



August 26, 2024

Brian Yockey  
Pet After Life Services NW  
122 Bear Prairie Road  
Washougal, Washington 98671

RE: Final Air Discharge Permit for New Pet Crematory

Dear Brian Yockey:

A final determination to issue Air Discharge Permit (ADP) 24-3658 has been completed for ADP application S-139 pursuant to Section 400-110(4) of the General Regulations for Air Pollution Sources of the Southwest Clean Air Agency (SWCAA). Public notice for ADP application S-139 was published in the permit section of SWCAA's website on May 7, 2024. SWCAA did not receive a request for a public comment period in response to the public notice and has concluded that significant public interest does not exist for this determination. Therefore, a public comment period will not be provided for this permitting action. Electronic copies of ADP 24-3658 and the associated Technical Support Document are available for public review in the "Recent Air Discharge Permits" section under the "Air Permits" link on SWCAA's website (<http://www.swcleanair.gov>). Original copies are enclosed for your files.

ADP 24-3658 may be appealed directly to the Pollution Control Hearings Board (PCHB) within thirty (30) days of receipt as provided in Revised Code of Washington (RCW) 43.21B.

If you have any questions or comments, or desire additional information, please contact me or Vanessa McClelland at (360) 574-3058, extension 129.

Sincerely,

Uri Papish  
Executive Director

UP:VM

Enclosure: Technical Support Document and Air Discharge Permit 24-3658





**SWCAA**  
Southwest Clean Air Agency

**AIR DISCHARGE PERMIT  
24-3658**

**Issued: August 26, 2024**

**Pet After Life Services NW  
122 Bear Prairie Road  
Washougal, Washington 98671**

**SWCAA ID – 2520**



REVIEWED BY: *Clinton H. Lamoreaux*  
Clinton Lamoreaux, Chief Engineer

APPROVED BY: *Uri Papish*  
Uri Papish, Executive Director

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**1. Equipment/Activity Identification**

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

**2. Permit Requirements**

The following tables detail the specific requirements of this Air Discharge Permit (ADP). In addition to the requirements listed below, equipment at this facility may be subject to other federal, state, and local regulations. The requirement number is identified in the left-hand column. The text of the requirement is contained in the middle column. The emission unit, equipment, or activity to which the requirement applies is listed in the right-hand column.

ADP 24-3658 supersedes ADP 18-3270 in its entirety.

**Emission Limits**

<b>Req. No.</b>	<b>Emission Limits</b>	<b>Equipment/Activity ID No.</b>																						
1.	<p>Emissions from operation of Crematory #1 must not exceed the following:</p> <table> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>NO<sub>x</sub></td> <td>0.57 tpy</td> </tr> <tr> <td>CO</td> <td>0.11 tpy</td> </tr> <tr> <td>VOC</td> <td>0.01 tpy</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.06 tpy</td> </tr> <tr> <td>PM<sub>10</sub></td> <td>0.10 tpy</td> </tr> <tr> <td>HCL</td> <td>56.2 lb/yr</td> </tr> <tr> <td>Arsenic</td> <td>0.02 lb/yr</td> </tr> <tr> <td>Beryllium</td> <td>0.001 lb/yr</td> </tr> <tr> <td>Cadmium</td> <td>0.009 lb/yr</td> </tr> <tr> <td>Chromium (IV)</td> <td>0.01 lb/yr</td> </tr> </tbody> </table> <p>Annual emissions must be calculated consistent with the methodology presented in section 6 of the Technical Support Document (TSD) for this ADP</p>	<u>Pollutant</u>	<u>Emission Limit</u>	NO <sub>x</sub>	0.57 tpy	CO	0.11 tpy	VOC	0.01 tpy	SO <sub>2</sub>	0.06 tpy	PM <sub>10</sub>	0.10 tpy	HCL	56.2 lb/yr	Arsenic	0.02 lb/yr	Beryllium	0.001 lb/yr	Cadmium	0.009 lb/yr	Chromium (IV)	0.01 lb/yr	1
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3.	<p>Emissions from operation of Crematory #2 must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>NO<sub>x</sub></td> <td>2.71 tpy</td> </tr> <tr> <td>CO</td> <td>0.51 tpy</td> </tr> <tr> <td>VOC</td> <td>0.06 tpy</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.43 tpy</td> </tr> <tr> <td>PM<sub>10</sub></td> <td>0.60 tpy</td> </tr> <tr> <td>HCL</td> <td>374.40 lb/yr</td> </tr> <tr> <td>Arsenic</td> <td>0.16 lb/yr</td> </tr> <tr> <td>Beryllium</td> <td>0.007 lb/yr</td> </tr> <tr> <td>Cadmium</td> <td>0.057 lb/yr</td> </tr> </tbody> </table> <p>Annual emissions must be calculated consistent with the methodology presented in section 6 of the TSD for this ADP</p>	<u>Pollutant</u>	<u>Emission Limit</u>	NO <sub>x</sub>	2.71 tpy	CO	0.51 tpy	VOC	0.06 tpy	SO <sub>2</sub>	0.43 tpy	PM <sub>10</sub>	0.60 tpy	HCL	374.40 lb/yr	Arsenic	0.16 lb/yr	Beryllium	0.007 lb/yr	Cadmium	0.057 lb/yr	2
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5.	<p>Visible emissions from the final exhaust stacks of Crematories #1 and #2 must not exceed the following for more than 3 minutes in any 1-hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400):</p> <ul style="list-style-type: none"> <li>(a) 5% opacity for the first 15 minutes of the cremation cycle; and</li> <li>(b) 0% opacity for the remainder of the cremation cycle.</li> </ul>	1, 2																				

**Operating Limits and Requirements**

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
6.	Reasonable precautions must be taken at all times to prevent and minimize fugitive emissions from plant operations.	Facility-wide
7.	Operations that cause or contribute to a nuisance odor must use recognized good practice and procedures to reduce these odors to a reasonable minimum.	Facility-wide
8.	Emission units and activities identified in this ADP must be maintained and operated in total and continuous conformity with the conditions identified in this ADP. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this ADP, including directing the facility to cease operations until corrective action can be completed.	1, 2

<b>Req. No.</b>	<b>Operating Limits and Requirements</b>	<b>Equipment/ Activity ID No.</b>
9.	Each pollution control device must be operated whenever the processing equipment served by that air pollution control device is in operation. Control devices must be operated and maintained in accordance with the manufacturer's specifications. Furthermore, air pollution control devices must be operated in a manner that minimizes emissions.	1, 2
10.	All exhausts must be discharged vertically into the ambient air above the level of the building roof. Any device that obstructs or prevents vertical discharge is prohibited.	1, 2
11.	Crematories #1 and #2 must only be fired on natural gas or propane.	1, 2
12.	Material throughput for Crematory #1 must not exceed 58.5 tons per year.	1
13.	Material throughput for Crematory #2 must not exceed 390 tons per year.	2
14.	A temperature gauge capable of continuously monitoring the temperature in the secondary combustion chamber must be installed and maintained in Crematories #1 and #2.	1, 2
15.	The temperature of the secondary combustion chamber in Crematories #1 and #2 must be maintained at or above 1500 °F at all times when in use.	1, 2
16.	The secondary combustion chamber in Crematories #1 and #2 must be warmed to a minimum of 1600 °F prior to charging the primary combustion chamber.	1, 2
17.	Whenever emission monitoring results for Crematories #1 or #2 indicate emission concentrations in excess of applicable permit limits, the permittee must either perform additional monitoring to more accurately quantify CO and NO <sub>x</sub> emissions or initiate corrective action. Additional monitoring or corrective action must be initiated no later than 3 days after excess emissions are identified. Corrective action includes, but is not limited to, tuning, service by maintenance personnel, limitation of unit load, or other action taken to achieve compliance with permitted limits. Emission monitoring must be performed subsequent to completion of corrective action to confirm effectiveness.	1, 2

### Monitoring and Recordkeeping Requirements

<b>Req. No.</b>	<b>Monitoring and Recordkeeping Requirements</b>	<b>Equipment/ Activity ID No.</b>
18.	Except for data logged by a computerized data acquisition system, each record required by this ADP must include the date and the name of the person making the record entry, at minimum. If a control device or process is not operating, a record must be made to that effect.	1, 2
19.	All records required by this ADP must be kept for a minimum period of no less than three (3) years and must be maintained in a form readily available for inspection by SWCAA representatives.	1, 2
20.	Excess emissions and upset conditions must be recorded for each occurrence.	1, 2

<b>Req. No.</b>	<b>Monitoring and Recordkeeping Requirements</b>	<b>Equipment/ Activity ID No.</b>
21.	Crematory operation must be monitored and recorded as follows: (a) Hours of operation for each unit Recorded monthly (b) Weight of material cremated for each unit Recorded monthly (c) Temperature of secondary combustion chamber for each unit Recorded at the beginning and end of each burn cycle (d) Maintenance/repair activities Recorded for each occurrence	1, 2

#### **Emission Monitoring and Testing Requirements**

<b>Req. No.</b>	<b>Emission Monitoring and Testing Requirements</b>	<b>Equipment/ Activity ID No.</b>
22.	The permittee must conduct initial and periodic emission monitoring of Crematories #1 and #2 as described in Appendix A of this ADP.	1, 2

#### **Reporting Requirements**

<b>Req. No.</b>	<b>Reporting Requirements</b>	<b>Equipment/ Activity ID No.</b>
23.	Upset conditions must be reported to SWCAA as soon as possible after discovery by phone call or phone message, email, or fax. It is the Permittee's responsibility to verify that the upset conditions information was received.	Facility-wide
24.	Excess emissions must be reported to SWCAA as follows: (a) As soon as possible, but no later than twelve (12) hours after discovery for emissions that represent a potential threat to human health or safety; (b) As soon as possible, but no later than forty-eight (48) hours after discovery for emissions which the Permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and (c) No later than thirty (30) calendar days after the end of the month of discovery for all other excess emissions.	Facility-wide
25.	Deviations from permit conditions must be reported as soon as possible but no later than 30 days after the end of the month during which the deviation is discovered.	Facility-wide
26.	All air quality related complaints received by the Permittee must be reported to SWCAA within three (3) calendar days of receipt. Complaint reports must include the date and time of the complaint, the name and contact information (if available) for the complainant, the nature of the complaint, and any actions taken by the Permittee to address the complaint.	Facility-wide
27.	An annual emissions inventory report must be submitted in accordance with SWCAA 400-105(1). In addition to the emissions information required under SWCAA 400-105(1), each annual report must include an estimate of annual emission quantities for each TAP compound listed in the TSD for this ADP.	1, 2

<b>Req. No.</b>	<b>Reporting Requirements</b>	<b>Equipment/ Activity ID No.</b>
28.	The following emission related information must be reported to SWCAA by March 15 <sup>th</sup> for the previous calendar year: (a) Hours of operation for each crematory; (b) Weight of material cremated in each crematory; and (c) Air emissions.	1, 2
29.	Emission monitoring results must be reported to SWCAA in writing within fifteen (15) calendar days of completion.	1, 2

### 3. General Provisions

<b>Req. No.</b>	<b>General Provisions</b>
A.	For the purpose of ensuring compliance with this ADP, duly authorized representatives of the Southwest Clean Air Agency must be permitted access to the Permittee's premises and the facilities being constructed, owned, operated and/or maintained by the Permittee for the purpose of inspecting said facilities. These inspections are required to determine the status of compliance with this ADP and applicable regulations and to perform or require such tests as may be deemed necessary.
B.	The provisions, terms, and conditions of this ADP bind the Permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the Permittee.
C.	The requirements of this ADP survive any transfer of ownership of the source or any portion thereof.
D.	This ADP must be posted conspicuously at or be readily available near the source.
E.	This ADP will be invalidated, in whole or in part, if construction or installation of any new or modified equipment has not commenced within eighteen (18) months from date of issuance, if construction is discontinued for a period of eighteen (18) months or more without prior SWCAA approval, or if construction is not completed within a reasonable time.
F.	This ADP does not supersede requirements of other agencies with jurisdiction and further, this ADP does not relieve the Permittee of any requirements of any other governmental agency. In addition to this ADP, the Permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
G.	Compliance with the terms of this ADP does not relieve the Permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Orders, RCW 70A.15, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
H.	If any provision of this ADP is held to be invalid, all unaffected provisions of the ADP will remain in effect and be enforceable.
I.	No change in this ADP will be made or be effective except as may be specifically set forth by written order of the Southwest Clean Air Agency upon written application by the Permittee for the relief sought.



<b>Req. No.</b>	<b>General Provisions</b>
J.	The Southwest Clean Air Agency may, in accordance with RCW 70A.15, impose such conditions as are reasonably necessary to ensure the maintenance of compliance with the terms of this ADP, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.
K.	For the purposes of establishing if a condition of this ADP has been violated or is being violated, nothing in this ADP precludes the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test procedures or methods had been performed.

**Appendix A**  
**Emission Monitoring Requirements**  
**Crematory #1 and Crematory #2**

**1. Background**

The purpose of emission monitoring ("tuning") is to quantify emissions from Crematory #1 and #2, provide a basis for adjustments to the crematories as necessary to minimize emissions, and to provide a reasonable assurance that the crematories are operating properly.

**2. Monitoring Procedure:**

- a. Monitoring of exhaust gases from Crematory #1 and #2 to determine emission concentrations of the constituents listed below must be performed under the following schedules:
  - Crematory #1 – end of December on a continuing 5-year cycle
  - Crematory #2 – no later than 90 days after commencing regular operation and every December on a continuing 5-year cycle

Constituents to be Measured

Carbon Monoxide (CO)

Nitrogen Oxides (NO<sub>x</sub>)Oxygen (O<sub>2</sub>)

Temperature (deg F)

- b. Emission monitoring must be conducted at the outlet of the final exhaust stack for all constituents. Emission monitoring must be conducted for the full duration of a single burn cycle. Final emission results must be averaged for the full cycle.
- c. Production related parameters including process startups, shutdowns, and adjustments must be recorded during emission testing, and included in the final test report. Production parameters must include, but are not limited to, the following:
  - Temperature at exhaust stack discharge,
  - Temperature in each combustion chamber, and
  - Description/weight of cremated material.

**3. Minimum Quality Assurance/Quality Control Measures:**

- a. The analyzer(s) response to span gas of a known concentration must be determined before and after testing. No more than 12 hours may elapse between span gas response checks. The results of the analyzer response must not be valid if the difference between the pre and post response check results vary by more than 10% of the initial span gas value.
- b. The CO and NO<sub>x</sub> span gas concentrations must be no less than 50% and no more than 200% of the emission concentration corresponding to the permitted emission limit. A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO<sub>x</sub> cells/analyzer(s) and span the oxygen cell/analyzer.

**Appendix A**  
**Emission Monitoring Requirements**  
**Crematory #1 and Crematory #2**

- c. Emission data must not be collected until after analyzer readings have stabilized (less than 5% per minute change in emission concentration). Emission concentrations must be recorded at least once every minute during the data collection phase.

**4. Reporting:**

- a. All monitoring results must be recorded at the facility and reported to SWCAA in writing in a format designated by the Agency. Results must be reported within 15 calendar days of monitoring completion. At a minimum, the following information must be included in the report:
  - (1) A description of the emission unit, including manufacturer, model number and facility designation;
  - (2) Time and date of the performance monitoring;
  - (3) Identification of the personnel involved;
  - (4) Test "tapes" or other direct information generated by the monitoring equipment;
  - (5) A summary of results (NO<sub>x</sub>, CO, O<sub>2</sub>, Temperature, etc.), reported in units consistent with the applicable emission standard or limit;
  - (6) A summary of equipment operating conditions (e.g., firing rate, operating temperatures, etc.);
  - (7) Description of material cremated (load weight, animal type, containers, etc.);
  - (8) A description of the evaluation methods or procedures used, including all field data, quality assurance/quality control procedures and documentation; and
  - (9) Analyzer response check documentation.
- b. Individual monitoring results must be reported as read. Final average monitoring results must be reported corrected to 7% O<sub>2</sub> and adjusted to reflect analyzer response to the zero and span gases (bias/drift adjustment).

**5. Changes to Requirements**

Emission monitoring must be conducted as specified in the sections above. The Permittee may submit a written request to SWCAA for approval of minor modifications to the requirements above or the monitoring schedule. Upon review of the request and in accordance with EPA delegation, SWCAA will inform the Permittee in writing of any approved modifications.