOC and SO_2 emission factors are taken from US EPA, AP-42 Tables 2.3-1 and 2.3-2 (*7/93*) for controlled air medical waste incinerators. Total PM includes both filterable and condensable particulate emissions. Filterable PM emissions are assumed to be 65% PM_{10} (*AP-42, Table 2.3-15*). Condensable PM emissions are assumed to be 100% $PM_{10}/PM_{2.5}$.

Pollutant	Emission Conc.	Emission Factor	Emissions
NO_X	165 ppmv	19.39 lb/ton	0.57 tpy
CO	50 ppmv	3.84 lb/ton	0.11 tpy
VOC	--	0.30 lb/ton	0.01 tpy
SO_2	--	2.17 lb/ton	0.06 tpy
PM	0.030 gr/dscf	4.16 lb/ton	0.12 tpy
PM_{10}	--	3.36 lb/ton	0.10 tpy
$PM_{2.5}$	--	1.88 lb/ton	0.06 tpy

TAP/HAP emission factors are taken from the US EPA FIRE 6.25 database entry for SCC 31502101 "Industrial Process - Photo Equip/Health Care/Labs/Air Condit/Swim Pools - Health Care Crematoriums - Crematory Stack." These factors are considered to be conservative because it is assumed that the emission rate for these TAPs/HAPs will actually be lower for animals than humans. The cited emission factors correspond to individual crematory loads. Supporting information indicates an average charge weight of 150 lbs.

Pollutant	E. F. (lb/150 lb)	E. F. (lb/ton)	Emissions (lb/yr)
Acetaldehyde	1.30×10^{-4}	0.00173	0.10
Antimony	3.00×10^{-5}	0.00040	0.02
Arsenic	3.00×10^{-5}	0.00040	0.02
Beryllium	1.40×10^{-6}	0.00002	0.001
Cadmium	1.10×10^{-5}	0.00015	0.009
Chromium (VI)	1.40×10^{-5}	0.00019	0.01
Copper	2.70×10^{-5}	0.00036	0.02
Formaldehyde	3.40×10^{-5}	0.00045	0.03
Hydrogen Chloride	7.20×10^{-2}	0.960	56.16
Hydrogen Fluoride	6.60×10^{-4}	0.0088	0.52
Lead	6.60×10^{-5}	0.00088	0.05
Nickel	3.80×10^{-5}	0.00051	0.03
Selenium	4.40×10^{-5}	0.00059	0.03

6.b. Crematory #2 (new). Potential emissions from crematory operation are calculated from an annual material throughput of 390 tpy (*300 lb/hr, 50 hr/wk, 52 wk/yr*) and applicable emission factors.

NO_X and PM emission factors are derived by ratioing available emission test data on a Therm Tec S-27 unit to the allowable emission concentration limits. CO emission factors are derived by ratioing available emission test data on a Therm Tec G-30-P unit to the allowable emission concentration limits. VOC and SO_2 emission factors are taken from US EPA, AP-42 Tables 2.3-1 and 2.3-2 (*7/93*) for controlled air medical waste incinerators. Total PM includes both filterable and condensable particulate emissions. Filterable PM emissions are assumed to be 65% PM_{10} (*AP-42, Table 2.3-15*). Condensable PM emissions are assumed to be 100% $PM_{10}/PM_{2.5}$.

Pollutant	Emission Conc.	Emission Factor	Emissions
NO_X	165 ppmv	13.90 lb/ton	2.71 tpy
CO	50 ppmv	2.60 lb/ton	0.51 tpy
VOC	--	0.30 lb/ton	0.06 tpy
SO_2	--	2.17 lb/ton	0.43 tpy
PM	0.030 gr/dscf	4.17 lb/ton	0.81 tpy
PM_{10}	--	3.09 lb/ton	0.60 tpy
$PM_{2.5}$	--	1.08 lb/ton	0.21 tpy

TAP/HAP emission factors are taken from the US EPA FIRE 6.25 database entry for SCC 31502101 "Industrial Process - Photo Equip/Health Care/Labs/Air Condit/Swim Pools - Health Care Crematoriums - Crematory Stack." These factors are considered to be conservative because it is assumed that the emission rate for these TAPs/HAPs will actually be lower for animals than humans. The cited emission factors correspond to individual crematory loads. Supporting information indicates the factor is based on an average charge weight of 150 lbs. Chromium VI is not expected to emit because the refractory is chromium free.

Pollutant	E. F. (lb/150 lb)	E. F. (lb/ton)	Emissions (lb/yr)
Acetaldehyde	1.30×10^{-4}	0.00173	0.68
Antimony	3.00×10^{-5}	0.00040	0.16
Arsenic	3.00×10^{-5}	0.00040	0.16
Beryllium	1.40×10^{-6}	0.00002	0.007
Cadmium	1.10×10^{-5}	0.00015	0.057
Copper	2.70×10^{-5}	0.00036	0.14
Formaldehyde	3.40×10^{-5}	0.00045	0.18
Hydrogen Chloride	7.20×10^{-2}	0.960	374.40
Hydrogen Fluoride	6.60×10^{-4}	0.0088	3.43
Lead	6.60×10^{-5}	0.00088	0.34
Nickel	3.80×10^{-5}	0.00051	0.20
Selenium	4.40×10^{-5}	0.00059	0.23

6.c. Emissions Summary

Air Pollutant	**Potential to Emit (tpy)**	**Project Impact (tpy)**
NO_x	3.28	2.71
CO	0.62	0.51
VOC	0.07	0.06
SO_2	0.49	0.43
Lead	0.00020	0.0017
PM	0.94	0.81
PM_{10}	0.70	0.60
$PM_{2.5}$	0.27	0.21

Pollutant	CAS Number	Category	Facilitywide Emissions (lb/yr)	Incremental Increase (lb/yr)	WAC 173-460 SQER (lb/yr)
Acetaldehyde	75-07-0	HAP/TAP A	0.78	0.68	50
Antimony	7440-36-0	HAP/TAP B	0.18	0.16	175
Arsenic	7440-38-2	HAP/TAP A	0.18	0.16	0.049
Beryllium	7440-41-7	HAP/TAP A	0.008	0.007	0.068
Cadmium	7440-43-9	HAP/TAP A	0.066	0.057	0.039
Chromium (VI)	18540-29-9	HAP/TAP A	0.011	0.00	none
Copper	7440-50-8	TAP B	0.16	0.14	175
Formaldehyde	50-00-0	HAP/TAP A	0.20	0.18	20
Hydrogen chloride	7647-01-0	HAP/TAP B	430.56	374.40	175
Hydrogen fluoride	7664-39-3	HAP/TAP B	3.95	3.43	175
Lead	81109*	HAP/TAP A	0.40	0.34	20
Nickel	7440-02-0	HAP/TAP A	0.23	0.20	0.5
Selenium	7782-49-2	HAP/TAP B	0.26	0.23	175

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this Permit consistent with implementation of Best Available Control Technology (BACT):

7.a. Title 40 Code of Federal Regulations Part 60 (40 CFR 60) Subpart Ec "Standards of Performance for Hospital/Medical/Infectious Waste Incinerators" applies to each individual hospital/medical/infectious waste incinerator (HMIWI) for which construction is commenced after June 20, 1996. This regulation is not applicable to this source because the crematory will only be burning pathological wastes (waste material consisting of only human or animal remains and their containers).

7.b. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate

administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.

7.c. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules, and regulations when issuing an ADP for installation and establishment of an air contaminant source. This law applies to the facility.

7.d. WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants, and demonstration of protection of human health and safety.

The facility emits TAPs; therefore, this regulation applies to the facility.

7.e. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, SO_2, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM_{10}, $PM_{2.5}$, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.

7.f. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO_2, concealment and masking, and fugitive dust. This regulation applies to the facility.

7.g. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.

7.h. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.

7.i. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.

7.j. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.

7.k. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person is allowed to emit a gas containing in excess of 1,000 ppmd of SO_2, corrected to 7% O_2 or 12% CO_2 as required by the applicable emission standard for combustion sources.

The facility emits SO_2; therefore, this regulation applies to the facility.

7.l. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.

7.m. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met, and that no person is allowed to cause or permit the emission of PM from any combustion or incineration unit in excess of 0.23 g/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas at standard conditions.

The facility has combustion units; therefore, this regulation applies to the facility.

7.n. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.

7.o. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.

7.p. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
(3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in an area that is in attainment for all pollutants; therefore, this regulation applies to the facility.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

8.a. BACT/T-BACT Determination – Crematory. The proposed operation with the use of an afterburner operating at a temperature in excess of 1500 °F with a residence time greater than 0.5 seconds has been determined to meet the requirements of BACT and T-BACT for cremation operations at this facility.

8.b. Prevention of Significant Deterioration (PSD) Applicability Determination. This permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

8.c. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 (Title V) permit.

9. AMBIENT IMPACT ANALYSIS

9.a. Criteria Air Pollutant Review. Emissions of NO_x, CO, PM, VOC (as a precursor to O_3), and SO_2 are emitted at levels where no adverse ambient air quality impact is anticipated.

9.b. Toxic Air Pollutant Review. All incremental increases in individual TAP emissions are less than the applicable small quantity emission rate (SQER) identified in WAC 173-460 except for arsenic, cadmium, and hydrogen chloride. Therefore, project emissions of those pollutants were modelled to determine compliance with the applicable annual acceptable source impact level (ASIL).

9.c. TAP Ambient Impact Analysis. Emissions of arsenic, cadmium, and hydrogen chloride were modeled using EPA's AERSCREEN dispersion model. The results of the model indicate that the project will not cause an incremental increase in ambient concentrations greater than the applicable ASIL identified in WAC 173-460.

Toxic Compound	CAS #	Incremental Impact ($\mu g/m^3$)	ASIL ($\mu g/m^3$)
Arsenic	7440-38-2	9.85×10^{-5} (annual avg.)	3.0×10^{-4} (annual avg.)
Cadmium	7440-43-9	3.85×10^{-5} (annual avg.)	2.4×10^{-4} (annual avg.)
Hydrogen Chloride	7647-01-0	0.58 (annual avg.)	7 (annual avg.)

Conclusions

9.d. Construction and operation of the new crematory, as proposed in ADP application S-139, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.e. Construction and operation of the new crematory, as proposed in ADP application S-139, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.f. The new crematory as proposed in ADP application S-139, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 24-3658 in response to ADP application S-139. ADP 24-3658 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a. Supersession of Previous Permits. ADP 24-3658 supersedes ADP 18-3270 in its entirety. Compliance will be determined under this ADP, not previously superseded ADPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.

10.b. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP application S-139. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this TSD.

10.c. Monitoring and Recordkeeping Requirements. ADP 24-3658 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment, and provide for compliance with generally applicable requirements. Specific requirements are established for hours of operation and weight of material cremated.

10.d. Reporting Requirements. ADP 24-3658 establishes general reporting requirements for annual air emissions, upset conditions, and excess emissions. Specific reporting requirements are established for hours of operation and weight of material cremated. Reports are to be submitted on an annual basis.

10.e. Crematory Operations. Permit requirements for crematory operations are intended to minimize emissions requiring the use of an afterburner with a minimum 0.5 second

residence time and an operating temperature of at least 1500 °F. Visible emissions are limited to 5% opacity during start-up and 0% opacity during normal operation. Exhaust gases must be discharged through a vertical stack with no rain cap to provide for optimum atmospheric dispersion. Each crematory will be required to conduct periodic combustion monitoring to ensure proper operation.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology-based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

There is evidence that the pet crematory could exceed a 0% opacity standard during the initial firing of the primary burners, therefore SWCAA will establish a 5% opacity requirement for the first 15 minutes of operation.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.

11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the approval conditions.

12. EMISSION MONITORING AND TESTING

12.a Emission Monitoring – Crematory #1 and #2. Approval conditions for the crematories require emission monitoring for CO and NO_X on a continuing 5-year cycle for the purpose of monitoring future performance and assuring compliance with facility-wide emission limits. All emission monitoring shall be conducted in accordance with the provisions of ADP 24-3658, Appendix A.

13. FACILITY HISTORY

13.a. Previous Permitting Actions. The following past permitting actions have been taken by SWCAA for this facility:

Permit	Application	Date Issued	Description
18-3270	S-135	2-28-2018	Approval to operate a new crematory.

13.b. Compliance History. A search of source records on file at SWCAA did not identify any previous or outstanding compliance issues over the past five (5) years.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application S-139. Public notice for ADP application S-139 was published on the SWCAA website for a minimum of fifteen (15) days beginning on May 7, 2024.

14.b. Public/Applicant Comment for ADP Application S-139. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application S-139. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act. After review of the SEPA Checklist for this project, SWCAA has determined that the project does not have a probable significant impact on the environment and has issued Determination of Non-Significance 24-031. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c).