PUGET SOUND
Clean Air Agency

1904 3rd Ave #105, Seattle, WA 98101
206-343-8800
pscleanair.gov

TITLE V AIR OPERATING PERMIT

Issued in accordance with the provisions of Puget Sound Clean Air Agency Regulation I, Article 7 and Chapter 173-401, WAC.

Pursuant to Puget Sound Clean Air Agency Regulation I, Article 7 and Chapter 173-401, WAC, King County Solid Waste Division, is authorized to operate the Cedar Hills Regional Landfill subject to the terms and conditions in this permit.

PERMIT NO.: 10138	PERMIT EFFECTIVE DATE: [DRAFT – TBD]
ISSUED TO: King County Solid Waste Division, Cedar Hills Regional Landfill	
PERMIT EXPIRATION DATE: [Effective Date + 5 yrs]	
RENEWAL APPLICATION DUE DATE: [Exp. Date – 180 days]	

SIC Code, Primary:	4953
NAICS Code:	562212
Nature of Business:	Municipal Solid Waste Landfill
Facility Address:	16645 228th Ave SE, Maple Valley, WA 98038
Mailing Address:	201 S. Jackson Street, Ste 5701, Seattle, WA 98104-3855
Primary Responsible Official:	Pat McLaughlin, Division Director
Telephone No.:	206-477-4466
Email:	Pat.McLaughlin@kingcounty.gov
Delegated Responsible Official:	Glynda Steiner, Deputy Division Director
Telephone No.:	206-477-4466
Email:	GSteiner@kingcounty.gov
Site Contact:	Scott Barden, Operations Assistant Manager
Telephone No.:	(206) 639-0108
Email:	scott.barden@kingcounty.gov

Puget Sound Clean Air Agency Approval:

Jon Holtom, P.E., CPM
Permit Engineer

John Dawson, Ph.D., P.E.
Engineering Manager

King County Solid Waste Division
Cedar Hills Regional Landfill

Permit No. 10138

Expiration Date: MM/DD/2027

TABLE OF CONTENTS

Subsection 1.A. Facility Description.

The King County Solid Waste Division (KCSWD) owns and operates the Cedar Hills Regional Landfill (CHRLF) located in King County at 16645 228th Avenue SE, Maple Valley, WA 98038. It is an engineered facility that is specifically constructed for the purpose of safely and permanently disposing of municipal solid waste. CHRLF is one of the largest municipal solid waste landfills in the Pacific Northwest with 920 acres in area, approximately 406 acres of which is available for municipal solid waste (refuse) disposal and support functions, and the rest is buffer zone. CHRLF serves a population of 1.3 million in 37 of the 39 cities located in King County, and has been in operation since the 1960's, with 76.365 million cubic yards (CY) maximum permitted capacity.

The landfill is constructed in cells or sections isolated from other parts of the landfill by soil or other noncombustible cover material. There are currently nine disposal areas at the site. Three pre-1986 disposal areas are unlined, while the post-1989 areas are all lined. Six of the disposal areas are closed with final covers and two of the disposal areas are partially closed with interim cover, leaving one active area for daily refuse disposal handling. Older sections have flexible membrane caps. New sections are required to have caps and liners under the landfill to prevent groundwater contamination.

The average thickness of refuse areas ranges from 140 to 240 feet, leaving more than 200 feet of buffer zone between the floors of refuse areas and the regional groundwater beneath the site. Each day, approximately 2,500 tons of refuse is delivered to CHRLF for disposal with an in-situ density of nearly 1,600 pounds per cubic yards (lbs/CY). At current incoming refuse and recycling trends, CHRLF is expected to reach its final capacity in 2040.

Asbestos waste containing trenches are created in each disposal area (lift). The location of each lift's asbestos trench is recorded as per federal regulation. The landfill is required to: collect and treat any leachate produced; collect and control methane gas emissions to reduce emissions of non-methane organic compounds to the atmosphere and prevent objectionable odors off-site; and, prevent soil erosion.

As a result of waste capacity expansions authorized, and construction projects commenced, subsequent to July 17, 2014, the Cedar Hills Regional Landfill is subject to federal landfill regulations promulgated under 40 CFR Part 60, Subpart XXX - Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014.

The sources of air emissions at the landfill are: the landfill gas combustion emissions from the flares; fugitive landfill gas (resulting from the interim and final covers not being 100 percent efficient); minor emissions from reciprocating engine-driven emergency generators and gasoline dispensing operations; and, fugitive particulate matter from vehicle travel on unpaved and paved roads. There are also some sources of emissions that are classified as insignificant, such as the diesel fuel storage tanks, and the waste oil storage tank.

The landfill includes the following equipment and activities:

- A truck weigh station for recording the amount of waste coming to the facility.
- A "working face" cell that is constructed to accept waste,
- A compactor to compact the waste as it is being received.
- A "borrow area" where soil or other cover material is being stored for use at the landfill.
- Other closed cells that are capped to prevent rainwater from soaking in and graded and planted to prevent erosion.
- Methane gas flares.
- A wastewater treatment plant to treat liquids coming from the landfill.
- On-site testing facilities for waste.
- An office and equipment complex.

- 2 - 20,000-gallon diesel storage tanks.
- 2 - 4,000-gallon underground gasoline storage tanks with stage 1 & 2 vapor recovery.
- Gasoline dispensing facilities.

Back to Table of Contents

Subsection 1.B. Summary of Regulated Emissions Units.

Brief Description	PSCAA ID	NOC
Landfill Gas Flare #1	EU-1	3271
Landfill Gas Flare #2	EU-2	3271
Landfill Gas Flare #3	EU-3	6002
Landfill Gas Flare #4	EU-4	7076
Landfill Gas Flare #5	EU-5	8062
Landfill Gas Flare #6 (open type), migration control flare	EU-6	10532
Landfill Gas Flare #7 (open type), Portable 1,200 cfm Skid-mounted flare	EU-7	7836
Landfill Gas Flare #8, Portable 1,500 cfm Skid-mounted flare	EU-8	12168
Municipal Waste Landfill with Asbestos Waste Disposal Operations	EU-9	11307
"Existing" Emergency Reciprocating Internal Combustion Engine-driven Generators	EU-10	N/A
"New" Emergency Reciprocating Internal Combustion Engine-driven Generator	EU-11	N/A
Gasoline Dispensing Operations	EU-12	N/A

Also included in this permit are miscellaneous insignificant emissions units and/or activities (see Section 5, List of Insignificant Emissions Units and/or Activities).

Subsection 1.C. Applicable Regulations.

This facility is a major source of hazardous air pollutants (HAP). The existing facility is a Prevention of Significant Deterioration (PSD) major source of air pollutants in accordance with WAC 173-400-700 through 173-400-750. The primary regulations applicable to this facility are shown in the following table. This is not an exhaustive listing of all applicable requirements, only a brief summary of the primary requirements. The specifically applicable requirements are listed at the end of each specific condition throughout the permit.

Regulation	PSCAA ID's
Federal Rule Citations	
40 CFR 60, Subpart A, NSPS General Provisions	EU-1 thru EU-9, EU-11
40 CFR 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014	EU-1 thru EU-9
40 CFR 60, Subpart IIII – Standards of Performance for Stationary Reciprocating Internal Combustion Engines	EU-11
40 CFR 61, Subpart M – National Emission Standard for Asbestos	EU-9
40 CFR 63, Subpart A – General Provisions	EU-1 thru EU-10

Regulation	PSCAA ID's
40 CFR 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	EU-1 thru EU-9
40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	EU-10
State Rule Citations	
WAC 173-300: Certification of Operators of Solid Waste Incinerator and Landfill Facilities.	EU-1 thru EU-9
WAC 173-400: General Regulations for Air Pollution Sources	All
WAC 173-401: Operating Permit Regulation	All
WAC 173-425: Outdoor Burning	All
WAC 173-441: Reporting of Emissions of Greenhouse Gases	All
PSCAA Rule Citations	
Reg I, Section 1.07: Definitions	All
Reg I, Article 3: General Provisions	All
Reg I, Article 5: Registration	All
Reg I, Article 6: New Source Review	All
Reg I, Article 7: Operating Permits	All
Reg I, Article 8: Outdoor Burning	All
Reg I, Article 9: Emissions Standards	All
Reg I, Article 15: Nonroad Engines	EU-10, EU-11
Reg II, Section 2.07: Gasoline Dispensing Facilities	EU-12
Reg III, Article 1: General Requirements	All
Reg III, Article 2: Review of Toxic Air Contaminant Sources	All
Reg III, Article 4: Asbestos Control Standards	All

Subsection 1.D. List of Abbreviations.

Abbreviation	Definition
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
CPIS	Chemical Procurement Information System
CO_2e	Carbon dioxide Equivalent
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
GHGs	Greenhouse Gases

Abbreviation	Definition
HAP	Hazardous Air Pollutants
NESHAP	National Emissions Standard for Hazardous Air Pollutants
O&M Plan	Operation and Maintenance Plan
PSCAA	Puget Sound Clean Air Agency
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RICE	Reciprocating Internal Combustion Engine
SIP	State Implementation Plan
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

<Return to Table of Contents>

Subsection 2.A. General Facility-wide Requirements and Limitations.

The requirements in Section 2 apply facility wide, including the specific emission units or activities listed in Section 3. The following conditions include the specific requirement and a compliance method. The compliance methods include monitoring, recordkeeping and reporting obligations the permittee must conduct to comply with the permit. The compliance methods are listed in the General Facility-wide Compliance Methods contained in the specific conditions in Subsection 2.B. Complying with the specified monitoring method is an enforceable requirement of this permit. When appropriate, the "Reference Test Method" is also listed in the condition. This is the test method to be used when a source test is required to determine compliance. If a reference test method is not listed with the requirement, this means a test method is not applicable to the requirement. Reference Test Methods included in the permit are listed in Section 4, Subsection E. of this permit, and include the applicable averaging period. The regulatory citation for the "applicable requirement" and its effective date are included at the end of each condition. In some cases, the effective dates of the "Federally Enforceable" requirement and the "*State Only*" requirement are different because either the state (or local authority) has not submitted the regulation to the Environmental Protection Agency (EPA) for approval into the State Implementation Plan (SIP), or the state (or local authority) has submitted it and the EPA has not yet approved it. "*State Only*" effective dates are in *italicized font* and shall be understood to include the Washington Department of Ecology (Ecology) and the Puget Sound Clean Air Agency (PSCAA). When the EPA does approve the new requirement into the SIP, the old requirement will be automatically replaced and superseded by the new requirement. The new requirement will be enforceable by the EPA as well as PSCAA from the date that it is adopted into the SIP, and the old requirement will no longer be an applicable requirement. Inclusion of these requirements is in accordance with WAC 173-401-605(1) and WAC 173-401-615(1) and (2).

Pursuant to WAC 173-400-040(1)(a), all sources and emissions units are required to meet the emission standards of WAC 173-400. Where an emission standard listed in another chapter is applicable to a specific emissions unit, such standard takes precedence over a general emission standard listed in WAC 173-400. In the event of conflict or omission between the information contained in the body of the specific conditions and the actual statute or regulation cited at the end of the specific condition, the requirements and language of the actual statute or regulation cited shall govern.

Compliance with the provisions of the following conditions shall include facility-wide inspections and complaint responses (see Specific Conditions **2.B.2** & **2.B.3.)**, in addition to any requirements specifically stated within the individual conditions of this Subsection.

2.A.1. Common Stacks. When two or more emissions units are connected to a common stack and the operator elects not to provide the means or facilities to sample emissions from the individual emissions units, and the relative contributions of the individual emissions units to the common discharge are not readily distinguishable, then the emissions of the common stack must meet the most restrictive standard of any of the connected emissions units. [WAC 173-400-040(1)(b) (8/16/18)]

2.A.2. RACT Requirements. All emission units are required to use RACT. [PSCAA Reg I: 3.04(a) (7/1/12)]

2.A.3. Opacity. As determined by Ecology Method 9, shall not emit air contaminants which exhibit greater than 20% opacity for a period or periods aggregating more than 3 minutes in any hour. See Specific Condition **2.B.1.** [PSCAA Reg I: 9.03, except for 9.03(e) (5/1/04)]

2.A.4. Particulate Matter from Equipment Used in a Manufacturing Process. As determined by Puget Sound Clean Air Agency Method 5 upon request, shall not emit particulate matter in excess of 0.05 gr/dscf. (See Specific Conditions **2.B.1**. & **4.C.12.**) [PSCAA Reg I: 9.09 (6/1/98)]

2.A.5. Particulate Matter from Fuel Burning Equipment. As determined by Puget Sound Clean Air Agency Method 5 upon request, shall not emit particulate matter in excess of 0.05 gr/dscf, corrected to 7% O_2. See Specific Conditions **2.B.1**. & **4.C.12.** [PSCAA Reg I: 9.09 (6/1/98)]

2.A.6. Fugitive Dust Emissions Standards. It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:

a. The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;
b. Surfacing roadways and parking areas with asphalt, concrete, or gravel;
c. Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways; or
d. Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.

Compliance with the provisions of this condition shall not relieve any person from the responsibility to comply with Section 9.11 of PSCAA Regulation I**.** [PSCAA Reg. I: 9.15 (4/17/99)]

2.A.7. Fugitive Dust Emissions Standards. If engaging in materials handling, construction, demolition or any other operation which is a source of fugitive emissions, shall take reasonable precautions to prevent the release of air contaminants from the operation. [WAC 173-400-040(4)(a) (9/16/18)]

2.A.8. Health and Welfare. Shall not cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property. [PSCAA Reg I: 9.11(a) (4/17/99)]

2.A.9. Objectionable Odors. Must use recognized good practice and procedures to reduce odors which may unreasonably interfere with any other property owners' use and enjoyment of their property to a reasonable minimum. [WAC 173-400-040(5) (9/16/18, State Only)]

2.A.10. Unconfined Particulate Matter. Shall not deposit particulate matter beyond the property boundary in sufficient quantity to interfere unreasonably with the use and enjoyment of the property. [WAC 173-400-040(3) (9/16/18, State Only)]

2.A.11. SO_2 Standards. Shall not emit SO_2 in excess of 1,000 ppmv (dry), 1-hour average (corrected to 7% O_2 for fuel burning equipment). Compliance shall be determined through investigations and testing (see Specific Condition **4.C.12.**). [PSCAA Reg I: 9.07 (5/19/94)]

2.A.12. Hydrochloric Acid Standards. Shall not emit hydrochloric acid in excess of 100 ppm (dry), 1-hour average corrected to 7% O_2 for combustion sources. Compliance shall be determined through investigations and testing (see Specific Condition **4.C.12.**). [*PSCAA Reg. I: 9.10(a) (6/9/88) (State Only)]*

2.A.13. Proper Maintenance. Shall maintain equipment as defined in Regulation I, Section 1.07 or control equipment not subject to PSCAA Reg I Article 6 in good working order. Also see O&M Plan Requirements in Specific Condition **2.B.5.** [PSCAA Reg. I: 9.20(b) (6/9/88)]

2.A.14. Operations and Maintenance Plan. Shall develop and implement an O&M Plan to assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II and III. The plan shall reflect good industrial practice. It shall include the elements described in Reg. I: 7.09(b) (see Specific Condition **2.B.5.**). Shall review the O&M Plan at least annually and update it as needed to reflect any changes in good industrial practice. The specific provisions of the O&M Plan shall not be deemed part of this permit. [PSCAA Reg I: 7.09(b) (2/1/17)]

2.A.15. Notice of Construction Application. It shall be unlawful for any person to cause or allow the establishment of a new source, or the replacement or substantial alteration of control equipment installed on an existing source, unless a "Notice of Construction application" has been filed and an "Order of Approval" has been issued by the Agency. [PSCAA Reg I: 6.03 (09/24/15)]

2.A.16. Work Commenced Without Order of Approval. Where work for which an Order of Approval is required is commenced or performed prior to making application and receiving approval, the Control Officer may conduct an investigation as part of the Notice of Construction review. In such a case, an investigation fee, in addition to the fees of Section 6.04, shall be assessed in an amount equal to 3 times the fees of Section 6.04. Payment of the fees does not relieve any person from the requirement to comply with the regulations nor from any penalties for failure to comply. [PSCAA Reg I: 6.10 (07/12/01)]

Back to Table of Contents

Subsection 2.B. General Facility-wide Compliance Methods.

The compliance methods in Subsection B. apply facility-wide.

2.B.1. Opacity Monitoring. At least once per calendar month that the facility operates, the permittee shall conduct inspections of the facility for visible emissions.

a. Inspections are to be performed while the equipment is in operation during daylight hours. If visible emissions other than uncombined water are observed, the permittee shall, as soon as possible, but no later than 24 hours after the initial observation take at least one of the following response actions:
   (1) Take corrective action until there are no visible emissions, or
   (2) Record the opacity using Ecology Method 9A (see Section 6, Attachment 2), or
   (3) Shut down the unit or activity until it can be repaired.

b. The permittee shall keep records of the inspections, including date and time of inspection, the name of the person conducting inspection, the results of the inspection, the time period over which visible emissions occurred, and any corrective action conducted. For opacity monitoring using Ecology Method 9A (see Section 6, Attachment 2), the permittee is not required to comply with the test notification and reporting requirements in Specific Conditions **4.C.19.** & **4.C.20.**

c. Failure to implement at least one of the three response actions described above in this condition within 24 hours of the initial observation shall be reported as a deviation under Specific Condition **4.C.5.** Additionally, an exceedance of the standard as determined using Ecology Method 9A (see Section 6, Attachment 2) shall be reported as a deviation under Specific Condition **4.C.5.**

[WAC 173-401-615(1)(b) and (3)(b)]

2.B.2. Facility-wide Inspections.

a. At least once per calendar quarter, the permittee shall conduct a facility-wide inspection, including the following:
   (1) Examine the general state of compliance with the general applicable requirements, including a check of records to determine if complaints had been received and responded to as specified in Condition **2.B.3.**;
   (2) Inspect the facility for odor bearing contaminants and emissions of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interfere with enjoyment of life and property;
   (3) Inspect the facility for fugitive dust and track-out while conducting activities, such as construction, that are likely to generate fugitive dust or track-out; and
   (4) Evaluate the general effectiveness of the Operation & Maintenance (O&M) Plan.

b. Inspections of equipment and operations shall be conducted during daylight hours. The permittee shall initiate corrective action for any problems identified by these inspections as soon as possible, but no later than within 24 hours of identification or shut down the unit or activity until the problem can be corrected. The permittee shall keep records of the inspections, including date and time of inspection, the name of the person conducting inspection, the results of the inspection, any corrective action conducted, and whether complaints had been received.

c. Failure to implement one of the response actions described above within 24 hours of the initial observation shall be reported as a deviation under Specific Condition **4.C.5.**

[WAC 173-401-615(1)(b) & (3)(b)]

2.B.3. Complaint Response. The permittee shall record and investigate air pollution complaints as soon as possible, but no later than three days after receipt. (Also see Specific Condition **2.C.1.**)

a. The permittee shall identify complaints regarding these emissions as follows:
   (1) Any emissions that are, or likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interfere with enjoyment of life and property; or
   (2) Any emissions from fallout; or

(3) Any track-out onto paved roads open to the public; or
(4) Any emissions of odor-bearing air contaminants; or
(5) Other emissions.

b. The permittee shall investigate the complaint and determine if there was noncompliance with an applicable requirement of this permit. If it is determined to be noncompliance, the permittee shall initiate corrective action for the problem as soon as possible but no later than within 24 hours of determination or shut down the noncompliant operation until it is repaired or corrected. Failure to implement corrective action or else shut down the unit/activity within 24 hours of initial observation of noncompliance shall be reported as a deviation under Specific Condition **4.C.5.**

c. Records for all complaints received concerning odor, fugitive emissions or nuisance must contain the following information:
(1) The date and time of the complaint,
(2) The name of the person complaining, if known,
(3) The nature of the complaint, and
(4) The date, time and nature of any corrective action taken.

[WAC 173-401-615(1)(b)]

2.B.4. Maintenance and Repair of Insignificant Emission Units. The permittee shall use good industrial practices to maintain insignificant emission units and equipment listed and not listed in this permit. For such equipment, the permittee shall also promptly repair defective equipment. Good industrial practices may include following the manufacturer's operations manual or an equipment operations schedule, minimizing emissions until the repairs can be completed and taking measures to prevent recurrence of the problem. [WAC 173-401-615(1)(b)]

2.B.5. Operation and Maintenance (O&M) Plan Requirements. The permittee shall comply with the requirements of paragraphs a. thru d. to comply with Specific Condition **2.A.14.**

a. The plan shall reflect good industrial practice and shall include, but not be limited to, the following:
(1) Periodic inspection of all equipment and control equipment;
(2) Monitoring and recording of equipment and control equipment performance;
(3) Prompt repair of any defective equipment or control equipment;
(4) Procedures for start up, shut down, and normal operation;
(5) The control measures to be employed to assure compliance with Section 9.15 of Regulation I (see Specific Condition **2.A.6.**); and
(6) A record of all actions required by the plan.

b. For insignificant emission units, the O&M Plan shall refer to the requirements stated in Specific Condition **2.B.4.** In most instances, following the manufacturer's operations manual or equipment operational schedule, minimizing emissions until repairs can be completed and taking measures to prevent a recurrence of the problem may be considered good industrial practice. Determination of whether good industrial practice is being used will be based on available information such as, but not limited to, monitoring results, opacity observations, review of operations and maintenance procedures, and inspections of the emission unit or equipment.

c. The permittee shall document all inspections, tests, and other actions required by the O&M Plan, including the name of the person who conducted the inspection, tests or other actions; and the date and the results of the inspection, tests or other actions including corrective actions. The permittee shall maintain records of all inspections, tests, and other actions required by the O&M Plan on site and available for Puget Sound Clean Air Agency review.

d. The permittee shall use the results of the inspections required by this permit in its annual review of the O&M Plan. The specific provisions of the O&M Plan, other than those required by this permit, shall not be deemed part of this permit.

[Puget Sound Clean Air Agency, Regulation I, Section 7.09(b)]

Back to Table of Contents

Subsection 2.C. Additional Site-Specific Facility-wide Requirements.

The following Specific Conditions apply facility-wide at this site.

2.C.1. Complaint Response. The Permittee shall maintain and follow a complaint response plan, including the following actions and records:

a. Designation of a responsible person to respond to and record complaints regarding odor, fugitive dust or nuisance.
b. An informational bulletin that will be mailed (or emailed) out to any person that contacts the landfill, or to other interested persons forwarded from a local governmental agency that have a complaint or questions about the complaint response process. This informational bulletin shall include an explanation of the landfill's odor and nuisance control plans, and the name and phone number of the person responsible for responding to the complaints.
c. Record and investigate complaints regarding odor, fugitive dust, or nuisance as soon as possible, but no later than 12 hours after receipt of the complaint. The investigation will include documentation of wind direction and speed during the time the complaint occurred. The Permittee shall use good industrial practices to correct any problems identified by the complaint investigations within 24 hours.
d. Maintain records on-site of all complaints received regarding odor fugitive dust or nuisance including the date and time of the complaint, the nature of the complaint, the wind speed and wind direction at the time of the complaint, and the date, time and nature of any corrective action taken.
e. The complaint response plan shall be maintained on-site and made available to Puget Sound Clean Air Agency personnel upon request.

[WAC 173-401-615(1)(b), 10/17/02; and, NOC 7676, Condition 8]

2.C.2. Control of Fugitive Dust. To the greatest degree possible, roads used by the vehicular traffic at the Cedar Hills Regional Landfill shall be paved. Truck wheels shall be washed and an aggressive dust control and road sweeping program developed and implemented through the facility's Operation and Maintenance (O&M) Plan as required by Puget Sound Clean Air Agency Regulation I, Section 7.09. [NOC 7676, Condition 7; NOC 8642, Condition 4, NOC 9760, Condition 4]

2.C.3. Emissions Reporting. The Permittee shall report actual emissions of all pollutants evaluated under the Area 8 Collection System Expansion project to the Agency within 30 days of the landfill accepting more than 1,155,970 tons of refuse per any 12 consecutive month periods into the Area 8 expansion. If actual emissions are above any SQER found in WAC 173-460-150 (except for the four pollutants in Specific Condition **3.B.37.a.**), the Permittee shall submit a permit application to the Agency within 90 days of submitting the report of actual emissions. [NOC 11307, Condition 4]

2.C.4. Nuisance Odor Control Systems. **(This condition not valid until final issuance of NOC 12302)** The Permittee shall maintain and operate three portable Byers Dry Vapor Phase Systems, each with a small diesel generator and a micro-Jet DT 1247 to apply Ecosorb 607, to control refuse odor nuisance around the landfill according to the following requirements:

a. This portable equipment is authorized for use to control odor at the landfill property.
b. The Permittee shall have guidelines for using the mobile Byers dry vapor-phase systems in the operations and maintenance plan.
c. Only OMI Industries Ecosorb 607 is approved to be used with the mobile Byers dry vapor-phase systems.
d. The Permittee shall keep an inventory of Ecosorb 607 used. Purchase receipts can be used for this purpose.
e. Up to 5% of Ecosorb 607 used may be essential oils. The Permittee will be responsible for obtaining up to date technical sheets or manufacturer's safety data sheets (SDS's) that show the composition.

f. A daily log shall be kept on site for 5 years for the mobile Byers dry vapor-phase systems. This log shall include:
(1) Time of startup.
(2) Time of shut down.
(3) Replacement of Ecosorb 607 supply.
(4) Nasal ranger readings (if any).
(5) Maintenance.
(6) Movement and location of the system.

[WAC 173-615(2)(c); and, NOC 12302]

Note: Specific Condition 2.C.4. to be updated upon final issuance of NOC 12302.

2.C.5. Leachate Pond Chemical Concentration Records. The Permittee shall record concentrations and maintain records of the following chemicals entering the leachate collection pond:

TAP	CAS#
I, 1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
1,1,2-Trichloroethane	79-00-5
1,1-Dichloroethane	75-34-3
1,2-Dibromo-3-chloropropane	96-12-8
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4
1,2-Dichloroethane	107-06-2
1,2-Dichloropropane	78-87-5
1,4-Dichlorobenzene	106-46-7
Acetonitrile	75-05-8
Acrylonitrile	107-13-1
Ally! Chloride (3-Chloropropene)	107-05-1
Benzene	71-43-2
Bromodichloromethane	75-27-4
Bromoform	75-25-2
Carbon Tetrachloride	56-23-5
Chlorodibromomethane	124-48-1
Chloroform	67-66-3
Dichloromethane (Methylene Chloride)	75-09-2
Ethylbenzene	100-41-4
Perchloroethylene (Tetrachloroethene)	127-18-4
Trichloroethylene (Trichloroethene)	79-01-6
Vinyl Chloride	75-01-4
Aldrin	309-00-2
Dieldrin	60-57-1
alpha-Hexachlorocyclohexane (Alpha BHC)	319-84-6
Beta-hexachlorocyclohexane (Beta BHC)	319-85-7
gamma-Hexachlorocyclohexane (Lindane)	58-89-9
Chlordane	57-74-9
DDD (4,4'-)	72-54-8
DDE (4,4'-)	72-55-9
DDT (4,4'-)	50-29-3
Heptachlor	76-44-8
Heptachlor Epoxide	1024-57-3

TAP	CAS#
Toxaphene	8001-35-2
1,1,I-Trichloroethane	71-55-6
I,1-Dichloroethene	75-35-4
1,2,3-Trichloropropane	96-18-4
Acrolein	107-02-8
Ammonia	7664-41-7
Carbon Disulfide	75-15-0
Chlorobenzene	108-90-7
Ethyl Chloride	75-00-3
Mercury (total)	7439-97-6
Methyl Bromide (Bromomethane)	74-83-9
Methyl Chloride (Chloromethane)	74-87-3
Methyl Ethyl Ketone (2-Butanone)	78-93-3
Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	I 08-10-1
Methyl Methacrylate	80-62-6
Styrene	100-42-5
Toluene	I 08-88-3
trans-1,2-Dichloroethene	156-60-5
Vinyl Acetate	108-05-4
Total Xylene	1330-20-7

The owner and/or operator shall make the records available to the Agency upon request. [NOC 11307, Condition 17]

<Return to Table of Contents>

Subsection 3.A. Municipal Solid Waste Landfill.

The specific conditions in this section apply to the following emissions unit:

Brief Description	PSCAA ID
Municipal Solid Waste Landfill	EU-9

The King County Cedar Hills Regional Landfill (CHRLF) is located within a 920-acre parcel which was first permitted to accept waste in 1960's. The footprint of the waste storage cells and support functions covers a total of 406 acres. The primary source of MSW landfill emissions is biodegradation, of which the main products are methane, non-methane organic compounds (NMOC), and CO_2.

The CHRLF is an engineered facility that is specifically constructed for the purpose of safely and permanently disposing of municipal solid waste. It is constructed in cells or sections isolated from other parts of the landfill by soil or other noncombustible cover material. Older sections have clay-based or flexible membrane caps. New sections are required to have caps and double liners under the landfill to prevent groundwater contamination. Monofil asbestos waste containing trenches are created in each lift. The location of each lift's asbestos trench is recorded as per federal regulation. The landfill is required to manage leachate, collect and control methane gas emissions, and prevent soil erosion.

The permitted waste design capacity of the landfill is approximately 76.4 million (76,365,000) cubic yards. This is approximately equal to 76.4 million tons, or 69.31 million mega grams (Mg), which is greater than the 2.5 million Mg and 2.5 million cubic yards applicability level of the federal New Source Performance Standards for landfills. Thus, the CHRLF was originally subjected to the requirements of the NSPS regulations promulgated under 40 CFR Part 60, Subpart WWW for municipal solid waste (MSW) landfills. As the result of the permitted Area 8 waste expansion in 2019, the CHRLF is now subject to the requirements promulgated under 40 CFR Part 60, Subpart XXX - Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014.

There are currently ten disposal areas at the site. Three pre-1986 disposal areas are unlined, while the post-1989 areas are all lined. Seven of the disposal areas are closed with final covers and two of the disposal areas are partially closed with interim cover, leaving one active area (Area 8) for daily refuse disposal handling.

Each day, approximately 2,500 tons of refuse is delivered to CHRLF for disposal with an in-situ density of nearly 1,600 pounds per cubic yards (Lbs/CY). Depending upon compaction rates and at the current rate of incoming refuse, the current maximum permitted capacity could be reached as early as 2028. Planning for future refuse areas is underway, with anticipated capacity through approximately 2038.

In normal landfill waste deposition activities, trucks bring municipal solid waste to the landfill and the waste is deposited into an open cell. Once in a cell, the waste is spread out and compacted by bulldozers and compactors. At the end of the day, a soil or other alternative daily cover is placed over the waste.

The gas collection and control systems operate in compliance with 40 CFR 60, Subpart XXX - Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014, and 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as revised on March 26, 2020 and as effective on September 27, 2021. As an asbestos disposal site, the Cedar Hills Regional Landfill is also subject to the asbestos NESHAP in 40 CFR 61, Subpart M. The landfill gas control system provides collection and destruction of methane and non-methane organic compounds (NMOC). Active gas collection uses a blower-created vacuum and a large number of well points to extract landfill gas from the waste mass.

Back to Table of Contents

Essential Potential to Emit (PTE) Parameters

3.A.1. Hours of Operation. The landfill and gas collection system are allowed to operate continuously, i.e., 8,760 hours/year. [NOCs 3271, 6002, 6454, 7076, 7836, 8062, 9760, 10532, & 11307]

Control Technology

3.A.2. Landfill Gas Collection and Control System. The owner or operator shall install, maintain and operate a collection and control system that captures the gas generated within the landfill and that meets the following requirements:

a. An Active collection system must:
   (1) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
   (2) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:
      (a) 5 years or more if active; or
      (b) 2 years or more if closed or at final grade.
   (3) Collect gas at a sufficient extraction rate;
   (4) Be designed to minimize off-site migration of subsurface gas.

b. A passive collection system shall:
   (1) Comply with the provisions specified in paragraphs a.(1), (2) and (4).
   (2) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR 258.40. Link to 40 CFR 258.40

   {Note: No passive collection systems are currently in use at this facility.}

c. Route all the collected gas to a control system that complies with the requirements in either paragraph (1) or (2).
   (1) A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 60.18 (see Specific Condition **3.B.21.**) except as noted in 40 CFR 60.764(e) (see Specific Condition **3.B.39.a.**); or
   (2) A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen （See Section 3, Subsection B., **below**); or
   (3) A treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to paragraph c.(1).
   (4) All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraph c.(1). Atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of paragraph c.(1).

d. Operate the collection and control device in accordance with the provisions of 40 CFR 60.763, 60.765 and 60.766; **or** the provisions of 40 CFR 63.1958, 63.1960, and 63.1961 (See Specific Conditions **3.A.6.**, **3.A.15.** – **3.A.19.** and **3.A.10.** – **3.A.14.**, respectively). ***Once the owner or operator begins to comply with the provisions of 40 CFR 63.1958, 1960, and 1961, the owner or operator must continue to operate the collection and control device according***

to those provisions and cannot return to the provisions of 40 CFR 60.763, 60.765 and 60.766.

e. The collection and control system may be capped, removed, or decommissioned provided that all of the following conditions are met:
   (1) The landfill shall be a closed landfill as defined in 40 CFR 60.761 and 40 CFR 63.1990. A closure report must be submitted to the Agency as provided in 40 CFR 60.767(e) and 40 CFR 63.1981(f) (see Specific Condition **3.A.25.**);
   (2) The collection and control system has been in operation a minimum of 15 years or the permittee demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow.
   (3) Following the procedures specified in 40 CFR 60.764(b) and 63.1959(c) (see Specific Condition **3.A.9.**), the calculated NMOC gas produced by the landfill shall be less than 34 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

[40 CFR 60.762(b)(2)(ii), (iii), (iv) & (v); 40 CFR 63.1957; and, NOC 11307, Condition 5]

3.A.3. Landfill Closure. When this landfill is closed, the owner or operator is no longer subject to the requirement to maintain a Title V Air operation permit under 40 CFR 70 for the landfill if the landfill is not otherwise subject to the requirements of 40 CFR 70 and if the owner or operator meets the conditions for control system removal specified in Specific Condition **3.A.2.e.** [40 CFR 60.762(d)]

3.A.4. No Longer Required to Comply with 40 CFR Part 63, Subpart AAAA. The owner or operator is no longer required to comply with the requirements of 40 CFR 63, Subpart AAAA when your landfill meets the collection and control system removal criteria in 40 CFR 63.1957(b) (see Specific Conditions **3.A.2.e**. and **3.A.9.**). [40 CFR 63.1950]

3.A.5. Specifications for Active Collection Systems. To comply with Specific Condition **3.A.2.**, the owner or operator must:

a. Site and maintain active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Agency as provided in 40 CFR 60.767(c)(2) and (3) or 63.1981(d)(2) and (3):
   (1) The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.
   (2) The sufficient density of gas collection devices determined in paragraph a.(1) must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.
   (3) The placement of gas collection devices determined in paragraph a.(1) must control all gas producing areas, except as provided by paragraphs (3)(a) and (3)(b).
      (a) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under 40 CFR 60.768(d) or 63.1983(d) (see Specific Condition **3.A.37.d(2)**. The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area and must be provided to the Agency upon request.
      (b) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total

amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Agency upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill.

(i) The NMOC emissions from each section proposed for exclusion must be computed using the following equation:

$$Q_i = 2\ k\ L_o M_i\ (e^{-kt_i})\ (C_{NMOC})\ (3.6 \times 10^{-9}) \qquad \text{(Eq. 7)}$$

where,

Q_i = NMOC emission rate from the i^{th} section, megagrams per year (Mg/yr)
k = methane generation rate constant, $year^{-1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of the degradable solid waste in the i^{th} section, megagram
t_i = age of the solid waste in the i^{th} section, years
C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume
3.6×10^{-9} = conversion factor

(ii) If the owner or operator is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (*e.g.,* separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in 40 CFR 60.764(b) or 63.1959(c) (see Specific Condition **3.A.9.**) or Equation 7 in paragraph a.(3)(b)(i) of this condition.

(4) The values for k and C_{NMOC} determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_o and C_{NMOC} provided in 40 CFR 60.764(a)(1) or 63.1959(a)(1) or the alternative values from 40 CFR 60.764(a)(5) or 63.1959(a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a). Link to 40 CFR 60.764(a) Link to 40 CFR 63.1959(a)

b. Construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any

gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

c. Convey the landfill gas to a control system in compliance with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Condition **3.A.2.c.** and **3.B.5.**) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:

(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (2) must be used.

(2) For new collection systems, the maximum flow rate shall be in accordance with 40 CFR 60.765(a)(1) or 63.1960(a)(1) (see Specific Condition **3.A.15.**).

[40 CFR 60.769 & 63.1962]

Operational Standards

3.A.6. Operational Standards for Collection and Control Systems. The owner or operator must:

a. *Collection System.* Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade.

b. *Wellhead Pressure.* Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) A fire or increased well temperature. The owner or operator must record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.767(g)(1) (see Specific Condition **3.A.27.**) or the semi-annual reports as provided in 63.1981(h) (see Specific Condition **3.A.28.**);

(2) Use of a geomembrane or synthetic cover. The owner or operator must develop acceptable pressure limits in the design plan;

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Agency as specified in 40 CFR 60.767(c) or 63.1981(d)(2).

c. *Wellhead Temperature.* Operate each interior wellhead in the collection system as specified in paragraph c.(1), **until the landfill owner or operator elects to meet the operational standard for temperature in 40 CFR 63.1958(c)**, then operate each interior wellhead in the collection system as specified in paragraph (c)(2).

(1) **If complying with 40 CFR 60.763:** Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit).

(2) **If electing to comply with 40 CFR 63.1958:** Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit.

(3) Pursuant to either 40 CFR 60.763(c) or 40 CFR 63.1958, the owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Agency for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable).

d. *Surface Methane Concentration*. Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator must:
   (1) **If complying with 40 CFR 60.763:** Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.765(d) (see Specific Condition **3.A.18.**). The owner or operator must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus, the owner or operator must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.
   (2) **If electing to comply with 40 CFR 63.1958:** Conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. In addition, the owner or operator complying with 40 CFR 63.1958 must:
      (a) Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 63.1960(d) (see Specific Condition **3.A.18.**).
      (b) Conduct surface testing at all cover penetrations. Thus, the owner or operator must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required.
      (c) Determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

e. *Control of Collected Gases*.
   (1) **If complying with 40 CFR 60.763:** Operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.762(b)(2)(iii) (see Specific Condition **3.A.2.c.**). In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating.
   (2) **If electing to comply with 40 CFR 63.1958:** Operate the system in accordance with 40 CFR 63.1955(c) (see Specific Condition **3.A.2.d.**) such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 63.1958(b)(2)(iii) (see Specific Condition **3.A.2.c**.). In the event the collection or control system is not operating:
      (a) The gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating; and
      (b) Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation.

f. *Control System Operation*. Operate the control system at all times when the collected gas is routed to the system (see Section 3, Subsection B.).

g. *Corrective Actions.* If monitoring demonstrates that the operational requirements in conditions b., c., or d. of this condition are not met, corrective action must be taken as specified in 40 CFR 60.765(a)(3) and (5) or (c) or 40 CFR 63.1960(a)(3) and (5) or (c) (see Specific Condition **3.A.15.** or **3.A.17.**). If corrective actions are taken as specified in 40 CFR 60.765 or 40 CFR 63.1960, the monitored exceedance is not a violation of the operational requirements in this condition.

h. *Surface H_2S Concentration*. The Permittee shall operate the gas collection and control system such that the H_2S concentration is less than 1 ppm average above the background concentration (if any), at the surface of the Area 8 cover. If the monitored level exceeds 1 ppm, the owner and/or operator shall submit an updated dispersion model for H_2S impacts including fugitive emissions and emissions from the flare within 30 days of the measured exceedance.

i. *H_2S Surface Concentration Compliance*. In order to demonstrate compliance with paragraph **h.**, above, the Permittee shall conduct surface monitoring of the landfill cover at Area 8 once per calendar quarter, using a portable handheld monitor capable of measuring at least 1 ppm H_2S. The surface testing must be conducted around the perimeter of the collection area for Area 8 and along a pattern that traverses the Area 8 cover at no more than 30 meter intervals. The active or working face of the landfill that would be unsafe to traverse is not required to be monitored as part of this condition.

[40 CFR 60.763 & 63.1958; and, NOC 11307, Conditions 6, 9 & 10]

*{Note: Once the owner or operator elects to comply with the operational standards in 40 CFR 63.1958, the owner or operator must continue to operate the collection and control device according to those provisions and **cannot return** to the provisions of 40 CFR 60.763 (see Specific Condition **3.A.2.d.**).}*

3.A.7. Operational Standards for Active Asbestos Waste Disposal. Because this facility receives asbestos-containing waste material from: asbestos mills; manufacturing, fabricating, demolition, renovation, and spraying operations; and, operations that convert asbestos-containing waste material into non-asbestos (asbestos-free) material, the owner or operator shall meet the following requirements:

a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph c. or d. of this condition must be met.

b. Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph **c(1)** of this condition must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(a) Be posted in such a manner and location that a person can easily read the legend; and

(b) Conform to the requirements of 51 cm × 36 cm (20 inch×14 inch) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
{Note: 29 CFR 1910.145(d)(4) Caution signs. The standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of ANSI Z53.1-1967 or Table 1 of ANSI Z535.1-2006(R2011), incorporated by reference in 29 CFR 1910.6. Link to 29 CFR 1910.145}

(c) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Agency will determine whether a fence or a natural barrier adequately deters access by the general public.

c. Rather than meet the no visible emission requirement of paragraph a. of this condition, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Agency. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

d. Rather than meet the no visible emission requirement of paragraph **a.** of this condition, use an alternative emissions control method that has received prior written approval by the Administrator. As prescribed by 40 CFR 61.149(c)(2), to obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:

(1) The alternative method will control asbestos emissions equivalent to currently required methods.

(2) The suitability of the alternative method for the intended application.

(3) The alternative method will not violate other regulations.

(4) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

{Note: EPA has not delegated authority to the Agency and has retained authority over 40 CFR 61.149(c)(2).}

e. For all asbestos-containing waste material received, the owner or operator shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4 of 40 CFR 61.149 [Link to 40 CFR 61.149], and include the following information:

(a) The name, address, and telephone number of the waste generator.

(b) The name, address, and telephone number of the transporter(s).

(c) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(d) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant

amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

(e) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least five years.

f. Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

g. Upon closure, comply with all the provisions of 40 CFR 61.151 (see Specific Condition **3.A.8.**).

h. Submit to the Agency, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

i. Furnish upon request, and make available during normal business hours for inspection by the Agency, all records required under this permit.

j. Notify the Agency in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Agency at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Agency may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

[29 CFR 1910.145(d)(4), 40 CFR 61.149(c)(2), and 40 CFR 61.154]

3.A.8. Standards for Inactive Asbestos Waste Disposal Site. For closed cells within the landfill that contain asbestos-containing waste material, the permittee shall:

a. Comply with one of the following:

(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, non-asbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

(3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted non-asbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (1), (2) or (3) of this condition. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Department to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

b. Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph a.(2) or a.(3) of this condition.
(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:
(a) Be posted in such a manner and location that a person can easily read the legend; and
(b) (Conform to the requirements for 51 cm×36 cm (20″×14″) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
(c) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.
(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.
(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Department to determine whether a fence or a natural barrier adequately deters access by the general public.

c. The permittee may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph **a.** or **b.** of this condition. *{Note: EPA has not delegated authority to the state and has retained authority over 40 CFR 61.151(c).}*

d. Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:
(1) The land has been used for the disposal of asbestos-containing waste material;
(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in 40 CFR 61.154(f) have been filed with the Department; and
(3) The site is subject to 40 CFR Part 61, Subpart M.

[40 CFR 61.151 & 154(g)]

Monitoring of Operations

3.A.9. For Removal of Collection System. The owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be capped, removed or decommissioned as provided in 40 CFR 60.762(b)(2)(v) or 63.1957(b)(3) (see Specific Condition **3.A.2.e.**), using the following equation 3:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \quad \text{(Eq. 3)}$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year

Q_{LFG} = flow rate of landfill gas, cubic meters per minute

C_{NMOC} = NMOC concentration, parts per million by volume as hexane

a. The flow rate of landfill gas, Q_{LFG}, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of Method 2E of 40 CFR 60 Appendix A-1. Link to 40 CFR 60 Appendix A-1

b. The average NMOC concentration, C_{NMOC}, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in EPA Method 25 or 25C of 40 CFR 60 Appendix A-7. The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of 40 CFR 60 Appendix A-7, by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. Link to 40 CFR 60 Appendix A-7

c. The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Agency. Within 60 days after the date of completing this performance test, the owner or operator must submit the results of the performance test, including any associated fuel analyses, according to 40 CFR 60.767(i)(1) or 63.1981(l)(1) (see Specific Condition **3.A.31.**).

[40 CFR 60.764(b), 63.1950 & 63.1959(c)]

3.A.10. Wellhead Monitoring. The owner or operator shall maintain and operate a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead, and:

a. *Gauge Pressure.* Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.765(a)(3) or 63.1960(a)(3) (see Specific Condition **3.A.15.c.**); and

b. *Nitrogen or Oxygen Concentration.* Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

(1) The nitrogen level must be determined using EPA Method 3C of 40 CFR 60, Appendix A-2, unless an alternative test method is established as allowed by 40 CFR 60.767(c)(2) or 63.1981(d)(2).

(2) Unless an alternative test method is established as allowed by 40 CFR 60.767(c)(2) or 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A or 3C of 40 CFR 60, Appendix A-2 or ASTM D6522-11 (incorporated by reference in 40 CFR 60.17 and 63.14). Determine the oxygen level by an oxygen meter using Method 3A, 3C, or ASTM D6522-11 (if sample location is prior to combustion) except that:

(a) The span must be set between 10 and 12 percent oxygen;

(b) A data recorder is not required;

(c) Only two calibration gases are required, a zero and span;

(d) A calibration error check is not required;

(e) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(3) A portable gas composition analyzer may be used to monitor the oxygen levels provided:

(a) The analyzer is calibrated; and

(b) The analyzer meets all quality assurance and quality control requirements for Method 3A or ASTM D6522-11.

c. *Landfill Gas Temperature.* **If complying with 40 CFR 60.763 & 60.766:** Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.765(a)(5) (see Specific Condition **3.A.15.d(1)**). The temperature measuring device must be calibrated annually using the procedure in 40 CFR 60, Appendix A-1, Method 2, Section 10.3 such that a minimum of two

temperature points, bracket within 10 percent of all landfill absolute temperature measurements or two fixed points of ice bath and boiling water, corrected for barometric pressure, are used.

d. *Landfill Gas Temperature.* **If electing to comply with 40 CFR 63.1958(c)(1) & 63.1961:**
   (1) Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 63.1960(a)(4) (see Specific Condition **3.A.15.d(2)**). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of 40 CFR 60, Appendix A-1. Keep records specified in 40 CFR 63.1983(e) (see Specific Condition **3.A.37.e(2)**).
   (2) Unless a higher operating temperature value has been approved by the Agency, you must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows:
      (a) Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well.
      (b) Monitor oxygen concentration as provided in paragraph b. of this condition.
      (c) Monitor temperature of the landfill gas at the wellhead as provided in paragraph d. of this condition.
      (d) Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in paragraph d.(3) of this condition.
      (e) Monitor the methane concentration with a methane meter using EPA Method 3C of 40 CFR 60, Appendix A-2, EPA Method 18 of 40 CFR 60, Appendix A-6, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18. Link to 40 CFR 60, Appendix A-2 Link to 40 CFR 60, Appendix A-6
      (f) Monitor and determine carbon monoxide concentrations, as follows:
         (i) Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of 40 CFR 60, Appendix A-4 Link to 40 CFR 60, Appendix A-4, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or
         (ii) Collect and analyze the sample from the wellhead using EPA Method 10 of 40 CFR 60, Appendix A-4 to measure carbon monoxide concentrations.
         (iii) When sampling directly from the wellhead, you must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give you the carbon monoxide reading at the wellhead.
         (iv) When collecting samples in a passivated canister or multi-layer foil sampling bag, you must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, 1-minute samples during the analysis of the canister or bag contents, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive, 1-minute averages are then averaged together to give you a carbon monoxide value from the wellhead.
      (g) The enhanced monitoring described in this paragraph d.(2) must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and
      (h) The enhanced monitoring in this paragraph d.(2) must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.
      (i) The enhanced monitoring in this paragraph d.(2) can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the

higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).

(3) For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well.

[40 CFR 60.762(b)(2)(iv), 60.766(a), & 63.1961(a); and, NOC 11307, Condition 7.]

3.A.11. Alternative Parameters. Each owner or operator seeking to install a collection system that does not meet the specifications in 40 CFR 60.769 or 63.1962 (see Specific Condition **3.A.5.**) or seeking to monitor alternative parameters to those required by 40 CFR 60.763 through 40 CFR 60.766 or 63.1958 through 63.1961 (see Specific Conditions **3.A.6., 3.A.7.**, **3.A.10.**, **3.A.12.** - **3.A.19.**) must provide information satisfactory to the Agency as provided in 40 CFR 60.767(c)(2) and (3) or 63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Agency may specify additional appropriate monitoring procedures. [40 CFR 60.766(e) & 63.1961(e)]

3.A.12. Monitoring of Methane Surface Concentration.

a. **If complying with 40 CFR 60.763 & 60.766:** Each owner or operator seeking to demonstrate compliance with the 500 parts per million surface methane operational standard in 40 CFR 60.763(d) (see Specific Condition **3.A.6.d(1)**) must monitor surface concentrations of methane according to the procedures in 40 CFR 60.765(c) (see Specific Condition **3.A.17.**) and the instrument specifications in 40 CFR 60.765(d) (see Specific Condition **3.A.18.**). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

b. **If electing to comply with 40 CFR 63.1958 & 63.1961:** Each owner or operator seeking to demonstrate compliance with the 500-ppm surface methane operational standard in 40 CFR 63.1958(d) (see Specific Condition **3.A.6.d(2)**) must monitor surface concentrations of methane according to the procedures in 40 CFR 63.1960(c) (see Specific Condition **3.A.17.**.) and the instrument specifications in 40 CFR 63.1960(d) (see Specific Condition **3.A.18.**). For location, you must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be in decimal degrees with at least five decimal places. In the semi-annual report in 40 CFR 63.1981(h) (see Specific Condition **3.A.28.**), you must report the location of each exceedance of the 500-ppm methane concentration as provided in 40 CFR 63.1958(d) (see Specific Condition **3.A.6.d(2).**) and the concentration recorded at each location for which an exceedance was recorded in the previous month. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

[40 CFR 60.766(f) & 63.1961(f)]

3.A.13. Monitoring of Landfill Gas Treatment System.

a. **If complying with 40 CFR 60.763 & 60.766:** Each owner or operator seeking to demonstrate compliance with 40 CFR 762(b)(2)(iii) (see Specific Condition **3.A.2.c.**) using a landfill gas treatment system must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required

in 40 CFR 768(b)(5)(ii) (see Specific Condition **3.A.37.b(3)**) and must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The owner or operator must:

(1) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

b. **If electing to comply with 40 CFR 63.1958 & 63.1961:** Each owner or operator seeking to demonstrate compliance with 40 CFR 63.1959(b)(2)(iii)(C) (see Specific Condition **3.A.2.c.**) using a landfill gas treatment system must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The owner or operator must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in 40 CFR 63.1983(b)(5)(ii) (see Specific Condition **3.A.37.b(3).**). The owner or operator must:

(1) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

[40 CFR 60.766(g) & 63.1961(g)]

*{Note: Reference to a bypass line valve in paragraphs a.(2) and b.(2) of Specific Condition 3.A.13. refers to a valve that would allow raw landfill gas to bypass the control device and vent directly to the atmosphere. It does not refer to a valve that allows redirection of the landfill gas for beneficial use at the Bio Energy Washington facility. Beneficial use is considered a form of treatment as provided for in Specific Condition **3.A.2.c(3)**.}*

3.A.14. Applicability of Monitoring Requirements.

a. **If complying with 40 CFR 60.763 & 60.766:** The monitoring requirements of 40 CFR 60.766(b) & (g) (see Specific Conditions **3.B.17.** and **3.A.13.**) apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

b. **If electing to comply with 40 CFR 63.1958 & 63.1961:** The monitoring requirements of 40 CFR 63.1961(a), (b) & (g) (see Specific Conditions **3.A.13.** and **3.B.16.**) at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as

expeditiously as practicable. Where an owner or operator subject to the provisions of 40 CFR 63, Subpart AAAA seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in 40 CFR 63.1958(c)(1), (d)(2), and (e)(1), the standards apply at all times.

[40 CFR 60.766(h) & 63.1961(h)]

Compliance Provisions

3.A.15. Gas Collection System. The specified methods in paragraphs a. through f. of this condition must be used to determine whether the gas collection system is in compliance with 40 CFR 60.762(b)(2)(ii) and 63.1959(b)(2)(ii) (see Specific Condition **3.A.2.**).

a. *Maximum Expected Gas Generation Flow Rate.* For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 40 CFR 60.762(b)(2)(ii)(C)(1) or 63.1959(b)(ii)(C)(1) (see Specific Condition **3.A.2.a(1)**), either Equation 5 or Equation 6 must be used. (For compliance with 40 CFR 63.1960(a)(1), only: The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Agency.) The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent *Compilation of Air Pollutant Emission Factors* (AP–42) or other site-specific values demonstrated to be appropriate and approved by the Agency. If k has been determined as specified in 40 CFR 60.764(a)(4) or 63.1959(a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(1) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR\left(e^{-kc} - e^{-kt}\right) \qquad \text{(Eq. 5)}$$

where,

Q_m = Maximum expected gas generation flow rate, cubic meters per year.
L_o = Methane generation potential, cubic meters per megagram solid waste.
R = Average annual acceptance rate, megagrams per year.
k = Methane generation rate constant, $year^{-1}$.
t = Age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years.
c = time since closure, years (for an active landfill c = 0 and $e^{-kc} = 1$).

(2) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^{n} 2\,k\,L_o\,M_i\left(e^{-kt_i}\right) \qquad \text{(Eq. 6)}$$

where,

Q_M = Maximum expected gas generation flow rate, cubic meters per year.
k = Methane generation rate constant, $year^{-1}$.
L_o = methane generation potential, cubic meters per megagram solid waste.
M_i = Mass of solid waste in the i^{th} section, megagrams.
t_i = age of the i^{th} section, years.

(3) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 in paragraphs a.(1) and a.(2). If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 5 or Equation 6 in paragraphs a.(1) or a.(2) or other methods

must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

b. *Sufficient Density of Gas Collectors*. For the purposes of determining sufficient density of gas collectors for compliance with 40 CFR 60.762(b)(2)(ii)(C)(*2*) or 63.1959(b)(2)(ii)(B)(2) (see Specific Condition **3.A.2.a(2)**), the owner or operator must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Agency, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

c. *Sufficient Gas Collection System Flow Rate Demonstration.*

(1) **If complying with 40 CFR 60.763, 60.765, and 60.766:** For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.762(b)(2)(ii)(C)(*3*) (see Specific Condition **3.A.2.a(3)**), the owner or operator must measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under 40 CFR 60.763(b) (see Specific Condition **3.A.6.b.**). Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(a) If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The owner or operator must keep records according to 40 CFR 60.768(e)(3) (see Specific Condition **3.A.37.e(1)(c)**).

(b) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The owner or operator must submit the items listed in 40 CFR 60.767(g)(7) (see Specific Condition **3.A.27.g.**) as part of the next annual report. The owner or operator must keep records according to 40 CFR 60.768(e)(4) (see Specific Condition **3.A.37.e(1)(d)**).

(c) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective actions analysis, and corresponding implementation timeline to the Agency, according to 40 CFR 60.767(g)(7) and 40 CFR 60.767(j) (see Specific Conditions **3.A.27.g.** and **3.A.29.**). The owner or operator must keep records according to 40 CFR 60.768(e)(5) (see Specific Condition **3.A.37.e(1)(e)**).

(2) **If electing to comply with 40 CFR 63.1958, 63.1960, and 63.1961:** For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 63.1959(b)(2)(ii)(B)(3) (see Specific Condition **3.A.2.a(3)**), the owner or operator must measure gauge pressure in the gas collection header applied to each individual well monthly. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Agency for approval. If a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under 40 CFR 63.1958(b) (see Specific Condition **3.A.6.b.**).

(a) If negative pressure cannot be achieved without excess air infiltration within 15 days of the first measurement of positive pressure, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The owner or operator must keep records according to 40 CFR 63.1983(e)(3) (see Specific Condition **3.A.37.e(1)(c)**).

(b) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The owner or operator must submit the items listed in 40 CFR 63.1981(h)(7) (see Specific Condition **3.A.27.g.**) as part of the next semi-annual report. The owner or operator must keep records according to 40 CFR 63.1983(e)(4) (see Specific Condition **3.A.37.e(1)(d)**).

(c) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to § 63.1981(j). The owner or operator must keep records according to § 63.1983(e)(5) (see Specific Condition **3.A.37.e(1)(e)**).

d. *Excess Air Infiltration*.

(1) **If complying with 40 CFR 60.763, 60.765, and 60.766:** For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator must monitor each well monthly for temperature as provided in 40 CFR 60.763(c) (see Specific Condition **3.A.6.c.**). If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(a) If a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit), the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) was first measured. The owner or operator must keep records according to 40 CFR 60.768(e)(3) (see Specific Condition **3.A.37.e(1)(c)**).

(b) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The owner or operator must submit the items listed in 40 CFR 60.767(g)(7) (see Specific Condition **3.A.27.g.**) as part of the next annual report. The owner or operator must keep records according to 40 CFR 60.768(e)(4) (see Specific Condition **3.A.37.e(1)(d)**).

(c) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Agency, according to 40 CFR 60.767(g)(7) and 60.767(j) (see Specific Conditions **3.A.27.g.** and **3.A.29.**). The owner or operator must keep records according to 40 CFR 60.768(e)(5) (see Specific Condition **3.A.37.e(1)(e)**).

(2) **If electing to comply with 40 CFR 63.1958, 63.1960, and 63.1961:** For the purpose of identifying whether excess air infiltration into the landfill is occurring once an owner or operator seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in 40 CFR 63.1958(c) by electing to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) (see Specific Condition **3.A.37.e(2)(a)**)., the owner or operator must monitor each well monthly for temperature for the purpose of identifying whether excess air infiltration exists. If a well exceeds the

operating parameter for temperature as provided in 40 CFR 63.1958(c)(1) (see Specific Condition **3.A.6.c(2))**, action must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

(a) If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The owner or operator must keep records according to 40 CFR 63.1983(e)(3) (see Specific Condition **3.A.37.e(2)(c)**.

(b) If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The owner or operator must submit the items listed in 40 CFR 63.1981(h)(7) (see Specific Condition **3.A.28.g.**) as part of the next semi-annual report. The owner or operator must keep records according to 40 CFR 63.1983(e)(4) (see Specific Condition **3.A.37.e(2)(d)**).

(c) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Agency, according to 40 CFR 63.1981(h)(7) and (j) (see Specific Conditions **3.A.28.g.** & **3.A.29.b.**). The owner or operator must keep records according to 40 CFR 63.1983(e)(5) (see Specific Condition **3.A.37.e(2)(e)**).

(d) If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in 40 CFR 63.1961(a)(5)(vi) (see Specific Condition **3.A.10.d(2)**) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

e. *Use of a Non-Conforming Collection System*. An owner or operator seeking to demonstrate compliance with 40 CFR 60.762(b)(2)(ii)(C)(4) or 63.1959(b)(2)(ii)(B)(4) (see Specific Condition **3.A.2.a(4)**) through the use of a collection system not conforming to the specifications provided in 40 CFR 60.769 or 63.1962 (see Specific Condition **3.A.5.**) must provide information satisfactory to the Agency as specified in 40 CFR 60.767(c)(3) or 63.1981(d)(3) demonstrating that off-site migration is being controlled.

[40 CFR 60.765(a) & 63.1960(a)]

3.A.16. Well Installation. For purposes of compliance with 40 CFR 60.763(a) or 63.1958(a) (see Specific Condition **3.A.6.a.**), each owner or operator of a controlled landfill must place each well or design component as specified in the approved design plan as provided in 40 CFR 60.767(c) or 63.1981(d). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

a. 5 years or more if active; or

b. 2 years or more if closed or at final grade.

[40 CFR 60.765(b) & 63.1960(b)]

3.A.17. Monitoring Surface Methane Concentration. The following procedures must be used for compliance with the surface methane operational standard as provided in 40 CFR 60.763(d) and 63.1958(d) (see Specific Condition **3.A.6.d.**).

a. After installation and startup of the gas collection system, the owner or operator must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of 40 CFR 60.765 (see Specific Condition **3.A.18.**).

b. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

c. Surface emission monitoring shall be performed in accordance with section 8.3.1 of Method 21 of 40 CFR 60, Appendix A-7, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Link to 40 CFR 60, Appendix A-7

d. Any reading of 500 parts per million or more above background at any location must be recorded as a monitored exceedance and the actions specified in paragraphs (1) through (5) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.763(d) (see Specific Condition **3.A.6.d.**).

(1) The location of each monitored exceedance must be marked and the location recorded. **If electing to comply with 40 CFR 63.1960:** The location must be recorded using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(2) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.

(3) If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (5) must be taken, and no further monitoring of that location is required until the action specified in paragraph (5) has been taken.

(4) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (2) or (3) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in paragraph (3) or (5) must be taken.

(5) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Agency for approval.

e. The owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

[40 CFR 60.765(c) & 63.1960(c)]

3.A.18. Surface Methane Monitoring Instrumentation. Each owner or operator seeking to comply with the provisions of 40 CFR 60.765(c) or 63.1960(c) (see Specific Condition **3.A.17.**) must comply with

the following instrumentation specifications and procedures for surface emission monitoring devices:

a. The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of 40 CFR 60, Appendix A, except that "methane" shall replace all references to VOC.
b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air.
c. To meet the performance evaluation requirements in section 8.1 of Method 21 of 40 CFR 60, Appendix A, the instrument evaluation procedures of section 8.1 of Method 21 of 40 CFR 60, Appendix A, must be used.
d. The calibration procedures provided in sections 8 and 10 of Method 21 of 40 CFR 60, Appendix A, must be followed immediately before commencing a surface monitoring survey.

Link to 40 CFR 60 Appendices for Method 21

[40 CFR 60.765(d) & 63.1960(d)].

3.A.19. Start-up, Shutdown, Malfunction.

a. **If complying with 40 CFR 60, Subpart XXX:** The provisions of 40 CFR 60, Subpart XXX, apply at all times, including periods of start-up, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, you must comply with the work practice specified in 40 CFR 60.763(e) (see Specific Condition **3.A.6.e(1)**) in lieu of the compliance provisions in 40 CFR 60.765 (see Specific Conditions **3.A.15., 3.A.16., 3.A.17.,** and **3.A.18.**).
b. **If electing to comply with 40 CFR 63.1958:** Once an owner or operator seeks/elects to demonstrate compliance with the operational standard in 40 CFR 63.1958 (see Specific Condition **3.A.6.e(2)**), the SSM provisions of 40 CFR 63.6(e) of Subpart A no longer apply, and the provisions of 40 CFR 63, Subpart AAAA, apply at all times, including periods of SSM. During periods of SSM, you must comply with the work practice requirement specified in 40 CFR 63.1958(e) (see Specific Condition **3.A.6.e(2)**) in lieu of the compliance provisions in 40 CFR 63.1960 (see Specific Conditions **3.A.15., 3.A.16., 3.A.17.,** and **3.A.18.**).

[40 CFR 60.765(e), 63.1960(e) & 63.1964(b)]

3.A.20. 40 CFR 63, Subpart AAAA, Operation and Maintenance Requirements. At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if the requirements of 40 CFR 63, Subpart AAAA have been achieved. Determination of whether a source is operating in compliance with the operation and maintenance requirements will be based on information available to the Agency which may include, but is not limited to, monitoring results, review of operation and maintenance procedures,-review of operation and maintenance records, and inspection of the source. [40 CFR 63.1955(c]

3.A.21. Deviation for 40 CFR Part 63, Subpart AAAA. A deviation is defined in 40 CFR 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs a. and b.

a. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 63.1983(c)(1) (see Specific Condition **3.A.37.c(1)**) are exceeded.
b. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.

[40 CFR 63.1965]

3.A.22. 3-Hour Block Compliance Averages for 40 CFR Part 63, Subpart AAAA. Averages are calculated according to 40 CFR 63.1983(b)(2)(i) (see Specific Condition **3.A.37.b(2)(a)**) for average combustion temperature and 40 CFR 63.1983(c)(1)(i) (see Specific Condition **3.A.37.c(1)**) for 3-

hour average combustion temperature for enclosed combustors, except that the data collected during monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments are not to be included in any average computed under 40 CFR 63, Subpart AAAA. [40 CFR 63.1975]

Reporting and Record Keeping Requirements

3.A.23. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Revised Design Plan	Prior to Changes	**3.A.24.**
Facility Closure Report	Within 30 of waste acceptance cessation	**3.A.25**
Equipment Removal Report	30 Days Prior to removal	**3.A.26.**
Annual Reports	Within 30 days of Calendar Year End	**3.A.27.**
Semi-annual Reports	July 30, January 30 (with Title V Semiannual report)	**3.A.28., 4.C.4.**
Corrective Action Reports	As Applicable	**3.A.29.**
Asbestos Disturbance Notice	45 Days Prior to Disturbance	**3.A.34.**

[WAC 173-401-615]

3.A.24. Revised Design Plan. The owner or operator must submit a revised collection and control system design plan to the Agency as follows:

a. At least 90 days before expanding operations to an area not covered by the previously approved design plan.
b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Agency or Administrator according to 40 CFR 767(c) or 63.1981(d).

[40 CFR 60.767(d) & 63.1981(e)]

3.A.25. Facility Closure Report. The owner or operator of a controlled landfill must submit a closure report to the Agency within 30 days of waste acceptance cessation. The Agency may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60 (Link to 40 CFR 258.60). If a closure report has been submitted to the Agency, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4) (Link to 40 CFR 60.7) and 40 CFR 63.9(b) (Link to 40 CFR 63, Subpart A). [40 CFR 60.767(e) and 63.1981(f)]

3.A.26. Equipment Removal Report. The owner or operator must submit an equipment removal report to the Agency 30 days prior to removal or cessation of operation of the collection equipment.

a. The equipment removal report must contain all of the following items:
   (1) A copy of the closure report submitted in accordance with 40 CFR 60.767(e) or 63.1981(f) (see Specific Condition **3.A.25.**);
   (2) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

(3) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

b. The Agency may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.762(b)(2)(v) or 63.1957(b) have been met (see Specific Conditions **3.A.2.** & **3.A.9.**).

[40 CFR 60.767(f) & 63.1981(g)]

3.A.27. 40 CFR 60, Subpart XXX, Annual Reports. **If complying with the operational provisions of 40 CFR 6.0763, 60.765, and 60.766:** The owner or operator must submit annual compliance reports to the Compliance Authority, following the electronic reporting procedure specified in 40 CFR 60.767(i)(2) (see Specific Condition **3.A.31.a.**), of the recorded information in paragraphs a. through g. For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 60.768(c) (see Specific Condition **3.A.37.c.**). **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961**, as allowed at 40 CFR 60.762(b)(2)(iv), the owner or operator must follow the semi-annual reporting requirements in 40 CFR 63.1981(h) (see Specific Condition **3.A.28.**) in lieu of this condition.

a. Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.766(a), (c), and (g) (see Specific Condition **3.A.11.**, **3.B.17.** & **3.A.13.a.**).

b. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 60.766 (see Specific Condition **3.B.17.** & **3.A.13.a.**).

c. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

d. All periods when the collection system was not operating.

e. The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.763(d) (see Specific Condition **3.A.6.d(1).**) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For each location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

f. The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.765(a)(3), (a)(5), (b), and (c)(4) (see Specific Conditions **3.A.15.c(1)**, **3.A.15.d.**, **3.A.16.** & **3.A.17.d.**).

g. For any corrective action analysis for which corrective actions are required in 40 CFR 60.765(a)(3) or (5) (see Specific Condition **3.A.15.c(1)** or **3.A.15.d.**) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

[40 CFR 60.767(g)]

3.A.28. 40 CFR 63, Subpart AAAA, Semi-annual Reports. **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** The owner or operator must submit semi-annual reports following the procedures in 40 CFR 63.1981(l) (see Specific Condition **3.A.31.b(1)**). For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 63.1983(c) (see Specific Condition **3.A.37.c.**). The semi-annual reports must contain the information in paragraphs a. through h.

a. Number of times that applicable parameters monitored under 40 CFR 63.1958(b), (c), and (d) (see Specific Conditions **3.A.6.b.**, **3.A.6.c(2)** & **3.A.6.d(2)**) were exceeded and when the gas collection and control system was not operating under 40 CFR 63.1958(e) (see Specific Condition **3.A.6.e**.), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.
   (1) Where an owner or operator seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) (see Specific Condition **3.A.6.c(2)**), provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under 40 CFR 63.1961(a)(4) (see Specific Condition **3.A.10.d(1)**) were exceeded. For each instance, report the date, time, and duration of each exceedance.
   (2) Number of times the parameters for the site-specific treatment system in 40 CFR 63.1961(g) (see Specific Condition **3.A.13.b.**) were exceeded.

b. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 63.1961 (see Specific Condition **3.A.10.**).

c. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

d. All periods when the collection system was not operating.

e. The location of each exceedance of the 500-ppm methane concentration as provided in 40 CFR 63.1958(d) (see Specific Condition **3.A.6.d(2)**) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For each location, you record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

f. The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 63.1960(a)(3) and (4), (b), and (c)(4) (see Specific Conditions **3.A.15.c(2)**, **3.A.15.d.**, **3.A.16.** & **3.A.17.d**.).

g. For any corrective action analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i) or (a)(5) (see Specific Conditions **3.A.15.c(2)** or **3.A.15.e.**) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

h. Each owner or operator required to conduct enhanced monitoring in 40 CFR 63.1961(a)(5) and (6) (see Specific Conditions **3.A.10.d(2)** & **3.A.10.d(3)**) must include the results of all monitoring activities conducted during the period.
   (1) For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide.
   (2) Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide.
   (3) Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.

[40 CFR 60.767(g) & 63.1981(h)]

3.A.29. Corrective Action Reports and the Corresponding Timeline.

a. **If complying with the operational provisions of 40 CFR 6.0763, 60.765, and 60.766:** The owner or operator must submit corrective action reports according to paragraphs a.(1) and a.(2) of this condition.
   (1) For corrective action that is required according to 40 CFR 60.765(a)(3)(iii) or (a)(5)(iii) (see Specific Conditions **3.A.15.c(1)(c)** or **3.A.15.d(1)(c)**) and is expected to take longer than 120 days after the initial exceedance to complete, you must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Agency as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit). The Agency must approve the plan for corrective action and the corresponding timeline.
   (2) For corrective action that is required according to 40 CFR 60.765(a)(3)(iii) or (a)(5)(iii) (see Specific Conditions **3.A.15.c(1)(c)** or **3.A.15.d(1)(c)**) and is not completed within 60 days after the initial exceedance, you must submit a notification to the Agency as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

b. **If complying with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** If complying with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed at 40 CFR 60.762(b)(2)(iv) (see Specific Condition **3.A.2.d.**), the owner or operator must follow the corrective action and the corresponding timeline requirements in paragraphs b.(1) and b.(2) of this condition.
   (1) For corrective action that is required according to 40 CFR 63.1960(a)(3) or (4) (see Specific Conditions **3.A.15.c(2)** or **3.A.15.d(2)**) and is not completed within 60 days after the initial exceedance, you must submit a notification to the Agency as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.
   (2) For corrective action that is required according to 40 CFR 63.1960(a)(3) or (4) (see Specific Conditions **3.A.15.c(2)** or **3.A.15.d(2)**) and is expected to take longer than 120 days after the initial exceedance to complete, you must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Agency as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above unless a higher operating temperature value has been approved by the Agency for the well under this permit (see Specific Conditions 3.A.6.c(3)). The Administrator must approve the plan for corrective action and the corresponding timeline.

[40 CFR 60.767(j) & 63.1981(j)]

3.A.30. 24-Hour High Temperature Report. **Where an owner or operator chooses to comply with the operational provisions in 40 CFR 63.1958, 63.1960, and 63.1961** and seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) (see Specific Conditions **3.A.6.c(2)**) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then you must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Agency within 24 hours of the measurement unless a higher operating temperature value has been approved by the Agency for the well. [40 CFR 60.767(m) & 63.1981(k)]

3.A.31. Electronic Reporting.

a. **If complying with the operational provisions of 40 CFR 6.0763, 60.765, and 60.766:** The owner or operator must submit reports electronically according to paragraphs a.(1) and a.(2) of this condition.

(1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the owner or operator must submit the results of each performance test according to the following procedures:
   (a) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.
   (b) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR 60.4.
(2) Each owner or operator required to submit reports following the procedure specified in this paragraph must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (*https://www3.epa.gov/ttn/chief/cedri/index.html*). If the reporting form specific to 40 CFR 60, Subpart XXX is not available in CEDRI at the time that the report is due, the owner or operator must submit the report to the Administrator at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

b. **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** The owner or operator must submit reports electronically according to paragraphs b.(1) and b.(2) of this condition.

(1) Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs b.(1)(a) through (c) of this condition.
   (a) Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test. Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (*https://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.
   (b) Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must

be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(c) Confidential business information (CBI). If you claim some of the information submitted is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph a.(2)(a).

(2) Each owner or operator required to submit reports following the procedure specified in this condition must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The owner or operator must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the owner or operator must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. The NMOC emission rate reports and semi-annual reports should be electronically reported as a spreadsheet template upload/form to CEDRI. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the owner or operator must submit the reports to the Administrator at the appropriate address listed in 40 CFR 63.13.

{Note: Reports submitted electronically to US EPA must also be submitted to the Agency.}

[40 CFR 60.767(g), 60.767(i) & 63.1981(l)]

3.A.32. Claims of EPA System Outage. When you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to comply timely with the reporting requirement. To assert a claim of EPA system outage, you must meet the following requirements:

a. You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.
b. The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.
c. The outage may be planned or unplanned.
d. You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.
e. You must provide to the Administrator a written description identifying:
   (1) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;
   (2) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;
   (3) Measures taken or to be taken to minimize the delay in reporting; and
   (4) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

f. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.
g. In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

[40 CFR 63.1981(m)]

3.A.33. Claims of Force Majeure. When you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to comply timely with the reporting requirement. To assert a claim of force majeure, you must meet the following requirements:

a. You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (e.g., large scale power outage).
b. You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.
c. You must provide to the Administrator:
   (1) A written description of the force majeure event;
   (2) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;
   (3) Measures taken or to be taken to minimize the delay in reporting; and
   (4) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.
d. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.
e. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

[40 CFR 63.1981(n)

3.A.34. Asbestos Disturbance Notification. The owner or operator must notify the compliance office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. (See Specific Condition **3.A.7.j.**) If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the compliance office at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

a. Scheduled starting and completion dates.
b. Reason for disturbing the waste.
c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Agency may require changes in the emission control procedures to be used.
d. Location of any temporary storage site and the final disposal site.

[40 CFR 61.154(j)]

3.A.35. Asbestos Records and Reports. The owner or operator shall maintain records and reports in accordance with 40 CFR 61.154(e) (see Specific Condition **3.A.7.**) and for a period of at least five years. [40 CFR 61.154(e)]

3.A.36. Asbestos Location Records. Permittee shall maintain, until closure, location records of the asbestos containing waste subject to 40 CFR 61.154 in accordance with 40 CFR 61.154(f) (see Specific Condition **3.A.7.f.**). [40 CFR 61.154(f)]

3.A.37. Landfill Records. Unless otherwise specified below, the owner or operator must keep for at least 5 years up-to-date, readily accessible, on-site records of the items in paragraphs a. – h. The owner or operator must also keep records as specified in the general provisions of 40 CFR 63, Subpart A, as shown in Table 1 of 40 CFR 63, Subpart AAAA (see Specific Condition **3.A.41.**).

a. The design capacity report which triggered 40 CFR 60.762(b) or 63.1958(b)(2)(ii) and (iii), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

b. Records for the life of the control system equipment of the data listed in paragraphs b.(1) and b.(2) of this condition as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

(1) Where an owner or operator seeks to demonstrate compliance with 40 CFR 60.762(b)(2)(ii) or 63.1959(b)(2)(ii) (see Specific Condition **3.A.2.**):

(a) The maximum expected gas generation flow rate as calculated in 40 CFR 60.765(a)(1) or 63.1960(a)(1) (see Specific Condition **3.A.15.a.**). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Agency.

(b) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.769(a)(1) or 63.1962(q)(1) and (2) (see Specific Condition **3.A.5.a.**)

(2) Where an owner or operator seeks to demonstrate compliance with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Condition **3.A.2.c.**) through use of an enclosed combustion device:

(a) The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(b) The percent reduction of NMOC determined as specified in40 CFR 60.762(b)(2)(iii)(B) or 63.1959(b)(2)(iii)(B) (see Specific Condition **3.A.2.c(1).**) achieved by the control device.

(3) Where an owner or operator seeks to demonstrate compliance with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii)(C) (see Specific Condition **3.A.2.c(3).**) through use of a landfill gas treatment system:

(a) Bypass records. Records of the flow of landfill gas to, and bypass of, the treatment system.

(b) Site-specific treatment monitoring plan, to include:

i. Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

ii. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

iii. Documentation of the monitoring methods and ranges, along with justification for their use.
iv. Identify who is responsible (by job title) for data collection.
v. Processes and methods used to collect the necessary data.
vi. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS).

c. Continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.766 or 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
(1) For enclosed combustors, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Conditions **3.A.2.c(1)** & **3.B.34.a.** was determined constitutes exceedances that must be recorded and reported under 40 CFR 60.767(g) or 63.1981(h) (see Specific Condition **3.A.27.**).
(2) Continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.766 or 63.1961(b)(2)(ii), (c)(2)(ii), and (g)(2) (see Specific Condition **3.A.13.**).
(3) The owner or operator seeking to comply with the provisions of 40 CFR 60.762(b)(2) or 63.1959(b)(2) using an active collection system designed in accordance with 40 CFR 60.762(b)(2)(ii) or 63.1959(b)(2)(ii) (see Specific Condition **3.A.2.**), must keep records of periods when the collection system or control device is not operating.
(4) **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** Where an owner or operator seeks to demonstrate compliance with the operational standard in 40 CFR 63.1958(e)(1) (see Specific Condition **3.A.6.e.**), the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.
(5) **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** Where an owner or operator seeks to demonstrate compliance with the operational standard in 40 CFR 63.1958(e)(1) (see Specific Condition **3.A.6.e.**), in the event that an affected unit fails to meet an applicable standard, record the information below in this paragraph:
(a) For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable).
(b) For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment.
(c) Record actions taken to minimize emissions in accordance with the general duty of §63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.
(6) **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** In lieu of the requirements specified in 40 CFR 63.8(d)(3) you must keep the written procedures required by 40 CFR 63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR 63, Subpart AAAA, to be made available for inspection, upon request, by the Agency. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Agency, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2). Link to 40 CFR 63.8

d. Keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.
   (1) Keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.765(b) or 63.1960(b) (see Specific Condition **3.A.16.**).
   (2) Keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.769(a)(3)(i) or 63.1962(a)(3)(i) (see Specific Condition **3.A.5.a(3)(a)**) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.769(a)(3)(ii) or 63.1962(a)(3)(ii) (see Specific Condition **3.A.5.a(3)(b)**).

e. Records of the following:
   (1) **If complying with the operational provisions of 40 CFR 6.0763, 60.765, and 60.766:** The items in paragraphs (1)(a) through (1)(e).
      (a) All collection and control system exceedances of the operational standards in 40 CFR 60.763 (see Specific Condition **3.A.6.**), the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
      (b) Each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent.
      (c) For any root cause analysis for which corrective actions are required in 40 CFR 60.765(a)(3)(i) or (a)(5)(i) (see Specific Conditions **3.A.15.c(1)(a)** or **3.A.15.d(1)**), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.
      (d) For any root cause analysis for which corrective actions are required in 40 CFR 60.765(a)(3)(ii) or (a)(5)(ii) (see Specific Conditions **3.A.15.c(1)(b)** or **3.A.15.d(1)(b)**), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
      (e) For any root cause analysis for which corrective actions are required in 40 CFR 60.765(a)(3)(iii) or (a)(5)(iii) (see Specific Conditions **3.A.15.c(1)(c)** or **3.A.15.d(1)(c)**), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Agency.
   (2) **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** Each owner or operator that chooses to comply with the provisions in in 40 CFR 63.1958, 63.1960, and 63.1961, as allowed at 40 CFR 60.762(b)(2)(iv) (see Specific Condition **3.A.2.d.**), must keep records of the date upon which the owner or operator started complying with the provisions in 40 CFR 63.1958, 63.1960, and 63.1961 and must keep records according to paragraphs (2)(a) – (2)(e).
      (a) All collection and control system exceedances of the operational standards in 40 CFR 63.1958 (see Specific Condition **3.A.6.**), the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
      (b) Records of each wellhead temperature monitoring value of greater than 55 degrees Celsius (131 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except:

i. The records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above instead of values greater than 55 degrees Celsius (131 degrees Fahrenheit).
ii. Each owner or operator required to conduct the enhanced monitoring provisions in 40 CFR 63.1961(a)(5) (see Specific Condition **3.A.10.d(2)**), must also keep records of all enhanced monitoring activities.
iii. Each owner or operator required to submit the 24-hour high temperature report in 40 CFR 63.1981(k) (see Specific Condition **3.A.30.**), must also keep a record of the email transmission.

(c) For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(A) or (a)(4)(i)(A) (see Specific Conditions **3.A.15.c(2)(a)** or **3.A.15.d(2)(a)**), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

(d) For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(B) or (a)(4)(i)(B) (see Specific Conditions **3.A.15.c(2)(b)** or **3.A.15.d(2)(b)**), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(e) For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(C) or (a)(4)(i)(C) (see Specific Conditions **3.A.15.c(2)(c)** or **3.A.15.d(2)(c)**), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Agency.

f. Records of all collection and control system monitoring data for parameters measured in 40 CFR 60.766(a)(1), (2), and (3) or 63.1961(a)(1) through (6) (see Specific Condition **3.A.10.**).

g. Any records required to be maintained that are submitted electronically via the EPA's CDX may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

h. **If electing to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961:** Where an owner or operator seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) (see Specific Condition **3.A.6.c(2).**), you must keep the following records.

(1) Records of the landfill gas temperature on a monthly basis as monitored in 40 CFR 63.1960(a)(4) (see Specific Condition **3.A.15.d.**).

(2) Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in 40 CFR 63.1961(a)(5) and (6) (see Specific Conditions **3.A.10.d(2)** and **3.A.10.d(3)**).

[40 CFR 60.768(a), (b)(1), (b)(2) & (b)(5), (c)(1), (c)(2) & (c)(5), (d), (e), (h), and (i); and, 40 CFR 63.1958, 63.1960, 63.1961, and 1983(a), (b)(1), (b)(2) & (b)(5), (c)(1), (c)(2), (c)(5) – (c)((8), (d), (e), (g) & (h)]

Other Requirements

3.A.38. Implementation and Enforcement of 40 CFR Part 63, Subpart AAAA.

a. This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or tribal agency. Because the EPA Administrator has delegated authority to the Agency, the Agency as well as the U.S. EPA has the authority to implement and enforce this subpart.

b. In delegating implementation and enforcement authority of this subpart to the Agency under Subpart E of 40 CFR 63, the following authorities are retained by the EPA Administrator and are not transferred to the Agency: Approval of alternatives to the standards in 40 CFR 63.1955 – 63.1962. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. For this subpart, the EPA also retains the authority to approve methods for determining the NMOC concentration in 40 CFR 63.1959(a)(3) and the method for determining the site-specific methane generation rate constant k in 40 CFR 63.1959(a)(4). Link to 40 CFR 63.1959

[40 CFR 63.1985]

3.A.39. 40 CFR 60, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the requirements contained in 40 CFR 60, Subpart A - General Provisions. [WAC 173-401-605(1); and, 40 CFR 60, Subpart A] Link to 40 CFR 60, Subpart A

3.A.40. 40 CFR 61, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the requirements contained in 40 CFR 61, Subpart A - General Provisions. [WAC 173-401-605(1); and, 40 CFR 61, Subpart A] Link to 40 CFR 61, Subpart A

3.A.41. 40 CFR 63, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the following requirements contained in 40 CFR 63, Subpart A - General Provisions. Link to 40 CFR 63, Subpart A

40 CFR 63, Subpart AAAA - Table 1

Citation	Description	Explanation
63.1(a)	Applicability: general applicability of NESHAP in this part	Affected sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, part 60 subpart A.
63.1(b)	Applicability determination for stationary sources	
63.1(c)	Applicability after a standard has been set	
63.1(e)	Title V permitting	
63.2	Definitions	
63.3	Units and abbreviations	
63.4	Prohibited activities and circumvention	Affected sources are already subject to the provisions of paragraph (b) through the same provisions under 40 CFR, part 60 subpart A.
63.5(a)	Construction/reconstruction	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	
63.5(d)	Application for approval of construction or reconstruction	
63.5(e) & (f)	Approval of construction and reconstruction	

Citation	Description	Explanation
63.6(a)	Compliance with standards and maintenance requirements - applicability	
63.6(b) & (c)	Compliance dates for new, reconstructed, and existing sources	
63.6(e)(1)(i)-(ii)	N/A - Operation and maintenance requirements	See 40 CFR 63.1955(c) for general duty requirements
63.6(f)(2) & (3)	Compliance with nonopacity emission standards	Affected sources are already subject to the provisions of paragraphs (f)(1) and (2)(i) through the same provisions under 40 CFR, part 60 subpart A.
63.6(g)	Use of an alternative nonopacity standard	
63.6(i)	Extension of compliance with emission standards	
63.6(j)	Exemption from compliance with emission standards	
63.7	Performance testing	
63.7(e)(1)	N/A - Conditions for performing performance tests	40 CFR 63.1959(f) specifies the conditions for performing performance tests.
63.8(a) & (b)	Monitoring requirements - Applicability and conduct of monitoring	
63.8(c)(1)	Operation and Maintenance of continuous emissions monitoring system	
63.8(c)(2)-(8)	Monitoring requirements	
63.8(d)(1)	Quality control for monitors	
63.8(d)(2)	Quality control for monitors	
63.8(d)(3)	N/A - Quality control records	See 40 CFR 63.1983(c)(8)
63.9(a), (c), and (d)	Notifications	
63.9(b)	Initial notifications *	
63.9(e)	Notification of performance test *	
63.9(g)	Notification when using CMS *	
63.9(h)	Notification of compliance status *	
63.9(i)	Adjustment of submittal deadlines	
63.9(j)	Change in information already provided	
63.10(a)	Recordkeeping and reporting - general	
63.10(b)(1)	General recordkeeping	
63.10(b)(2)(i)	N/A - Startup and shutdown records	See 40 CFR 63.1983(c)(6) for recordkeeping for periods of startup and shutdown.
63.10(b)(2)(ii)	N/A - Recordkeeping of failures to meet a standard	See 40 CFR 63.1983(c)(6)-(7) for recordkeeping for any exceedance of a standard.

Citation	Description	Explanation
63.10(b)(2)(iii)	Recordkeeping of maintenance on air pollution control equipment	
63.10(b)(2)(iv)-(v)	N/A - Actions taken to minimize emissions during SSM	See 40 CFR 63.1983(c)(7) for recordkeeping of corrective actions to restore compliance.
63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	
63.10(b)(2)(vii)-(xiv)	Other Recordkeeping of compliance measurements	
63.10(c)	N/A - Additional recordkeeping for sources with CMS	See 40 CFR 63.1983 for required CMS recordkeeping.
63.10(d)(1)	General reporting	
63.10(d)(2)	Reporting of performance test results	
63.10(d)(4)	Progress reports for compliance date extensions	
63.10(d)(5)	N/A - SSM reporting	All exceedances must be reported in the semi-annual report required by 40 CFR 63.1981(h).
63.10(e)	Additional reporting for CMS systems	
63.10(f)	Recordkeeping/reporting waiver	
63.11	Control device requirements/flares	
63.12(a)	State Authority	These provisions do not preclude the State from adopting and enforcing any standard, limitation, etc., requiring permits, or requiring emissions reductions in excess of those specified.
63.12(b)-(c)	State delegations	
63.13	Addresses	
63.14	Incorporation by reference	
63.15	Availability of information and confidentiality	

* If an owner or operator has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.

[40 CFR 63.1981, 40 CFR 63.1983, and Table 1 of Subpart AAAA]

Back to Table of Contents

Subsection 3.B. Landfill Gas Flares.

The specific conditions in this section apply to the following emissions units:

Brief Description	PSCAA ID
Landfill Flare #1, 3,000 cfm.	EU-1
Landfill Flare #2, 3,000 cfm.	EU-2
Landfill Flare #3, 3,000 cfm.	EU-3
Landfill Flare #4, 3,850 cfm.	EU-4
Landfill Flare #5, 3,850 cfm.	EU-5
Landfill Flare #6 (open type). Perimeter migration control flare, 1,000 cfm.	EU-6
Landfill Flare #7 (open type), turn-down flare. Back up trailer-mounted portable, 1,200 cfm (spare).	EU-7
Landfill Flare #8, 1,500 cfm skid-mounted candlestick flare used in the treatment of low-quality landfill gas.	EU-8

The facility operates eight landfill gas (LFG) flares for the purpose of incinerating landfill gases to destroy non-methane organic compounds and to reduce odors. These flares have ample capacity to control 100% of the gas that is produced by this landfill and keep the facility in compliance with the capture and control requirements of 40 CFR 60, Subpart XXX – Standards of Performance for Municipal Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014. Approximately 90% of the collected LFG is delivered to Bio Energy Washington (BEW) for further processing into usable natural gas that is introduced into the regional natural gas pipeline for beneficial use.

Five of the flares are enclosed flares that combust LFG at the station and exhaust combustion products to the atmosphere. Three flares are non-enclosed (open) flares. Flares 1 and 2 were installed in 1989. Flare 3 was installed in 1992 and re-permitted in 1995. Flare 4 was installed in 1997 and Flare 5 was installed in 2000. Both Flares 4 and 5 were built to the same specifications as Flares 1, 2, and 3. The purpose of the fifth flare is to serve as a backup during maintenance or overhaul of the existing flares. The 1,000 cfm perimeter migration control (open) Flare 6 was installed in 2012. The 1,200 cfm portable Trailer Mounted (open) Flare 7, originally permitted for backup use in 1996, acts as a backup flare for maintenance projects at this landfill and other closed landfills in King County. The 1,500 cfm candlestick flare (open) was installed in 2023 to assist Flare #7 in treating the gas, collected from 115 wells located in aging areas of the landfill, that does not have sufficient heat content to be processed by BEW for delivery to the natural gas pipeline.

The North Flare Station accepts LFG collected from across the landfill through a series of Pipes and headers that feed into a common inlet plenum, a set of three condensate knockout tanks, a distribution plenum, and between one to five blowers. After the blowers, gas feeds into the flare inlet plenum and is routed to both the BEW gas-to-energy facility and to one or more of the five enclosed flares and/or the Trailer Mounted Flare (turndown flare). Since the BEW facility cannot accept all of the LFG as it is produced, the flare system typically runs continuously; otherwise, pressure will build up within the landfill and LFG will escape, causing odor problems and possibly damaging the liner and/or cover systems. The flare station can be shut down for brief periods of time for maintenance or repair activities. KCWSD Operations staff has the knowledge and experience to determine the length of time allowable for a shutdown, if needed.

LFG is routed to the flare inlet plenum through gas-actuated shutoff valves, and finally through a flame arrestor before it enters any of the flares. Once in an enclosed flare, the LFG moves through a plenum that distributes the gas equally to 14 burner tips with flame checks.

Each of the enclosed gas flares consists of a 12-foot-diarneter,40-foot-high cylinder fabricated from 3/8-inch, A-283-C carbon steel. The interior wall of the cylinder is insulated with high temperature ceramic wool. At the base of each cylinder is a stainless-steel multiple head burner. A small flame arrester is installed within each burner head to evenly distribute the gas. Each flare is equipped with a spark ignited propane pilot. The main flame is monitored by an ultraviolet scanner which shuts down the entire flare station upon loss of flame. Two thermocouples are installed within the flare; one is near the top and one is near the bottom of the cylinder. A digital readout of each selected thermocouple is displayed on a controller located inside a weatherproof enclosure at the base of the flare. Combustion air is delivered through three adjustable louvers at the base of each flare cylinder.

The BEW Gas-to-Energy Facility was connected in 2009 to the North Flare Station through a series of pipes, with gas flow controlled by the North Flare System blowers, a series of valves, and a booster blower system. The CHRLF LFG collection system conveys gas to the North Flare Station, where it passes through knockout vessels, a blower inlet plenum, through the blowers, and is fed to the flare input plenum. LFG is directed to BEW via a butterfly valve and gas metering device, first through a 36-inch diameter HDPE pipe, which immediately splits into dual 22-inch/18-inch HDPE pipes, which then converge back into a single 24-inch HDPE pipe, mostly routed along the Central Header. Before entering the BEW facility, the 24-inch pipe passes through a knockout tank and two booster blowers arranged in parallel to provide backup if one blower must be taken offline. The gas-to-energy facility is designed to treat up to 11,000 scfm at 6 pounds per square inch; LFG not used by the facility is treated at the North flare station.

In 2012, the existing Trailer Mounted Back Up Flare (Flare 7) was installed adjacent to the North Flare Station to provide manual turndown capabilities at the low LFG feed pressures that occur when the BEW facility is fully operating. It is also currently being used to treat low quality (low BTU) gas collected from 121 wells pulling gas from four different header systems. In 2023, a new skid-mounted 1,500 cfm candlestick flare (Flare 8) was added to treat additional low BTU gas collected from 115 wells located in older areas of the landfill that are no longer producing high BTU gas sufficient for conversion to natural gas by BEW.

KCSWD is responsible for booster blower O&M, with LFG delivered to the BEW facility at not less than 2 inches of water column (in. w.c.). LFG delivery to the BEW inlet point depends on gas demand from the processing plant. The gas flow rate is controlled automatically by the booster blower variable frequency drive, with positive pressure maintained at the blower outlet point. In the case of any functionality problem with the booster blower, KCSWD will deliver LFG using the by-pass blower.

The following table contains useful information about the flares:

Unit ID	Stack Height (ft)	Stack Diameter (ft)	Exit Gas Temp (°F)	Exit Gas Flow Rate (CFM)	Year Installed
Flare #1	40.00	12.00	1,542	22,663	1987
Flare #2	40.00	12.00	1,631	20,539	1989
Flare #3	40.00	12.00	1,569	20,204	1989
Flare #4	40.00	12.00	1,534	23,311	1989
Flare #5	40.00	12.00	1,751	26,067	1997
Flare #6	26.00	0.50	1,700	614	2012
Flare #7	35.00	0.66	1,700	853	2012
Flare #8	34.00	0.83	1,832	2,129	2023

Essential Potential to Emit (PTE) Parameters

3.B.1. Hours of Operation. These emissions units may operate continuously (8,760 hours/year). [WAC 173-401-600(1)]

3.B.2. Permitted Capacity. The maximum landfill gas flowrate to the flares shall not exceed:
a. *EU-1*: 3,000 standard cubic feet per minute (SCFM). [NOC 3271]
b. *EU-2*: 3,000 SCFM. [NOC 3271]
c. *EU*-3: 3,000 SCFM. [NOC 6002]
d. *EU*-4: 3,850 SCFM. [NOC 7076]
e. *EU*-5: 3,850 SCFM. [NOC 8062]
f. *EU*-6: 1,000 SCFM. [NOC 10532]
g. *EU*-7: 1,200 SCFM. [NOC 7836]
h. *EU*-8: 1,500 SCFM. [NOC 12168]

3.B.3. Flare 7 Portability. The portable flare (Flare 7) is authorized for use with all landfills within King County. PSCAA shall be notified by letter whenever this flare is transferred between landfills. A placard bearing the legend "PSAPCA Order of Approval No. 7836" shall be placed on or near the control panel. [NOC 7836, Condition 5]

3.B.4. Beneficial Use of Landfill Gas Required. Landfill gas collected with the landfill gas collection and control system shall be routed to the Bio Energy (Washington) LLC Facility (BEW) (authorized by NOC 9815) or other similar landfill gas to energy facility. Any landfill gas not routed through the BEW shall be routed to the Cedar Hills flare station for processing in accordance with the requirements contained in this subsection of the permit. [Puget Sound Clean Air Agency Regulation I, Article 2; WAC 197-11-660; and, NOC 9760, Condition 5 & NOC 11307, Condition 8]

General Control Device and Work Practice Requirements

3.B.5. Compliance with Federal Rules. The Permittee shall comply with the applicable requirements of 40 CFR 60 Subparts A and XXX as well as 40 CFR 63, Subparts A and AAAA. Where there is a conflict of authority between two conditions, the more stringent requirement shall be applicable. [NOC 11307, Condition 3 & NOC 12168, Conditions 3.a. & 4.f.]

3.B.6. SSM Plan. The Permittee shall develop a written start-up, shutdown, and malfunction plan according to the provisions of 40 CFR 63.6(e)(3). A copy of the plan must be maintained on site at all times. [NOC 11307, Condition 23 & NOC 12168, Condition 8]

3.B.7. Landfill Gas Collection and Control. The permittee shall operate the installed flares at a set point temperature consistent with either that recommended by the manufacturer or that used during the most recent source test and shall achieve a minimum of 98% destruction of all non-methane organic at 3 percent Oxygen. (See also Specific Condition **3.B.39.**) [40 CFR 60.762(b)(2)(iii)(B) & 63.1959(b)(2)(iii)(B)]

3.B.8. Operational Standards.
a. The flares shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f) (see Specific Condition **3.B.21.b.**).
b. The flares shall be in operation at all times when the collected gas is routed to the system.
c. The Permittee shall operate the flares at temperatures and flows consistent with those used during the source tests. [NOC 6002, Condition 8. (See Specific Condition **3.B.23.**)]
[40 CFR 60.18(c)(2), 60.18(e), 60.763(f) & 63.1958(f); and, NOC 12168, Condition 4.a.]

3.B.9. Flare Operation. The Permittee shall operate the flares at temperatures and flows consistent with those recommended by the manufacturer. Whenever the methane content is not high enough to support good combustion on Flare 6, the Permittee shall use either, higher quality methane

landfill gas, or propane, as supplemental fuel. [NOC 6454, Condition 5; NOC 7836, Condition 4; NOC 10532, Condition 3]

3.B.10. Flare Alarms. The flares shall be equipped with both local and remote alarms, automatic combustion air control, and automatic gas shutoff valves. [NOC 11307, Condition 24]

3.B.11. Flare Bypass Prohibited. The Permittee shall have either removed or sealed in the closed position (and shall maintain such arrangement) any valve that has the potential to bypass the flare. Any bypasses of the flare shall be measured and logged. The records shall be maintained on file and made available upon request of Agency personnel. (See also Specific Condition **3.B.42.**) [WAC 173-401-615(c); NOC 11307, Condition 25 & NOC 12168, Condition 6]

*{Note: Reference to a bypass line valve in paragraphs a.(2) and b.(2) of Specific Condition **3.B.11.** refers to a valve that would allow raw landfill gas to bypass the control device and vent directly to the atmosphere. It does not refer to a valve that allows redirection of the landfill gas for beneficial use at the Bio Energy Washington facility. Beneficial use is considered a form of treatment as provided for in Specific Condition **3.A.2.c(3)**.}*

3.B.12. Flare Specification Requirements.

a. The owner or operator has the choice of adhering to either the requirements of paragraph a.(1) or adhering to the heat content and the maximum tip velocity specifications in paragraphs a.(2). & a.(3).

(1) Diameter, Hydrogen Content and Exit Velocity Specifications.

(a) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, and have a hydrogen content of 8.0 percent (by volume), or greater, and shall be designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.
K_1 = Constant, 6.0 volume-percent hydrogen.
K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77. (Incorporated by reference as specified in 40 CFR 60.17).

(b) The actual exit velocity of a flare shall be determined by the method specified in 40 CFR 60.18(f)(4) (see Specific Condition **3.B.21.d.**).

(2) Heat Content Specifications. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3) (see Specific Condition **3.B.21.c.**).

(3) Maximum Tip Velocity Specifications.

(a) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4) (see Specific Condition **3.B.21.d.**), less than 18.3 m/s (60 ft/s), except as provided in paragraphs (3)(b) & (3)(c):

(b) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4) (see Specific Condition **3.B.21.d.**), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400

ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(c) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4) (see Specific Condition **3.B.21.d.**), less than the velocity, V_{max}, as determined by the method specified in 40 CFR 60.18(f)(5) (see Specific Condition **3.B.21.e.**), and less than 122 m/sec (400 ft/sec) are allowed. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in 40 CFR 60.18(f)(6) (see Specific Condition **3.B.21.f.**).

b. Flares used to comply with this condition shall be steam-assisted, air-assisted, or nonassisted. [40 CFR 60.18(c)(3), (c)(4), (c)(5), (c)(6), (f)(3), (f)(4), (f)(5), & (f)(6)]

Emission Limitations and Standards

3.B.13. Visible Emissions (VE). The flares shall be designed for and operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f) (see Specific Condition **3.B.21.a.**) except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [40 CFR 60.18(c)(1); and, NOC 12168, Condition 4.b.]

3.B.14. Destruction Efficiency. The landfill gas flares shall be maintained and operated to achieve 98% destruction of all non-methane organic compounds or reduce the outlet NMOC concentration to 20 ppm by volume, dry basis as hexane at 3 percent oxygen. [40 CFR 60.762(b)(2)(iii)(B) & 63.1959(b)(2)(iii)(B); NOC 7076, Condition 3; NOC 8062, Condition 3; NOC 11307, Condition 8, & NOC 12168, Condition 3.b.]

3.B.15. H_2S. H_2S emissions from the flares shall not exceed 2.2 lbs $H_2S/10^6$ scf LFG. (Note: In accordance with PSCAA Reg I: 9.07 (5/19/94), these flares are also subject to the facility-wide SO_2 standard for fuel burning equipment and shall not emit SO_2 in excess of 1,000 ppmv (dry), 1-hour average (corrected to 7% O_2). (See Specific Conditions **2.A.11.** and **4.C.12.**) [NOC 11307, Condition 12]

Monitoring of Operations

3.B.16. General Control Device and Work Practice Requirements. The owner or operator shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts of 40 CFR 60 will provide provisions stating how owners or operators of flares shall monitor these control devices (see Specific Condition **3.B.17.**). [40 CFR 60.18(d)]

3.B.17. Temperature and Flow Monitoring Requirements.

a. Each owner or operator seeking to comply with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Condition **3.A.2.c.**) using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater.

(2) A device that records flow to the control device and bypass of the control device (if applicable). The owner or operator must:

(a) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; and

(b) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

b. Each owner or operator seeking to comply with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Condition **3.A.2.c.**) using a non-enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:
   (1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.
   (2) A device that records flow to the flare and bypass of the flare (if applicable). The owner or operator must:
      (a) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and
      (b) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

c. These monitoring requirements apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You (owner or operator) are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

[40 CFR 60.766(b), (c) & (h), and 63.1961(b), (c) & (h)]

*{Note: Reference to a bypass line valve in paragraph b.(2) of Specific Condition **3.B.17.** refers to a valve that would allow raw landfill gas to bypass the control device and vent directly to the atmosphere. It does not refer to a valve that allows redirection of the landfill gas for beneficial use at the Bio Energy Washington facility. Beneficial use is considered a form of treatment as provided for in Specific Condition **3.A.2.c(3)**.}*

3.B.18. Temperature and Flow Monitor Equipment. The permittee shall have installed and shall maintain and operate a continuous temperature indicator and recorder for Flares #1, #2, #3, #4, #5 and #7 per Article 12 of Regulation I. Additionally, the Permittee shall each day measure and record the gas velocity in each of the inlet gas manifold streams. Gas velocity readings will be converted to gas volumetric flow rates. Gas flow rate results and temperatures will be maintained on file at the site. The permittee shall keep continuous temperature records for Flare 6 using their SCADA system, and thermocouple on Flare 6 shall either be calibrated using a NIST certified device or replaced annually. [NOC 6002, Condition 4; NOC 6454, Condition 4; NOC 7076, Condition 4; NOC 7836, Condition 3; NOC 8062, Condition 4; NOC 10532, Conditions 4 & 5]

3.B.19. Minimum Operating Temperature. The Permittee shall operate the flares at an average set point temperature at or above the temperature range recorded during the most recent source test showing compliance with Specific Condition **3.B.14.** The Permittee must collect at least one measured data point for each 15-minute monitoring period in every hour the flare is receiving landfill gas. For the purposes of this condition, flare operating temperature shall be based on a rolling 3-hour average and shall only include hourly data which has at least one measured data point during three 15-minute monitoring periods during each hour. The flare operating temperature requirement does not apply to periods of start-ups, shutdowns and/or malfunctions provided that these events are not actively processing landfill gas and do not last for more than 1 hour. [NOC 7076, Condition 8; NOC 11307, Condition 21]

3.B.20. Corrective Action Required. The Permittee shall take corrective action whenever the flare temperature drops below the set point temperature determined during the most recent performance test. [NOC 11307, Condition 27]

Test Methods and Procedures

3.B.21. Flare Compliance Requirements.

a. When required, Method 22 of 40 CFR 60, Appendix A, shall be used to determine the compliance of flares with the visible emission provisions of 40 CFR 60.18(c)(1) (see Specific Condition **3.B.13**.). The observation period is 2 hours and shall be used according to Method 22.

b. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

c. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

K = Constant, $1.740 \times 10^{-7} \left(\frac{1}{\text{ppm}}\right)\left(\frac{\text{g mole}}{\text{scm}}\right)\left(\frac{\text{MJ}}{\text{kcal}}\right)$,

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}}\right)$ is 20°C.;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

d. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

e. The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) (see Specific Condition **3.B.12.a(3).**) shall be determined by the following equation.

$Log_{10}(V_{max})=(H_T+28.8)/31.7$

Where:

V_{max} = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

f. The maximum permitted velocity, Vmax, for air-assisted flares shall be determined by the following equation.

Vmax = 8.706 + 0.7084 (HT)

Where:

Vmax = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

HT = The net heating value as determined in paragraph (f)(3).

[40 CFR 60.18(f); and, NOC 12168, Condition 4.a. & b.]

3.B.22. Compliance Tests Required. During the term of this permit and prior to its renewal, the following compliance tests shall be performed on each flare. The Agency shall be notified at least 21 days prior to testing to allow witnessing. Results shall be submitted to the Agency within 60 days after testing.

a. *Visible Emissions*. A visible emissions test shall be conducted on each flare using EPA Method 22 to demonstrate compliance with the emissions standards for opacity in Specific Condition **3.B.13.**

b. *Destruction Efficiency*. A destruction efficiency test shall be conducted on each flare using the procedures in Specific Condition **3.B.25.** to demonstrate compliance with the emission standards in Specific Condition **3.B.14.**

c. *H_2S*. The Permittee shall annually test one of the flare outlets controlling landfill gas from Area 8 for H_2S to ensure it does not exceed 2.2 lbs $H_2S/10^6$ scf LFG (see Specific Condition **3.B.15.**). A different flare should be tested each time a H_2S test is conducted until all flares have been tested. Once all flares that receive gas from Area 8 have been tested, the cycle shall repeat according to the frequency specified in Specific Condition **3.B.23.b.**

[Regulation 1, Section 3.07; WAC 173-401-630(1); and, NOC 11307, Conditions 12 & 26]

3.B.23. Flare Test Methods.

a. The Permittee shall test flares #1, #2, #3, #4 and #5 using EPA Methods 1 & 2 (inlet & outlet) and recording temperatures and gas flows; and shall test Flare #3, #4 & #5 by fixed gas analysis using GC-TCD (inlet), EPA Methods 4 and TQ-14 (inlet and outlet), and EPA Methods 3A, 6C, 7E, and 26A (outlet). The Permittee shall operate Flare #5 at temperatures and flows consistent with those used during the source test. [NOC 6002, Condition 7; NOC 7076, Condition 7; NOC 8062, Condition 7]

b. In order to demonstrate compliance with Specific Conditions **3.B.15.** & **3.B.22.c.**, the annual test must be conducted using EPA Method 15 or an alternative method approved by the agency in writing. If, after two years of annual testing, the H_2S content is found to be consistently less than or equal to the limit in Specific Condition **3.B.15.**, the periodic testing rate can be changed to once every 5 years. [NOC 11307, Condition 13]

3.B.24. Test Methods and Procedures Following Changes to Flare. A visible emissions test on the flare using EPA Method 22 (two-hour minimum testing period), a heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations, shall be conducted on the flare following any changes to location, replacement of system components, or substantial maintenance. The Agency shall be notified at least 21 days prior to testing to allow witnessing. Results shall be submitted to the Agency within 60 days after testing. [Reg. I, Section 3.07; WAC 173-401-630(1); and, 40 CFR 60.18(f)(4)]

3.B.25. Test Methods and Procedures for Methane Concentration. When testing is required, EPA Method 25 or 25C (Method 25C may be used at the inlet only) of 40 CFR 60, Appendix A-7, must be used to determine compliance with the 98 weight-percent efficiency or the 20 parts per million by volume outlet concentration level, unless another method to demonstrate compliance has been approved by the Agency as provided by 40 CFR 60.767(c)(2) or 63.1981(d)(2). EPA Method 3, 3A, or 3C must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), EPA Method 25A should be used in place of EPA Method 25. EPA Method 18 may be used in conjunction with EPA Method 25A on a limited basis (compound specific, e.g., methane) or EPA Method 3C may be used to determine methane. The methane as carbon should be subtracted from the EPA Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The owner or operator must divide the NMOC concentration as carbon by 6 to convert from the CNMOC as carbon to CNMOC as hexane. Equation 4 must be used to calculate efficiency:

Control Efficiency = ($NMOC_{in}$ – $NMOC_{out}$) / ($NMOC_{in}$) (Eq.4)

Where:

$NMOC_{in}$ = Mass of NMOC entering control device.

$NMOC_{out}$ = Mass of NMOC exiting control device.

[40 CFR 60.764(d) & 63.1959(d); and, NOC 11307, Condition 14]

3.B.26. Testing Conditions. The performance tests required in 40 CFR 63.1959(b)(2)(iii)(B), must be conducted under such conditions as the Agency specifies to the owner or operator based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the Agency. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the owner or operator shall make available to the Agency such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1959(f)]

3.B.27. Testing Plan. The Permittee shall submit a test notification to the Puget Sound Clean Air Agency in accordance with Section 3.07 of Regulation I at least 30 days before a source test is conducted. [NOC 7076, Condition 5; and, NOC 11307, Conditions 18 & 19]

3.B.28. Area 8 Test Protocol. The Permittee shall submit a test plan/protocol to the Agency 30 days before conducting performance tests on the flares for which compliance with Specific Conditions **3.B.15.**, **3.B.22.c.** & **3.B.37.** are being verified. [NOC 11307, Conditions 18 & 19]

Recordkeeping and Reporting Requirements

3.B.29. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Equipment Removal	30 days prior to removal or cessation	**3.B.30.**
NSPS XXX Annual Reports	January 30	**3.A.27.**
NESHAP AAAA Semi-annual Reports	July 30 and January 30	**3.A.28.**
Compliance Test Reports	60 Days after test	**3.B.31.** & **4.C.21.**

[WAC 173-401-630(1)]

*{Note: There is an annual report requirement under 40 CFR 60 Subpart XXX that is addressed in Specific Condition **3.A.27.** and a semi-annual report requirement under 40 CFR 63 Subpart AAAA and that is addressed in Specific Condition **3.A.28.** under Emission Unit 9. Both reports are required to also include information pertaining to the flares.}*

3.B.30. Equipment Removal Report. The owner or operator must submit an equipment removal report to the Agency 30 days prior to removal or cessation of operation of the control equipment.

a. The equipment removal report must contain all of the following items:
   (1) A copy of the closure report submitted in accordance with 40 CFR 60.767(e) or 63.1981(f) (see Specific Condition **3.A.25.**);
   (2) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested,

and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

(3) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

b. The Agency may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.762(b)(2)(v) or 63.1957(b) have been met (see Specific Conditions **3.A.2.** & **3.A.9.**).

[40 CFR 60.767(f) & 63.1981(g)]

3.B.31. Compliance Test Reports.

a. Test reports shall be submitted in accordance with Specific Condition (Specific Condition **4.C.21.**) [Regulation I, Section 3.07]

b. The Permittee shall submit a test report to the Puget Sound Clean Air Agency no later than 60 days after a performance test is conducted under Permit Condition **3.B.15.** and/or **3.B.38.** This source test shall outline the results of the test and indicate whether the owner and/or operator failed any test. [NOC 11307, Conditions 20 & 26]

3.B.32. Non-Compliance Reports. The Permittee shall report to the agency no later than 30 days after the violation is discovered all instances when either:

a. The 3-hour rolling average flare temperature readings were below the set point.

b. Startup, shutdown or malfunction events lasted longer than an hour and the flare was actively receiving landfill gas.

(Also see Specific Condition **4.C.5.** for additional reporting requirements for deviations.)
[NOC 11307, Condition 22]

3.B.33. Flare Records. The owner or operator must keep up-to-date, readily accessible records for the life of the control equipment of the following data as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal.

a. *Enclosed Flare*.

(1) The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(2) The percent reduction of NMOC determined as specified in 40 CFR 60.762(b)(2)(iii)(B) 63.1959(b)(2)(iii)(B) (see Specific Condition **3.B.14.**) achieved by the control device.

b. *Non-enclosed Flare*.

(1) The flare type (*i.e.,* steam-assisted, air-assisted, or nonassisted).

(2) All visible emission readings.

(3) Heat content determination,

(4) Flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18 (see Specific Condition **3.B.21.**;

(5) Continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

b. *Gas Treatment System*.

(1) Bypass records. Records of the flow of landfill gas to, and bypass of, the treatment system.

(2) Site-specific treatment monitoring plan, to include:

(a) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.
(b) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.
(c) Documentation of the monitoring methods and ranges, along with justification for their use.
(d) Identify who is responsible (by job title) for data collection.
(e) Processes and methods used to collect the necessary data.
(f) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

[40 CFR 60.768(b)(2), (b)(4) & (b)(5) and 63.1983(b)(2), (b)(4) & (b)(5)]

3.B.34. Flare Operation Parameter Records. The owner or operator must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.766 or 63.1961 (see Specific Condition **3.B.16.**) as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

a. For enclosed combustors, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.762(b)(2)(iii) or 63.1959(b)(2)(iii) (see Specific Condition **3.A.2.c(1)**) was determined constitutes exceedances that must be recorded and reported under 40 CFR 60.767(g) or 63.1981(h) (see Specific Condition **3.A.27.**).
b. Continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.766 or 63.1961(b)(2)(ii), (c)(2)(ii), and (g)(2) (see Specific Condition **3.B.16.**).
c. Continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.766(c) (see Specific Condition **3.B.17.b.**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
d. The owner or operator must keep records of periods when the collection system or control device is not operating.

[40 CFR 60.768(c)(1), (c)(2), (c)(4) & (c)(5) and 63.1983(c)(1), (c)(2), (c)(4) & (c)(5)]

3.B.35. Exceedance Records. The Permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 40 CFR 60.763 or 63.1958 (see Specific Condition **3.A.6.**), the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. All 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below average combustion temperature during the most recent performance test at which compliance with 40 CFR 60.762(b)(2)(iii) was determined must be recorded and reported under 40 CFR 60.767(g) or 63.1981(h) (see Specific Condition **3.A.37.c.**). [40 CFR 60.768(c)(1)(i) & (e)(1) and 63.1983(c)(1)(i) & (e)(1)]

3.B.36. Record Retention. Records demonstrating compliance with this permit must be kept and maintained onsite for at least 5 years. Such records and the O&M plan shall be made available for review by the Puget Sound Clean Air Agency upon request. [NOC 11307, Condition 28]

Additional Chemical Recordkeeping and Reporting Requirements

3.B.37. Chemical Limits and Reporting.

a. The Permittee shall report total emissions of the following pollutants to the Agency within 30 days of any test result showing detected levels in the landfill gas that are higher than the following:
   (1) Vinyl Chloride - 1800 ug/m^3.
   (2) Acrylonitrile - 557 ug/m^3.
   (3) 1,1,1,2-Tetrachloroethane - 2167 ug/m^3.
   (4) Bromodichloromethane - 430 ug/m^3.

b. If total emissions are above any SQER found in WAC 173-460-150, the Permittee shall submit a permit application to the Agency within 90 days of submitting the report of actual emissions. Total emissions for this condition means all emissions coming from fugitive sources, the leachate pond and emissions coming from the flare(s).

[NOC 11307, Condition 15]

3.B.38. Compliance with Chemical Reporting Levels. In order to demonstrate compliance with Specific Condition **3.B.37.**, the Permittee shall conduct or shall have conducted an initial characterization of the landfill gas that would go to the flare or the landfill gas-to-energy facility within 12 to 18 months of Area 8 receiving waste. The flare inlet gas shall be analyzed for, at a minimum, the compounds listed below. All concentrations shall be reported on a dry basis.

a. Vinyl Chloride, Acrylonitrile, 1,1,1,2-Tetrachloroethane, and Bromodichloromethane.
b. The owner/operator shall conduct an additional characterization of the landfill gas in the year 2026 to ensure the limits of Specific Condition **3.B.37.** are still being met.

[NOC 11307, Condition 16]

Additional Requirements Unique to Flare #8. (In addition to the requirements above.)

3.B.39. Design and Operational Requirements. The Permittee shall ensure Flare #8 is/was designed and is operated in accordance with the following:

a. 40 CFR 60.18 and 40 CFR 63.11(b) (see Specific Conditions **3.B.21.** & **3.B.40.**), except that the net heating value of the combusted landfill gas as determined in 40 CFR 60.18(f)(3) (see Specific Condition **3.B.21.b.**) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under 40 CFR 60.18(f)(4) (see Specific Condition **3.B.21.d.**).
b. Achieve a minimum of 98% destruction of all non-methane organic compounds or reduce the outlet NMOC concentration to less than 20 ppm by volume, dry basis as hexane at 3 percent oxygen.
c. Achieve an outlet standard of 0.068 pounds of NO_X per MMBtu heat input.
d. Achieve an outlet standard of 0.31 pounds of CO per MMBtu heat input.

No ongoing compliance test is required for the NOx and CO limits of this permit condition. The Agency reserves the right to require the source to conduct performance testing under Regulation 1, Article 1, Section 3.05(b). [40 CFR 60.762(b)(2)(iii)(A), 40 CFR 60.764(e); and, NOC 12168, Condition 3.]

3.B.40. Operational Design and Flow Monitoring Requirements. The Permittee shall ensure that Flare #8 is/was designed and is operated in accordance with following:

a. The Permittee shall install, maintain and operate a heat sensing device to demonstrate presence of flame.
b. The flare shall meet either:

(1) The heat content specifications of40 CFR 60.18(c)(3)(ii) and of 40 CFR 63.11(b)(6)(ii) for a net heating value of gas being combusted and the maximum tip velocity specifications of 40 CFR 60.18(c)(4) and 40 CFR 63.11(b)(7) or40 CFR 63.11(b)(8); or
(2) The requirements of 40 CFR 60.18(c)(3)(i) and of 40 CFR 63.11(b)(6)(i) for an exit velocity between 122 ft/sec and the maximum velocity calculated by 40 CFR 60.18(c)(3)(i)(A) if the flare is nonassisted with diameter of 3 inches or greater with a hydrogen content of 8.0% by volume or greater.

c. If following the requirements of 40 CFR 60.18(c)(3)(ii) and 40 CFR 60.18(c)(4)(ii), the maximum velocity shall be calculated according to 40 CFR 60.18(f)(5) and 40 CFR 63.11(b)(7)(i).
d. The flare shall be equipped with a flow measurement device in order to demonstrate compliance with the velocity requirements of Paragraph b. The flow measurement device shall record the flow to the control device at least once every fifteen minutes.

[NOC 12168, Condition 4.a., c., d. & e.]

3.B.41. Continuous Igniter. The Permittee shall install and operate a continuous igniter mechanism and a thermocouple and recorder measuring the pilot light and burner flame temperature of the flare, or an equivalent device to detect the presence of a flame. The owner or operator must collect at least one measured data point for each 15-minute monitoring period in every hour the flare is receiving landfill gas in order to demonstrate compliance with Condition #**Error! Reference source not found.**. Records indicating flame presence shall be maintained on file and made available upon the request of Agency personnel. [NOC 12168, Condition 5.]

3.B.42. Flare Bypass Prohibited. A bypass of the flare is a violation of this permit and must be reported as a deviation as required by Specific Condition **3.B.48.** (See also Specific Condition **3.B.11.)** [NOC 12168, Condition 6.]

3.B.43. Spark Igniter Inspections. The Permittee shall check for visible emissions from the flare, and ensure that the flare's spark igniter mechanism is in good working order at least once each week. The Permittee shall maintain the inspection record of the visible emissions and the spark mechanism. [NOC 12168, Condition 7.]

3.B.44. Fuel. Only landfill gas may be routed to the 1,500 scfm flare. No supplemental fuel shall be used. [NOC 12168, Condition 9.]

3.B.45. Corrective Action Required. The Permittee shall take corrective action whenever the flare flame is not present. [NOC 12168, Condition 10.]

3.B.46. Thermocouple Calibration Required. The Permittee shall calibrate and maintain the thermocouple or equivalent device serving the 1,500 scfm flare according to manufacturer specifications with calibration or replacement at least once per calendar year. Calibration and maintenance records shall be maintained according to Specific Condition **3.B.49.** [NOC 12168, Condition 11.]

3.B.47. Gas Flow Calibration Required. The Permittee shall calibrate and maintain the gas flow measurement device serving the 1,500 scfm flare according to manufacturer specifications. Calibration and maintenance records shall be maintained according to Specific Condition **3.B.49.** [NOC 12168, Condition 12.]

3.B.48. Uncontrolled Venting Report. The Permittee shall report to the agency no later than 30 days after the violation is discovered all instances when the flare's flame was not present and landfill gas was venting to the atmosphere without being treated by the flare. [NOC 12168, Condition 13.]

3.B.49. Record Retention. Records demonstrating compliance with these specific conditions must be kept and maintained onsite for at least 5 years. Such records and the O&M plan shall be made

available for review by the Puget Sound Clean Air Agency upon request. [NOC 12168, Condition 14.]

3.B.50. Notice of Completion. Within 30 days of completion of the installation of Flare #8, the Permittee shall file a Notice of Completion with the Agency. Each Notice of Completion shall be submitted on a form provided by the Agency, and shall specify the date upon which operation of the stationary source has commenced or will commence. [Regulation I, Section 6.09]

Back to Table of Contents

Subsection 3.C. "Existing" Emergency Generators.

The specific conditions in this section apply to the following emissions unit:

Brief Description	PSCAA ID
"Existing" Emergency Generators Subject to 40 CFR 63, Subpart ZZZZ.	EU-10

This section of the permit addresses stationary diesel fuel-fired (compression ignition) reciprocating internal combustion engine (RICE)-driven emergency generators. These units did not require a notice of construction Order of Approval, but are affected sources under the RICE NESHAP (40 CFR 63, Subpart ZZZZ). These engines operate only under emergency situations and for periodic maintenance and reliability testing as defined in 40 CFR 63, Subpart ZZZZ, and are not under contract to be operated for purposes of either emergency or non-emergency demand response operations.

The following table provides identifying information for the engines:

ID	Location	HP	Model Year	Manufacturer	Model No.	Serial No.
GS001	Offices	86	1988	Cummins	4BT-3.9	44244908
GS002	Shop	166	1988	Cummins	GBT-5.9	44253428
GS003	PS 1	295/ 335	1985	Cummins	NT855GS2	43103945
GS004	PS 4	355	1994	Cummins	NT855G$S	RK1951769194
GS006	LEPS	200	1994	John Deere	431RSL2010RRW	WJ3726616
GS016	NFS	492	1997	Caterpillar	3406	4JK00325
GS020	Lunchroom	211	1997	International Navistar Detroit	GA205	PE4045T665425
GS022	Weld Shop	275	1999	Mitsubishi	44244908	33853

These emissions units consist of compression ignition (CI) engine-driven emergency generators, which are regulated under 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary RICE. This permit section of the permit addresses "existing" stationary CI RICE less than or equal to 500 HP that are located at a major source of HAP and that have not been modified or reconstructed after 6/12/2006. Unless these RICE are modified or reconstructed after 7/11/2005, NSPS 40 CFR 60, Subpart IIII, will not apply.

Back to Table of Contents

Essential Potential to Emit (PTE) Parameters

3.C.1. Hours of Operation.

a. *Emergency Situations.* There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(1)]

b. *Maintenance and Testing.* Each engine is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 CFR 63.6640(f)(2)(i)]

c. *Non-emergency Situations*. These emergency RICE may be operated for up to 50 hours per calendar year in nonemergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph b., above. [40 CFR 60.4211(f)(3)]

3.C.2. Agency Fuel Oil Standards. It shall be unlawful for any person to cause or allow the combustion of oil in fuel burning equipment or refuse burning equipment that exceeds any of the following limits unless that person has obtained an Order of Approval from the Agency in accordance with Article 6 of Regulation I:

a. Ash ..... 0.1% (maximum)
b. Sulfur .....1.0% (maximum for used oil)
c. Sulfur .....2.00% (maximum for fuel oil)
d. Lead.....100 ppm (maximum)
e. Arsenic.....5 ppm (maximum)
f. Cadmium.....2 ppm (maximum)
g. Chromium .....10 ppm (maximum)
h. Total Halogens.....1,000 ppm (maximum)
i. Polychlorinated Biphenyls (PCBs).....2 ppm (maximum)
j. Flash Point.....100°F (minimum)

[PSCAA Reg I: 9.08(a) (5/1/04); RCW 70A.15.4510 (1991) State Only]

3.C.3. Work or Management Practice Standards.

a. *Oil*. Change oil and filter every 500 hours of operation or annually, whichever comes first. [40 CFR 63.6603(a) & Table 2d.4.a.]
b. *Air Cleaner*. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first and replace as necessary. [40 CFR 63.6603(a) & Table 2d.4.b.]
c. *Hoses and Belts*. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603(a) & Table 2d.4.c.]
d. *Operation and Maintenance*. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow your own maintenance plan which must provide, to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution, control practice for minimizing emissions. [40 CFR 63.6625(e), 63.6640(a) & Table 6.9.a.]
e. *Engine Startup*. During periods of startup the owner or operator must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6625(h)]
f. *Oil Analysis*. The owner or operator has the option of using an oil analysis program to extend the oil change requirement. The oil analysis must be performed at the same frequency specified for changing the oil in paragraph **a**., above. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

Monitoring of Operations

3.C.4. Hour Meter. The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

Compliance

3.C.5. Continuous Compliance. Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]

3.C.6. Operation and Maintenance of Equipment. At all times the owner or operator must operate and maintain, any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

Reporting Requirements

3.C.7. Delay of Performing Work Practice Requirements. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Specific Condition **3.C.3.**, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required (report as a deviation, see Specific Condition **4.C.5.**) and the federal, state or local law under which the risk was deemed unacceptable. [40 CFR 63, Subpart ZZZZ, Table 2c, footnote 1]

Recordkeeping Requirements

3.C.8. Performance and Compliance Records. The owner or operator must keep:

a. A copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted. [40 CFR 63.6655(a)(1)]
b. Records of the occurrence and duration of each malfunction of operation. [40 CFR 63.6655(a)(2)]
c. Records of all required maintenance performed on the hour meter. [40 CFR 63.6655(a)(4)]
d. Records of actions taken during periods of malfunction to minimize emissions in accordance with Specific Condition **3.C.6.**, including corrective actions to restore malfunctioning process and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a)(5)]
e. Records of the actions required in specific condition **3.C.3.d.** to show continuous compliance with each emission limitation or operating requirement. [40 CFR 63.6655(d)]
f. Records of the Work or Management Practice Standards specified in Specific Condition **3.C.3.** [Rule 62-213.440(1)(b)2.a., F.A.C.]
g. Records of the maintenance conducted in order to demonstrate that the RICE was operated and maintained according to your own maintenance plan. [40 CFR 63.6655(e)]
h. Records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for emergency demand response operation or for periods of voltage or frequency deviations, the owner or operator must keep

records of the notification of the emergency situation, and the time of engine operation for these purposes. [40 CFR 63.6655(f)]

[WAC 173-401-630(1); and, 40 CFR 63.6655]

3.C.9. Record Retention.

a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.

b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 & 40 CFR 63.10(b)(1)]

General Provisions

3.C.10. 40 CFR 63 Subpart A - General Provisions. The owner or operator shall comply with the following applicable requirements of 40 CFR 63 Subpart A - General Provisions, which have been adopted by reference in Rule 62-204.800(11)(d)1., F.A.C., except that the Agency is not the Administrator for purposes of 40 CFR 63.5(e), 40 CFR 63.5(f), 40 CFR 63.6(g), 40 CFR 63.6(h)(9), 40 CFR 63.6(j), 40 CFR 63.13, and 40 CFR 63.14. Link to 40 CFR 63, Subpart A - General Provisions

Table 8 to Subpart ZZZZ of Part 63

General Provisions Citation	Subject of Citation
§63.1	General applicability of the General Provisions
§63.2	Definitions (additional terms defined in 43 CFR 63.6675)
§63.3	Units and abbreviations
§63.4	Prohibited activities and circumvention
§63.5	Construction and reconstruction
§63.6(a)	Applicability
§63.9(a)	Applicability and State delegation of notification requirements
§63.9(b)(1)-(5)	Initial notifications (except that §63.9(b)(3) is reserved)
§63.9(i)	Adjustment of submittal deadlines
§63.9(j)	Change in previous information
§63.10(a)	Administrative provisions for recordkeeping/reporting
§63.10(b)(1)	Record retention
§63.10(b)(2)(vi)–(xi)	Records
§63.10(b)(2)(xii)	Record when under waiver
§63.10(b)(2)(xiv)	Records of supporting documentation
§63.10(b)(3)	Records of applicability determination
§63.10(d)(1)	General reporting requirements
§63.10(f)	Waiver for recordkeeping/reporting
§63.12	State authority and delegations
§63.13	Addresses
§63.14	Incorporation by reference
§63.15	Availability of information

[40 CFR 63.6645(a), 63.6665 & Table 8 to Subpart ZZZZ of Part 63]

Back to Table of Contents

Subsection 3.D. "New" Emergency Generators.

The specific conditions in this section apply to the following emissions units:

Brief Description	PSCAA ID
"New" Emergency Generator Subject to 40 CFR 60, Subpart IIII.	EU-11

This section of the permit addresses a stationary diesel fuel-fired (compression ignition) reciprocating internal combustion engine (RICE)-driven emergency generator. This unit did not require a Notice of Construction Order of Approval but is an affected source under the RICE NSPS (40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines). This engine operates only under emergency situations and for periodic maintenance and reliability testing as defined in 40 CFR 60, Subpart IIII, and is not under contract to be operated for purposes of either emergency or non-emergency demand response operations.

The following table provides identifying information for the engines:

ID	Location	HP	Model Year	liters/cylinder (l/c)	Manufacturer	Model No.	Serial No.
GS029	PS 2	87	2007	1.125	John Deere	4045TF270E	PE4045T665425

This emissions unit consists of a compression ignition (CI) engine-driven emergency generator, which is regulated under 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

Back to Table of Contents

Essential Potential to Emit (PTE) Parameters

3.D.1. Authorized Fuel. This Stationary CI RICE must use diesel fuel that meets the following requirements for non-road diesel fuel:

a. *Sulfur Content.* The sulfur content shall not exceed 15 ppm = 0.0015% by weight (ultra-low sulfur) for non-road fuel.
b. *Cetane and Aromatic*. The fuel must have a minimum cetane index of 40 or must have a maximum aromatic content of 35 volume percent.
c. *Use of Existing Fuel.* Any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

[40 CFR 60.4207(b) & 40 CFR 80.510(b)]

3.D.2. Agency Fuel Oil Standards. It shall be unlawful for any person to cause or allow the combustion of oil in fuel burning equipment or refuse burning equipment that exceeds any of the following limits unless that person has obtained an Order of Approval from the Agency in accordance with Article 6 of Regulation I:

a. Ash.....0.1% (maximum)
b. Sulfur .....1.0% (maximum for used oil)
c. Sulfur .....2.00% (maximum for fuel oil)
d. Lead.....100 ppm (maximum)
e. Arsenic.....5 ppm (maximum)
f. Cadmium.....2 ppm (maximum)
g. Chromium .....10 ppm (maximum)
h. Total Halogens.....1,000 ppm (maximum)
i. Polychlorinated Biphenyls (PCBs).....2 ppm (maximum)
j. Flash Point.....100°F (minimum)

[PSCAA Reg I: 9.08(a) (5/1/04); RCW 70A.15.4510 (1991) State Only]

3.D.3. Restricted Hours of Operation.

a. *Emergency Situations*. There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 60.4211(f)(1)]

b. *Maintenance and Testing.* This RICE is authorized to operate for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours/year. The owner or operator may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours/year. [40 CFR 60.4211(f)(2)(i)]

c. *Non-emergency Situations.* This engine is authorized to operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4211(f)(3)]

Emissions Standards

3.D.4. NMHC and NOX Emissions. Combined emissions of NMHC plus NO_X shall not exceed 7.5 grams per kilowatt-hour (g/kW-hr). [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b) & 40 CFR 1039, Appendix I(b), Table 2]

3.D.5. CO Emissions. Emissions of CO shall not exceed 5.0 g/kW-hr. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b) & 40 CFR 1039, Appendix I(b), Table 2]

3.D.6. PM Emissions. Emissions of PM shall not exceed 0.40 g/kW-hr. [40 CFR 60.4202(a)(2), 40 CFR 60.4205(b) & 40 CFR 1039, Appendix I(b), Table 2]

Monitoring Requirements

3.D.7. Hour Meter. The owner or operator must install a non-resettable hour meter if one is not already installed. [40 CFR 60.4209(a)]

Testing and Compliance Requirements

3.D.8. Operation and Maintenance. The owner or operator must operate and maintain the stationary CI ICE according to the manufacturer's written instructions. In addition, owners and operators may only change those emission-related settings that are permitted by the manufacturer. This RICE must be maintained and operated to meet the emissions limits in Specific Conditions **3.D.4.** through **3.D.6.** over the entire life of the engine. [40 CFR 60.4206 & 4211(a)]

3.D.9. Engine Certification Requirements. The owner or operator must comply with the emissions standards specified above by having purchased an engine certified by the manufacturer to meet those limits. The engine must have been installed and configured according to the manufacturer's emission-related specifications, except as permitted in Specific Condition **3.D.10**. [40 CFR 60.4211(c)]

3.D.10. Compliance Requirements Due to Loss of Certification. If you (the owner or operator) do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain

and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211(c), 4211(g) & 4211(g)(3)]

3.D.11. Testing Requirements. In the event performance tests are required pursuant to Specific Condition **3.D.10.**, the following requirements shall be met:

a. *Testing Procedures*. The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F. Link to Subpart F

b. *NTE Requirements*. Exhaust emissions from this RICE must not exceed the not-to-exceed (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standards (STD) in Specific Conditions **3.D.4.** through **3.D.6.**, determined from the following equation:

NTE requirement for each pollutant = (1.25) x (STD)

[40 CFR 60.4212(a) & (c)]

3.D.12. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Section 4., Subsection E. – Test Methods and Averaging Periods, of this permit. [PSCAA Regulation I, Section 3.07(a)]

Recordkeeping and Reporting Requirements

3.D.13. Testing Notification. At such time that the requirements of Specific Condition **3.D.10.** become applicable, the owner or operator shall notify the compliance authority of the date by which the initial compliance test must be performed. [Rule 62-213.440(1)]

3.D.14. Hours of Operation Records. The owner or operator must keep records of the operation of the engine in emergency and non-emergency services that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]

3.D.15. Maintenance Records. To demonstrate conformance with the manufacturer's written instructions for maintaining the certified engine and to document when compliance testing must be performed pursuant to Specific Conditions **3.D.10.** & **3.D.11.**, the owner or operator must keep the following records:

a. Engine manufacturer documentation and certification indicating compliance with the standards.

b. A copy of the manufacturer's written instructions for operation and maintenance of the certified engine.

c. A written maintenance log detailing the date and type of maintenance performed on the engine, as well as any deviations from the manufacturer's written instructions.

[Rule-62-213.440(1), F.A.C.; and, 40 CFR 60.4211(c) & (g)]

General Provisions

3.D.16. 40 CFR 60, Subpart A - General Provisions. The owner or operator shall comply with the applicable requirements of 40 CFR 60, Subpart A - General Provisions, as specified below. Link to 40 CFR 60, Subpart A - General Provisions.

Table 8 to Subpart IIII of Part 60 - Applicability of General Provisions to Subpart IIII

General Provisions Citation	Subject of Citation
§ 60.1	General applicability of the General Provisions
§ 60.2	Definitions (see also § 60.4219)
§ 60.3	Units and abbreviations
§ 60.4	Address
§ 60.5	Determination of construction or modification
§ 60.6	Review of plans
§ 60.9	Availability of information
§ 60.10	State Authority
§ 60.12	Circumvention
§ 60.14	Modification
§ 60.15	Reconstruction
§ 60.16	Priority list
§ 60.17	Incorporations by reference
§ 60.19	General notification and reporting requirements

[40 CFR 60.4218]

Back to Table of Contents

Subsection 3.E. Gasoline Dispensing Operations.

The specific conditions in this section apply to the following emissions units:

Brief Description	PSCAA ID
Gasoline Dispensing Operations	EU-12

The gasoline dispensing operations consist of a Stage 1 & Stage 2 dual-point·vapor recovery system on two, 4,000-gallon, underground gasoline storage tanks, and three OPW-211V-(22, 24, 47 or 49) dispensing nozzles on a Gasboy Vapor Balance Style Dispenser with Side Mount. Equipment was installed as per CARB Executive Orders·G-70-97-A (Stage 1) and G-70-52-AM (Stage 2). Annual throughput of gasoline is approximately 40,000 gallons per year.

The gasoline dispensing equipment is subject to regulation pursuant to Section 2.07 of Regulation II of the Puget Sound Clean Air Agency and Order of Approval #7942, issued October 6, 1999.

Essential Potential to Emit (PTE) Parameters

3.E.1. Gasoline Throughput. The total annual throughput of gasoline dispensed from this facility shall be less than 200,000 gallons on a twelve-month rolling average basis. [PSCAA Regulation II, Section 2.07(c)(2)]

3.E.2. Hours of Operation. The hours of operation are not restricted. [WAC 173-401-605(1)]

General Control Device and Work Practice Requirements

3.E.3. Stage 1 Controls.

a. *Maintenance Requirements*. All Stage 1 vapor recovery systems shall be operated and maintained in accordance with the applicable CARB Executive Order in effect on the date of installation. (See **Attachment 6-3** & **Attachment 6-4**)

b. If the Permittee installs or replaces a gasoline tank or a Stage 1 vapor recovery system, it/they shall be equipped with a CARB-certified EVR system. This requirement includes

(1) Installation or replacement of a stationary storage tank rated more than 1,000 gallons that stores gasoline.

(2) Replacement of Stage 1 components that are upgrades, including but not limited to replacement of all spill buckets, all drop tubes, or all adaptors.

[PSCAA Regulation II, Section 2.07(c) & (d)]

3.E.4. Maintenance of Equipment. This equipment shall be maintained in good working order. [PSCAA Regulation I, Section 9.20(a)]

Recordkeeping Requirements

3.E.5. Recordkeeping Requirements for Owners or Operators. The Permittee must keep a copy of all records of installation, repair, and maintenance of the gasoline dispensing facility equipment on-site at the facility and available for inspection for at least 5 years after the date the record was prepared. [PSCAA Regulation II, Section 2.07(g); and, WAC 173-401-615(1)(b) & (2)(c)]

Back to Table of Contents

Subsection 4.A. Standard Terms and Conditions.

The Generally Applicable requirements contained in Section **4.**, Subsections **A.** – **E.** of this permit apply to the entire facility.

4.A.1. Duty to Comply.

a. The permittee must comply with all conditions of this chapter 401 permit. Any permit noncompliance constitutes a violation of chapter 70A.15 RCW and, for federally enforceable provisions, a violation of the Federal Clean Air Act (FCAA). Such violations are grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [WAC 173-401-620(2)(a)]

b. It shall be unlawful for any person to cause or allow the operation of any source subject to the requirements of WAC 173-401 without complying with the provisions of WAC 173-401 and any permit issued under its authority. [PSCAA Reg I, Section 7.05]

c. All sources and emission units are required to meet the emission standards of WAC 173-400. [WAC 173-400-040(1)(a)]

4.A.2. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [WAC 173-401-620(2)(b)]

4.A.3. Permit Actions. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [WAC 173-401-620(2)(c)]

4.A.4. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege. [WAC 173-401-620(2)(d)]

4.A.5. Duty to Provide Information. The permittee shall furnish to the Puget Sound Clean Air Agency, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Puget Sound Clean Air Agency copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to the Puget Sound Clean Air Agency along with a claim of confidentiality. Puget Sound Clean Air Agency shall maintain confidentiality of such information in accordance with RCW 70A.15.2510. [WAC 173-401-620(2)(e); and, RCW 70A.15.2510]

4.A.6. Permit Fees. The permittee shall pay fees as a condition of this permit in accordance with the Puget Sound Clean Air Agency's fee schedule in accordance with Puget Sound Clean Air Agency's Regulation I, Section 7.07. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as prescribed in chapter 70.A15 RCW. [WAC 173-401-620(2)(f) and PSCAA Regulation I, Section 7.07; and, RCW 70A.15]

4.A.7. Emissions Trading. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit. [WAC 173-401-620(2)(g)]

4.A.8. Severability. If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable. [WAC 173-401-620(2)(h)]

4.A.9. Permit Appeals. This permit or any conditions in it may be appealed only by filing an appeal with the pollution control hearings board and serving it on the Puget Sound Clean Air Agency within thirty days of receipt pursuant to RCW 43.21B.310. This provision for appeal in this section is

separate from and additional to any federal rights to petition and review under §505(b) of the FCAA. [WAC 173-401-620(2)(i)]

4.A.10. Permit Continuation. This permit and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted. [WAC 173-401-620(2)(j)]

Back to Table of Contents

Subsection 4.B. General Permitting Requirements.

4.B.1. Permit Renewal. The permittee shall submit a timely and complete Title V permit renewal application to the Puget Sound Clean Air Agency no less than six months prior the expiration of this permit. [WAC 173-401-710(1) and WAC 173-401-500(3)(d)]

4.B.2. Expired Permits. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application has been submitted consistent with Specific Condition **4.B.1.** and WAC 173-401-500. All terms and conditions of the permit shall remain in effect after the permit itself expires if a timely and complete permit application has been submitted. [WAC 173-401-710(3)]

4.B.3. Revocation of Permits. The Puget Sound Clean Air Agency may revoke a permit only upon the request of the permittee or for cause. The Puget Sound Clean Air Agency shall provide at least thirty days written notice to the holder of a current operating permit prior to revocation of the permit or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to meet with the Puget Sound Clean Air Agency prior to the authority's final decision. A revocation issued may be issued conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date. Nothing in this condition shall limit the Puget Sound Clean Air Agency's authority to issue emergency orders. [WAC 173-401-710(4)]

4.B.4. Reopening for Cause. This permit shall be reopened and revised under any of the circumstances described in WAC 173-401-730(1). Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable. [WAC 173-401-730]

4.B.5. Administrative Permit Amendments. The permittee may file for an administrative permit amendment in accordance with WAC 173-401-720(3). The permittee may implement the changes addressed in the request for an administrative request immediately upon submittal of the request. An "administrative permit amendment" is a permit revision that:

a. Corrects typographical errors;
b. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
c. Requires more frequent monitoring or reporting by the permittee;
d. Allows for a change in ownership or operational control of a source where the Puget Sound Clean Air Agency determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Puget Sound Clean Air Agency;
e. Incorporates into the permit the terms, conditions, and provisions from orders approving notice of construction applications processed under an EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of WAC 173-401-700, 173-401-725, and 173-401-800 that would be applicable to the change if it were subject to review as a permit modification, and compliance requirements substantially equivalent to those contained in WAC 173-401-600 through 173-401-650.

[WAC 173-401-720(1) & (3)]

4.B.6. Permit shield for Administrative Permit Amendments. The Puget Sound Clean Air Agency shall, upon taking final action granting a request for an administrative permit amendment, allow coverage

by the permit shield in WAC 173-401-640 for administrative permit amendments made pursuant to Specific Condition **4.B.5.e.** [WAC 173-401-720(4)]

4.B.7. Changes Not Requiring Permit Revisions.

a. *Authorization*. The permittee is authorized to make the changes described in WAC 173-401-722 without a (Title V air operating) permit revision, provided the following conditions are met:
   (1) The proposed changes are not Title I modifications;
   (2) The proposed changes do not result in emissions which exceed those allowable under the permit, whether expressed as a rate of emissions, or in total emissions;
   (3) The proposed changes do not alter permit terms that are necessary to enforce limitations on emissions from the units covered by the permit; and
   (4) The facility provides the administrator and PSCAA with written notification at least seven days prior to making the proposed changes except that written notification of a change made in response to an emergency shall be provided as soon as possible after the event.

b. *Permit Attachments*. The source (permittee) and permitting authority (Agency) shall attach each notice to their copy of the relevant permit.

c. *Section 502(b)(10) Changes*. Pursuant to the conditions in paragraph a., the permittee is authorized to make section 502(b)(10) changes (changes that contravene an express permit term, but do not include~~d~~ changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements), without a permit revision.
   (1) For each such change, the written notification required under paragraph a.(4) shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
   (2) The permit shield authorized under WAC 173-401-640 shall not apply to any change made pursuant to this specific condition.

d. *SIP Authorized Emissions Trading and Emissions Caps*. Changes without permit revision also include SIP authorized emission trading, and emission caps. Requirements for notification are included in WAC 173-401-722(3) and (4).

e. *Permit Shield*. The permit shield described in WAC 173-401-640 does not apply to any 502(b)(10) change or SIP authorized emission trading, but does extend to terms and conditions that allow increases or decreases in emissions under changes to emission caps.

f. *Preconstruction Review*. A source making a change under this section shall comply with applicable preconstruction review requirements established pursuant to RCW 70.94.152.

[WAC 173-401-722]

4.B.8. Off Permit Changes.

a. The permittee is allowed to make changes not specifically addressed or prohibited by the permit terms and conditions without requiring a permit revision, provided that the proposed changes do not weaken the enforceability of existing permit conditions. Any change that is a Title I modification must be submitted as a permit revision.
   {Note: As defined in WAC 173-401-200(36): "Title I modification" or "modification under any provision of Title I of the Federal Clean Air Act Amendments o f1992 (FCAA)" means any modification under Sections 111 (Standards of Performance for New Stationary Sources) or 112 (Hazardous Air Pollutants) of the FCAA and any physical change or change in the method of operations that is subject to the preconstruction review regulations promulgated under Parts C (Prevention of Significant Deterioration) and D (Plan Requirements for Nonattainment Areas) of Title I of the FCAA.}

b. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition.

c. The permittee shall provide contemporaneous written notice to PSCAA and EPA of such change, except for changes that qualify as insignificant under WAC 173-401-530. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
d. The change shall not qualify for the permit shield.
e. The permittee shall keep a record describing changes made that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes.
f. The permittee shall comply with applicable preconstruction review requirements.

[WAC 173-401-724]

4.B.9. Minor Permit Modifications.

a. *Criteria*. For minor permit modifications that meet the following criteria, the permittee shall submit an application as described in paragraph b.
   (1) Do not violate any applicable requirement;
   (2) Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
   (3) Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
   (4) Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid and applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
      (a) A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the FCAA; and
      (b) An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the FCAA;
   (5) Are not modifications under any provision of the Title I of the FCAA.
b. *Application*. An application requesting the use of minor permit modification procedures shall meet the requirements of WAC 173-401-510 and shall include the following:
   (1) A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
   (2) The source's suggested draft permit;
   (3) Certification by a responsible official, consistent with WAC 173-401-520 (see Specific Condition **4.C.2.**), of the truth, accuracy, and completeness of the application and that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
   (4) Completed forms for the permitting authority to use to notify the administrator and affected states as required under WAC 173-401-810 and 173-401-820.
c. *Procedures*. The permit modification shall be accomplished in accordance with the criteria and procedures as described in WAC 173-401-725(2)(c) through (2)(e).
d. *Permittee's Ability to Make Change.* The permittee may make the change(s) proposed in its minor permit modification application immediately after it files such as application provided that those changes requiring the submissions of a notice of construction application have been reviewed and approved by the Puget Sound Clean Air Agency. After the permittee makes the change allowed by the preceding sentence, and until the permitting authority takes any of the actions specified in WAC 173-401-725(2)(d), the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the permittee need not comply with the existing permit terms and conditions it

seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

e. *Permit shield.* The permit shield under WAC 173-401-640 shall not extend to minor permit modifications.

[WAC 173-401-725(2)]

4.B.10. Group Processing of Minor Permit Modifications.

a. *Criteria and Application*. For group processing of modifications that meet the following criteria, the permittee shall submit an application as described in WAC 173-401-725(3)(b):
   (1) Meets the criteria for minor permit modification procedures in Specific Condition **4.B.9.a.**; and
   (2) Collectively are below ten percent of the emissions allowed by the permit for the emissions unit for which the change is requested, twenty percent of the applicable definition of major source in WAC 173-401-200, or five tons per year, whichever is least.

b. *Group Processing Procedures*. The group permit modification shall be accomplished in accordance with the criteria and procedures as described in WAC 173-401-725(3)(c) through (3)(e).

c. *Permittee's Ability to Make Change.* The provisions of Specific Condition **4.B.9.d.** shall apply to modifications eligible for group processing.

d. *Permit shield*. The permit shield under WAC 173-401-640 shall not extend to minor permit modifications eligible for group processing.

[WAC 173-401-725(3)]

4.B.11. Significant Permit Modifications. For significant permit modifications that meet the following criteria, the modification shall meet all requirements of Chapter 173-401 WAC, including those for applications, public participation, review by affected states, and review by EPA, as they apply to permit issuance and permit renewal:

a. Permit modifications that do not qualify as minor permit modifications or as administrative amendments.

b. Every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping permit terms or conditions.

Nothing herein shall be construed to preclude the permittee from making changes consistent with Chapter 173-401 WAC that would render existing permit compliance terms and conditions irrelevant. [WAC 173-401-725(4) and WAC 173-401-500(3)(c)]

4.B.12. Duty to Supplement or Correct Application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit. [WAC 173-401-500(6)]

4.B.13. Notice of Construction. Except for the exemptions provided in Sections 6.03(b) and (c) of Puget Sound Clean Air Agency's Regulation I, it shall be unlawful for any person to cause or allow the establishment of a new source, or the replacement or substantial alteration of control equipment installed on an existing source, unless a "Notice of Construction application" has been filed and an "Order of Approval" has been issued by the Puget Sound Clean Air Agency. The exemptions in PSCAA Regulation I, 6.03(b) and (c) do not apply to projects or sources identified in PSCAA Regulation I, 6.03(a)(1) – (5). [PSCAA Regulation I, Section 6.01(a) and PSCAA Regulation I, Section 6.03(a)]

4.B.14. New Source Notification. Except for projects or sources identified in PSCAA Regulation I, 6.03(a)(1) – (5), a Notice of Construction application and Order of Approval are not required for the new sources identified in PSCAA's Regulation I, Section 6.03(b), provided that a complete notification is filed with the PSCAA. [PSCAA Regulation I, Section 6.03(b)]

4.B.15. Prevention of Significant Deterioration (PSD). For a new major source stationary source or a major modification to an existing major stationary source as defined in WAC 173-400-720, the permittee must comply with the requirements in WAC 173-400-700 through 750. Ecology is the permitting agency for the PSD program in WAC 173-400-700 through -750. [PSCAA Regulation I, Section 6.01]

4.B.16. Notice of Completion. Within 30 days of completion of the installation or modification of a stationary source subject to Specific Condition **4.B.13.**, the permittee shall file a Notice of Completion with PSCAA. Each Notice of Completion shall be submitted on a form provided by the PSCAA and shall specify the date upon which operation of the stationary source has commenced or will commence. [PSCAA Regulation I, Section 6.09]

Back to Table of Contents

Subsection 4.C. General Compliance Requirements.

4.C.1. Schedule of Compliance. For applicable requirements with which the source is in compliance, the permittee will continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. [WAC 173-401-630(3) and WAC 173-401-510(2)(h)(iii)]

4.C.2. Responsible Official Certification. Except as provided for in Specific Condition **4.C.5.d.**, Certification Upon Submittal, any application form, report, or compliance certification submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required by a responsible official under this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [WAC 173-401-520 and WAC 173-401-630(1)]

4.C.3. Annual Compliance Certifications. The permittee shall submit an annual certification of compliance with the terms and conditions contained in the permit, including emission limitations, standards, or work practices.

a. The original signed compliance certification shall be submitted to the Puget Sound Clean Air Agency and a copy of the compliance certification shall be submitted to EPA Region 10 once per year.
b. All annual compliance certifications cover the calendar year commencing January 1 and ending December 31 and are due by January 30 of the following calendar each year. Each certification shall include the following:
   (1) The identification of each term or condition of the permit that is the basis of the certification;
   (2) The compliance status;
   (3) Whether compliance was continuous or intermittent; and
   (4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with WAC 173-401-615(3)(a).
c. The permittee shall also submit all annual compliance certifications to Puget Sound Clean Air Agency in electronic format as an attachment to an e-mail message to facilitysubmittal@pscleanair.gov (or any other email address identified by the Agency). The electronic submittal is due on the same date as the original signed compliance certification required by this section. The date the document is received by the Agency e-mail system is considered the submitted date of the report.

[WAC 173-401-630(5); and, PSCAA Regulation I, Section 7.09(c)]

4.C.4. Semiannual Report. The permittee shall submit the reports of any required reportable monitoring at least once every six months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with WAC 173-401-520.

a. The report periods and submittal due dates are as shown below.
   (1) Reporting period covering January 1 – June 30. Report submittal due date is July 30.
   (2) Reporting period covering July 1 – December 31. Report submittal due date is January 30.
b. The permittee shall also submit the semiannual reports to Puget Sound Clean Air Agency in electronic format as an attachment to an e-mail message to facilitysubmittal@pscleanair.gov (or any other email address identified by the Agency) by July 30 for the January 1 – June 30 reporting period and by January 30 for the July 1 – December 31 reporting period. The date the document is received by the Agency e-mail system is considered the submitted date of the

report.
[WAC 173-401-615(3)(a); and, PSCAA Regulation I, Section 7.09(c)]

4.C.5. Deviation Report. The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

a. For deviations which represent a potential threat to human health or safety, "prompt" means as soon as possible, the permittee shall report by e-mail to facilitysubmittal@pscleanair.gov (or any other email address identified by the Agency) as soon as possible but in no case later than twelve hours after the deviation is discovered.
b. All other deviations shall be reported in writing and by email no later than thirty days after the end of the month during which the deviation is discovered.
c. The permittee shall maintain a contemporaneous record of all deviations.
d. A Deviation Report may be certified by a responsible official at the time of submittal as provided in Specific Condition **4.C.2.** (Responsible Official Certification); however it is not required to be certified at the time of submittal. Any Deviation Report not certified at the time of submittal must be certified in the Semiannual report as per Specific Condition **4.C.6.** (Certification upon Submittal).

[WAC 173-401-615(3)(b)]

4.C.6. Certification Upon Submittal. For the purpose of this permit, the following application forms, reports, and compliance certifications must be certified by the responsible official upon submittal:

a. Annual Air Operating Permit Compliance Certification (WAC 173-401-630(5))
b. Semiannual Air Operating Permit Report (WAC 173-401-615(3)(a))
c. Administrative Permit Amendment Requests (WAC 173-401-720)
d. Permit Modification Application (WAC 173-401-725)
e. Renewal of Permit (WAC 173-401-710) (WAC 173-401-500(4))

For all other application forms, reports, and compliance certifications, the responsible official's certification needs only to be submitted once every six months in the semiannual report, covering all required reporting since the date of the last certification, provided that the certification specifically identifies all documents. [WAC 173-401-630(5)]

4.C.7. Agency Mailing Address. All notifications, reports, renewal/revision applications and compliance certifications required by this permit shall be submitted to:

Puget Sound Clean Air Agency
Attn: Compliance Program
1904 3rd Ave, Suite 105
Seattle, Washington 98101

4.C.8. EPA Mailing Address. For all the notifications, reports and compliance certifications required by this permit to be submitted to US Environmental Protection Agency, the mailing address is:

EPA Region 10, Mail Stop OAQ-107
Attn: Air Operating Permit
1200 Sixth Avenue
Seattle, Washington 98101

4.C.9. Compliance Reports-Electronic Submittal. The permittee shall submit complete copies of all required compliance reports to Puget Sound Clean Air Agency in electronic format as an attachment to an e-mail message to facilitysubmittal@pscleanair.gov (or any other email address identified by the Agency). The date the document is received by the Agency e-mail system shall be considered the submitted date of the report. Original written documents shall also be submitted for

record purposes. Nothing in this condition waives or modifies any requirements established under other applicable regulations. [PSCAA Regulation I, Section 7.09(c)]

4.C.10. Data Recovery. The permittee shall recover valid monitoring and recordkeeping data for each parameter according to any specific monitoring and recordkeeping requirements identified in Section 3 of this permit. If the specific monitoring and recordkeeping requirements in Section 3 of this permit do not address data recovery provisions, then the required data recovery is assumed to be 100% except as described in this section. However, no data need be collected during any period that the monitored process does not operate. The Deviation Reports required by Specific Condition **4.C.5.** shall include an explanation for any instance in which the permittee failed to meet the data recovery requirements of this condition for any monitored process or parameter and any instances of reconstructing lost data. The explanation shall include the reason that the data was not collected and any actions that the permittee will take to ensure collection of such data in the future. [WAC 173-401-615(1)(b)]

4.C.11. Inspection and Entry. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the permitting authority or an authorized representative to perform the following:

a. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. As authorized by WAC 173-400-105 and the FCAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

[WAC 173-400-105(3) & WAC 173-401-630(2); and, PSCAA Regulation I, Section 3.05(b)]

4.C.12. Investigations and Testing. For the purpose of determining compliance with an emission standard, the Puget Sound Clean Air Agency or Ecology shall have the authority to conduct testing of a source or to order the permittee to have it tested and to report the results to the Agency or Ecology. In the event the Agency or Ecology conducts the test, the Agency or Ecology shall provide the permittee an opportunity to observe the sampling and to obtain a sample at the same time. [WAC 173-400-105(2) & WAC 173-400-105(4); and, PSCAA Regulation I, Section 3.05(b)]

4.C.13. Credible Evidence. For the purpose of establishing whether or not a person has violated or is in violation of any provision of chapter 70.94 RCW, any rule enacted pursuant to that chapter, or any permit or order issued thereunder, nothing in this regulation shall preclude 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. [PSCAA Regulation I, Section 3.06; and, RCW 70A.15]

4.C.14. Emergency Provision. An emergency, as defined in WAC 173-401-645(1), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the conditions below are met.

a. *Criteria*. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
   (2) The permitted facility was at the time being properly operated;

(3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) The permittee submitted notice of the emergency to the Puget Sound Clean Air Agency within two working days of the time when emission limitations were exceeded due to the emergency or shorter periods of time specified in an applicable requirement. This notice fulfills the requirement of WAC 173-401-615(3)(b) unless the excess emissions represent a potential threat to human health or safety. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

b. *Burden of Proof*. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

c. *Relationship to Other Rules*. This condition is in addition to any emergency or upset provision contained in any applicable requirement.

[WAC 173-401-645]

4.C.15. Excess Emissions. This Specific Condition is in effect until the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the SIP. This Specific Condition is not effective starting on that date.

a. *Burden of Proof*. The permittee shall have the burden of proving to Puget Sound Clean Air Agency in an enforcement action that excess emissions were unavoidable. This demonstration shall be a condition to obtaining relief under paragraphs d., e. & f. of this Specific Condition.

b. *Unavoidable Excess Emissions*. Excess emissions determined to be unavoidable under the procedures and criteria in this Specific Condition shall be excused and not subject to penalty.

c. *Threat to Health and Safety*. Excess emissions which represent a potential threat to human health or safety or which the permittee believes to be unavoidable shall be reported to Puget Sound Clean Air Agency as soon as possible. Other excess emissions shall be reported within thirty days after the end of the month during which the event occurred or as part of the routine emission monitoring reports. Upon request by Puget Sound Clean Air Agency, the permittee shall submit a full written report including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

d. *Startup or Shutdown*. Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the source reports as required under paragraph c. of this Specific Condition and adequately demonstrates that the excess emissions could not have been prevented through careful planning and design and if a bypass of control equipment occurs, that such bypass is necessary to prevent loss of life, personal injury, or severe property damage.

e. *Maintenance*. Excess emissions due to scheduled maintenance shall be considered unavoidable if the source reports as required under paragraph c. of this Specific Condition and adequately demonstrates that the excess emissions could not have been avoided through reasonable design, better scheduling for maintenance or through better operation and maintenance practices.

f. *Malfunction*. Excess emissions due to a malfunction or upset shall be considered unavoidable provided the source reports as required under paragraph c. of this Specific Condition and adequately demonstrates that:

(1) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;

(2) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(3) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting

down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded.

[WAC 173-400-107]

4.C.16. Excess Emissions Reporting. (State-only requirement not federally enforceable.) This Specific Condition takes effect on the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the SIP (see Specific Condition **4.C.15.**).

a. *Notification*. The owner or operator shall notify the Agency:
   (1) When excess emissions represent a potential threat to human health or safety, the owner or operator must notify the permitting authority by phone or electronic means as soon as possible, but not later than twelve hours after the excess emissions were discovered.
   (2) For all other excess emissions, the owner or operator must notify the permitting authority in a report as provided in paragraph b.

b. *Report*. The owner or operator must report all excess emissions to the permitting authority. To claim emissions as unavoidable under WAC 173-400-109 (see Specific Condition **4.C.17.**), the report must contain the information in paragraph c. of this Specific Condition.

c. *Operator Claims*. For an excess emission event that the owner or operator claims was unavoidable under WAC 173-400-109, the report must include the following information:
   (1) Properly signed contemporaneous records or other relevant evidence documenting the owner or operator's actions in response to the excess emissions event.
   (2) Information on whether installed emission monitoring and pollution control systems were operating at the time of the exceedance. If either or both systems were not operating, information on the cause and duration of the outage; and
   (3) All additional information required under Specific Condition **4.C.17.e.**, supporting the claim that the excess emissions were unavoidable.

[WAC 173-400-108(1), (2) & (4)]

4.C.17. Unavoidable Excess Emissions. (State-only requirement not federally enforceable.) This Specific Condition takes effect on the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the SIP (see Specific Condition **4.C.15.**).

a. Excess emissions determined to be unavoidable under the procedures and criteria in this section are violations of the applicable statute, rule, permit, or regulatory order.
   (1) The permitting authority determines whether excess emissions are unavoidable based on the information supplied by the source and the criteria in paragraph **e.** of this Specific Condition.
   (2) Excess emissions determined by the permitting authority to be unavoidable are:
      (a) A violation subject to WAC 173-400-230(3), (4), and (6); but
      (b) Not subject to civil penalty under WAC 173-400-230(2).

b. The owner or operator of a source shall have the burden of proving to the permitting authority in an enforcement action that excess emissions were unavoidable. This demonstration shall be a condition to obtaining relief under paragraph **e.** of this Specific Condition.

c. This Specific Condition 6.17. does not apply to an exceedance of an emission standard in 40 CFR Parts 60, 61, 62, 63, and 72, or a permitting authority's adoption by reference of these federal standards.

d. Excess emissions that occur due to an upset or malfunction during a startup or shutdown event are treated as an upset or malfunction under paragraph **e.** of this Specific Condition.

e. Excess emissions due to an upset or malfunction will be considered unavoidable provided the source reports as required by Specific Condition **4.C.16.** and adequately demonstrates to the permitting authority that:
   (1) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;

(2) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;
(3) When the operator knew or should have known that an emission standard or other permit condition was being exceeded, the operator took immediate and appropriate corrective action in a manner consistent with safety and good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action. Actions taken could include slowing or shutting down the emission unit as necessary to minimize emissions;
(4) If the emitting equipment could not be shut down during the malfunction or upset to prevent the loss of life, prevent personal injury or severe property damage, or to minimize overall emissions, repairs were made in an expeditious fashion;
(5) All emission monitoring systems and pollution control systems were kept operating to the extent possible unless their shutdown was necessary to prevent loss of life, personal injury, or severe property damage;
(6) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent possible; and
(7) All practicable steps were taken to minimize the impact of the excess emissions on ambient air quality.

[WAC 173-400-109]

4.C.18. Permit Shield.

a. *Shield Requirement*. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided such applicable requirements are included and are specifically identified in this permit. [WAC 173-401-640(1)
b. *Exclusions.* Nothing in WAC 173-401-640 or in this permit shall alter or affect the following:
(1) The provisions of Section 303 of the FCAA (emergency orders), including the authority of the administrator under that section;
(2) The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
(3) The applicable requirements of the acid rain program, consistent with section 408(a) of the FCAA;
(4) The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA; or
(5) The ability of the Puget Sound Clean Air Agency to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in chapter 252, Laws of 1993.
c. *Agency Exclusions*. The permit shield does not apply to any insignificant emissions unit or activity so designated under WAC 173-401-530.

[WAC 173-401-640(1), (4) & (5) and WAC 173-401-530(3)]

4.C.19. Compliance Test Methods. Testing of sources for compliance with emission standards shall be performed in accordance with current U.S. Environmental Protection Agency approved methods unless specific methods have been identified in this permit. [PSCAA Regulation I, Section 3.07(a)]

4.C.20. Compliance Test Notification. The permittee shall notify the Puget Sound Clean Air Agency in writing at least 21 days prior to any compliance test. Notification of a compliance test shall be submitted on forms provided by the Agency. Test notifications using the Agency forms do not constitute test plans. Compliance with this notification provision does not satisfy any obligation found in an order or other regulatory requirement to submit a test plan for Agency review. This notification requirement does not waive or modify test notification requirements found in other applicable regulations. [PSCAA Regulation I, Section 3.07(b)]

4.C.21. Compliance Test Report Submittal. For any required compliance test, the permittee shall submit the compliance test report to the Puget Sound Clean Air Agency no later than 60 days after the test. The report shall include:

a. A description of the source and the sampling location;
b. The time and date of the test;
c. A summary of results, reported in units and for averaging periods consistent with the applicable emission standard;
d. A description of the test methods and quality assurance procedures employed;
e. The amount of fuel burned or raw material processed by the source during the test;
f. The operating parameters of the source and control equipment during the test;
g. Field data and example calculations; and
h. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

[PSCAA Regulation I, Section 3.07(c)]

4.C.22. Federal Enforceability. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, are enforceable by the US EPA and citizens under the FCAA, except for those requirements designated as "State Only" in the tables below. [WAC 173-401-625]

{Note: In some cases, there are two effective dates for the same state and local regulations. One of the dates reflects the "federally enforceable" regulation that has been approved by the EPA and is part of the current federally-approved, state implementation plan (SIP). A more current version of the regulation may have been adopted by the Agency, but was either not submitted to EPA for approval into the SIP, or it has been submitted and EPA has not approved it yet. The table below lists state and local regulations that apply to the permittee. There are additional requirements in the WAC that may apply to other air operating permit sources, but do not apply to this permittee based on the information submitted by the permittee in their application. These rules are not included in this table. The "Rule Description" column includes the effective date of the version of the regulation that is approved in the SIP. This version of the rule is identified as "Federally Enforceable" in the third column of the table. The version of a rule that is not currently approved in the SIP is identified as "State Only." If and when EPA approves a new version of the regulation into the SIP, the old version of the regulation will be replaced and superseded by the new version automatically. This table does not include the federally enforceable requirements of the SIP that are incorporated by reference into the Agency's Regulation I, Section 6.01. The entirety of Regulation I, Section 6.01.applies to the permittee.}

Table 4-1. WAC Requirements in State Implementation Plan.

Washington Administrative Code (WAC)		
Regulation	**Rule Description (Effective Date)**	**Federal Enforceability**
WAC 173-400-020	Applicability of WAC 173-400 (12/19/12)	Federally Enforceable
WAC 173-400-040	General Standards for Maximum Emissions (916/18)	Federally Enforceable, sections (1)(a) & (b); (4); and (9)(b) only
WAC 173-400-091	Voluntary Limits on Emissions (9/20/93)	Federally Enforceable with respect to Section 112 hazardous air pollutants
WAC 173-400-091	Voluntary Limits on Emissions (4/1/11)	Federally Enforceable
WAC 173-400-105	Records, monitoring, and reporting (11/25/18)	Federally Enforceable, except for section (7)
WAC 173-400-107	Excess Emissions (9/20/93)	Federally Enforceable

Washington Administrative Code (WAC)		
Regulation	**Rule Description (Effective Date)**	**Federal Enforceability**
WAC 173-400-107	Excess Emissions (9/16/18)	State Only, not in SIP
WAC 173-400-108	Excess Emissions Reporting (9/16/18)	State Only, not in SIP
WAC 173-400-109	Unavoidable Excess Emissions (9/16/18)	State Only, not in SIP
WAC 173-400-114	Replacement or substantial alteration of emission control technology (12/29/12)	State Only, not in SIP
WAC 173-400-205	Adjustment for Atmospheric Conditions (3/22/91)	Federally Enforceable
WAC 173-400-700 through -750	Review of major stationary sources of air pollution (4/1/11)	Federally Enforceable (Ecology)
WAC 173-400-720 through 173-400-750	Prevention of Significant Deterioration (7/1/16)	Federally Enforceable (Ecology), except: 173-400-720(4)(a)(I through iv), (b)(iii)(C),and 173-400-750(2) second sentence
WAC 173-441	Reporting of Emissions of Greenhouse Gases (various dates	State Only, not in SIP
RCW 70A.60 , recodified from 70.94.970 in 2020 and again in 2021	Hydrofluorocarbons – Emissions Reductions	State Only, not in SIP

Table 4-2. PSCAA Requirements in State Implementation Plan.

Puget Sound Clean Air Agency Regulation		
Regulation	**Rule Description**	**Federally Enforceability**
Regulation I: Section 3.04	Reasonably Available Control Technology (7/1/12)	Federally Enforceable, except (e)
Regulation I: Section 3.05	Investigations by the Control Officer (3/17/94)	Federally Enforceable
Regulation I: Section 3.06	Credible Evidence (11/14/98)	Federally Enforceable
Regulation I: Section 3.07	Compliance Tests (5/1/06)	Federally Enforceable
Regulation I: Section 3.23	Alternative Means of Compliance (11/1/96)	State Only, not in SIP
Regulation I: Section 6.01	Components of New Source Review Program (8/1/18)	Federally Enforceable, except the parenthetical in 6.01(b) which states "as delegated by agreement with the US Environmental Protection Agency, Region 10."
Regulation I: Section 6.03	New Source Review (11/1/15)	Federally Enforceable, except section (b)(10)
Regulation I: Section 6.09	Notice of Completion (5/1/04)	Federally Enforceable
Regulation I: Section 6.10	Work Done without an Approval (9/1/01)	Federally Enforceable
Regulation I: Section 7.09	General Reporting Requirements for Operating Permits (2/1/17)	Federally Enforceable
Regulation I: Section 8.04	General Conditions for Outdoor Burning (1/1/01)	Federally Enforceable
Regulation I: Section 8.04	General Conditions for Outdoor Burning (11/1/08)	State Only, not in SIP

Puget Sound Clean Air Agency Regulation		
Regulation	**Rule Description**	**Federally Enforceability**
Regulation I: Section 8.07	Fire Extinguisher Training (11/1/99)	State Only, not in SIP
Regulation I: Section 9.03	Visual Standard (5/1/04)	Federally Enforceable, except (e)
Regulation I: Section 9.04	Opacity Standards for Equipment with COM (5/1/04)	Federally Enforceable, except (d)(2) & (f)
Regulation I: Section 9.05	Refuse Burning (1/13/94)	Federally Enforceable
Regulation I: Section 9.07	Sulfur Dioxide Emission Standard (5/19/94)	Federally Enforceable
Regulation I: Section 9.08	Fuel Oil Standards (5/1/04)	Federally Enforceable
Regulation I: Section 9.09	Particulate Matter Emission Standards (6/1/98)	Federally Enforceable
Regulation I: Section 9.10	Emission of HCl (6/9/88)	State Only, not in SIP
Regulation I: Section 9.11(a)	Detriment to Person or Property (4/17/99)	Federally Enforceable
Regulation I: Section 9.13	Concealment and Masking Restricted (6/9/88)	Federally Enforceable
Regulation I: Section 9.15	Fugitive Dust Control Measures (4/17/99)	Federally Enforceable
Regulation I: Section 9.16	Spray Coating Operations (12/2/10)	Federally Enforceable
Regulation I: Section 9.18	Crushing Operations (3/2/12)	Federally Enforceable
Regulation I: Section 9.20	Maintenance of Equipment (6/9/88)	Federally Enforceable
Regulation I: Section 15	Nonroad Engines (2/1/12)	State Only, not in SIP
Regulation II, Section 1.04	General Definitions (12/11/80)	Federally Enforceable
Regulation II, Section 1.05	Specialty Definitions (9/1/03)	Federally Enforceable
Regulation II, Section 3.04	Motor Vehicle and Mobile Equipment Coating Operations (9/1/03)	Federally Enforceable
Regulation III: Section 4.02	Asbestos Survey Requirements (7/31/95)	State Only, not in SIP
Regulation III: Section 4.03	Asbestos Notification Requirements (7/1/11)	State Only, not in SIP
Regulation III: Section 4.04	Asbestos Removal Requirements (9/1/00)	State Only, not in SIP
Regulation III: Section 4.05	Procedures for Asbestos Project (4/3/03)	State Only, not in SIP
Regulation III: Section 4.07	Disposal of Asbestos Material (7/31/95)	State Only, not in SIP

Back to Table of Contents

Subsection 4.D. General Applicable Requirements.

4.D.1. Definitions. Unless otherwise defined in this permit, the terms used in this permit shall have the same meaning ascribed to them in the referenced regulation. [WAC 173-401-200]

4.D.2. General Recordkeeping Requirements. Upon notification by the Agency, the permittee shall maintain records on the type and quantity of emissions from the source and other information deemed necessary by the Agency to determine whether the source is in compliance with applicable emissions limitations and control measures. [WAC 173-400-105]

4.D.3. Retention of Records. The permittee shall retain records of all required monitoring data and support information for a period of five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. [WAC 173-401-615(2)(c)]

4.D.4. Asbestos - Demolition.

a. *Federal*. The permittee shall comply with 40 CFR Sections 61.145, 61.148 and 61.150 when conducting any renovation or demolition at the facility. Link to 40 CFR 61, Subpart M

b. *Agency.* (State-only requirement not federally enforceable.) The permittee shall comply with Puget Sound Clean Air Agency Regulation III, Article 4 when conducting any asbestos project, renovation or demolition activities at the facility. Link to PSCAA Regulation III, Article 4

[40 CFR 61.145 & 150; and, PSCAA Regulation III, Article 4]

4.D.5. Open Burning.

a. *Outdoor Burning*. It shall be unlawful for any person to cause or allow any outdoor burning unless the burning is in compliance with WAC 173-425. [PSCAA Regulation I, Section 8.04]

b. *Air Pollution Episodes*. No person shall conduct outdoor burning during an air pollution episode or a declared period of impaired air quality. [WAC 173-425-050(3)]

c. *Fire Extinguisher Training*. Any hand-held fire extinguisher training sessions conducted by the permittee shall be performed in accordance with PSCAA's Regulation I, Section 8.07(b). [PSCAA Regulation I, Section 8.07]

Link to PSCAA Regulation I, Article 8 Link to WAC 173-425

4.D.6. Stratospheric Ozone and Climate Protection.

a. *Federal*. The permittee shall comply with the following standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F (Link to 40 CFR 82, Subpart F), except as provided for motor vehicle air conditioners (MVACs) in Subpart B (Link to 40 CFR 82, Subpart B):

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156 Link to 40 CFR 82.156;

(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158 Link to 40 CFR 82.158;

(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161 Link to 40 CFR 82.161.

(4) Any certified technician employed by the permittee shall keep a copy of their certification at their place of employment. [40 CFR 82.161(a)(4)(i)]

b. *Significant New Alternatives Program (SNAP)*. The permittee may switch from any ozone-depleting substance to any alternative approved pursuant to the Significant New Alternatives Program (SNAP), 40 CFR Part 82, Subpart G, without a permit revision but shall not switch to a substitute listed as unacceptable pursuant to such program. [40 CFR 82.174]

c. *State Only*. The permittee shall not willfully release any regulated refrigerants and substitutes and shall use refrigerant extraction equipment to recover regulated refrigerants and substitutes when servicing, repairing or disposing of commercial or industrial air conditioning, heating, or refrigeration systems.

[40 CFR 82; RCW 70A.60.070(1) & (3), State Only; and, WAC 173-401-722 (see Specific Condition **4.B.7.**)]

4.D.7. Chemical Accident Prevention Program. This stationary source, as defined in 40 CFR 68.3, is subject to 40 CFR Part 68, the Chemical Accident Prevention Provisions. This stationary source shall comply with the requirements of 40 CFR Part 68 by the dates specified in 40 CFR 68.10. This stationary source shall certify compliance with the requirements of 40 CFR Part 68 as part of the annual compliance certification required by Specific Condition **4.C.3.** [40 CFR 68.10] Link to 40 CFR 68

4.D.8. Concealment or Masking.

a. It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means which, without resulting in a reduction in the total amount of air contaminant emitted, conceals an emission of air contaminant which would otherwise violate Regulation I, Article 9.

b. It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

[PSCAA Regulation I, Section 9.13]

4.D.9. False Statement. No person shall make any false material statement, representation or certification in any form, notice or report required under chapter 70A.15 or 70A.25 RCW, or any ordinance, resolution, regulation, permit or order in force pursuant thereto. [WAC 173-400-105(6); and, RCW 70A.15 & 70A.25]

4.D.10. Tampering. No person shall render inaccurate any monitoring device or method required under chapter 70A.15 or 70A.25 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto. [WAC 173-400-105(8); and, RCW 70A.15 & 70A.25]

4.D.11. Adjustment for Atmospheric Conditions. The permittee shall not vary the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant except as directed according to air pollution episode regulations. [WAC 173-400-205]

4.D.12. Reasonably Available Control Technology (RACT). Emission standards and other requirements contained in rules or regulatory orders in effect at the time of operating permit issuance or renewal shall be considered RACT for purposes of permit issuance or renewal. [WAC 173-401-605(3)]

4.D.13. Annual Emission Report. The permittee shall report annually to the Puget Sound Clean Air Agency listing those air contaminants emitted during the previous calendar year that equal or exceed the following in tons per year:

Pollutant	Tons per Year
Carbon monoxide (CO)	25
Facility combined total of all toxic air contaminants (TAC)	6
Any single toxic air contaminant (TAC)	2
Nitrogen oxide (NOX)	25
Particulate matter (PM10)	25
Particulate matter (PM2.5)	25

Pollutant	Tons per Year
Sulfur oxide (SOX)	25
Volatile organic compounds (VOC)	25
Lead	0.5

Annual emission rates shall be reported to the nearest whole ton per year for only those air contaminants that equal or exceed the thresholds above, except lead which must be reported to the nearest tenth of a ton. The permittee shall maintain records of information necessary to document any reported emissions or demonstrate that the emissions were less than the above amounts. The permittee shall submit to the Puget Sound Clean Air Agency any additional information required by WAC 173-400-105(1) and Puget Sound Clean Air Agency Regulation III, Section 1.11. [Puget Sound Clean Air Agency Regulation I, Section 7.09(a); Puget Sound Clean Air Agency Regulation III, Section 1.11; and, WAC 173-400-105(1)]

4.D.14. Washington State Program for Reporting of Emissions of Greenhouse Gases (GHGs). Greenhouse gases emission reporting is mandatory for the permittee of any facility that emits ten thousand metric tons CO_2e or more per calendar year in total GHG emissions from all applicable source categories listed in WAC 173-441-120. If subject to mandatory reporting requirements, the permittee shall follow all applicable procedures specified in WAC 173-441, including those for emission calculation, monitoring, quality assurance, missing data, recordkeeping, and reporting. [WAC 173-441] Link to WAC 173-441

{Note: Carbon dioxide equivalent" or "CO2e" means a metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential. See Table A-1 of WAC 173-441-040.}

4.D.15. Non-road Engines. The permittee shall file a Notice of Intent to Operate for non-road engine(s) that are subject to the requirements of Puget Sound Clean Air Agency Regulation I, Article 15.

a. *>500 and ≤2000 BHP*. For nonroad engines with cumulative maximum rated brake horsepower >500 and ≤2000 BHP:

(1) Notification Requirements. The notification of intent to operate is required before operations begin. The notice must contain the following information:
(a) Name and address of owner or operator;
(b) Site address or location;
(c) Date of equipment arrival at the site;
(d) Cumulative engine maximum rated bhp.

(2) Recordkeeping. The permittee must record the following information for each nonroad engine:
(a) Site address or location;
(b) Date of equipment arrival at the site;
(c) Date of equipment departure from the site;
(d) Engine function or purpose;
(e) Identification of each component as follows:
(i) Equipment manufacturer, model number and its unique serial number;
(ii) Engine model year;
(iii) Type of fuel used with fuel specifications (sulfur content, cetane number, etc.).

(3) Record Retention Requirements. The permittee must keep the records of the current engine and equipment activity in hard copy or electronic form. These records can be maintained on-site or off-site for at least five years and must be readily available to the Puget Sound Clean Air Agency on request.

b. *>2000 BHP*. For nonroad engines with cumulative maximum rated brake horsepower > 2000 BHP, the notification of intent to operate and Agency approval is required before operations begin.
   (1) Notification Requirements. Prior to operation, the owner or operator must notify the Agency of the intent to operate and supply sufficient information to enable the Agency to determine that the operation will comply with national ambient air quality standards as regulated by WAC 173-400-113 (3) and (4). This notification of intent to operate shall be submitted on forms provided by the Agency for this purpose. A notification fee of $100.00 shall be paid prior to any review by the Agency.
   (2) Approval. Approval is required before operations begin. The owner or operator must obtain written nonroad engine approval to operate, from the Agency, prior to operation.
   (3) Recordkeeping. The owner or operator must meet all of the requirements of paragraphs a.(2) and a.(3) of this Specific Condition.
   (4) Appeals. Final decisions and orders of the Agency may be appealed to the Pollution Control Hearings Board as provided in Chapters RCW 43.21B and WAC 371-08.

c. *Fuel Standards*. All nonroad engines must use ultra-low sulfur diesel or ultra-low sulfur biodiesel (a sulfur content of 15 ppm or 0.0015% sulfur by weight or less), gasoline, natural gas, propane, liquefied petroleum gas (LPG), hydrogen, ethanol, methanol, or liquefied/compressed natural gas (LNG/CNG). A facility that receives deliveries of only ultra-low sulfur diesel or ultra-low sulfur biodiesel is deemed to be compliant with this fuel standard.

d. *Emissions Limits*. Nonroad engines are not subject to emission limits set by the state implementation plan.

[PSCAA Regulation I, Section 15.03(b) & (c); and, Section 15.05(a)]

{Note: Non-road engine notification forms (Form 50-116) are available on the Agency's website at: Link to Form 50-116. Notification forms may be submitted by email to NOC@pscleanair.gov, but must also be submitted by mail along with the appropriate filing fee.}

Back to Table of Contents

Subsection 4.E. Test Methods and Averaging Periods.

Unless otherwise specified in the rules or approval conditions, compliance shall be determined based on the averaging periods as described in the table below. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of circumstances beyond the operator's control, compliance may, upon EPA or Puget Sound Clean Air Agency approval, be determined from the arithmetic average of the two other runs.

Table 4-3. Summary of Test Methods

Test Method	Title	Averaging Period
Puget Sound Clean Air Agency Method 5 Puget Sound Clean Air Agency Board Resolution 540, August 11, 1983 (See Section 6, Attachment 1)	Determination of Particulate Emissions from Stationary Sources	The test shall consist of 3 runs and at least 1-hour per run. Determine the PM emission from the arithmetic average of the three runs.
EPA Method 5 40 CFR 60, Appendix A	Determination of Particulate Emissions from Stationary Sources	The test shall consist of 3 runs and at least 1-hour per run. Determine the PM emission from the arithmetic average of the three runs.
EPA Method 6 40 CFR 60, Appendix A	Determination Of Sulfur Dioxide Emissions From Stationary Sources	The test shall consist of 3 runs and at least 1-hour per run.
EPA Method 6C 40 CFR 60, Appendix A	Determination of Sulfur Dioxide Emissions from Stationary Sources	The test shall consist of 3 runs and at least 1-hour per run.
EPA Method 7 40 CFR 60, Appendix A	Determination of Nitrogen Oxide Emissions from Stationary Sources	The test shall consist of 3 runs and at least 1-hour per run. Determine the NOx emission from the arithmetic average of the three runs.
EPA Method 10 40 CFR 60, Appendix A	Determination of Carbon Monoxide	The test shall consist of 3 runs and at least 1-hour per run. Determine the CO emission from the arithmetic average of the three runs.
EPA Method 20 40 CFR 60, Appendix A	Determination Of Nitrogen Oxides, Sulfur Dioxide, And Diluent Emissions From Stationary Gas Turbines	The test shall consist of 3 runs and at least 1-hour per run.
Ecology Method 9A, "Source Test Manual – Procedures for Compliance Testing", July 12, 1990 (See Section 6, Attachment 2)	Visual Determination of the Opacity of Emissions from Stationary Sources - for State and Puget Sound Clean Air Agency requirements	Any 13 opacity readings above standard in one hour, opacity readings taken in 15-second intervals.
EPA Method 25A 40 CFR Part 60, Appendix A, July 1, 2012	Determination of total gaseous organic concentration using a flame ionization analyzer	The test shall consist of 3 runs and at least 1-hour per run. Determine the emission from the arithmetic average of the three runs.
EPA Method 26 A 40 CFR 60, Appendix A	Determinations of HCl	The test shall consist of 1 run and at least 1-hour per run.

Test Method	Title	Averaging Period
Ash-ASTM D482 Sulfur –ASTM D3120 Halogens – EPA SW846,9076 PCB – EPA SW846, 8080 Lead – EPA 600/4-81-045,200.7 Flash Point – EPA SW846, 1020	Fuel Oil Analysis	None applicable

Back to Table of Contents

Section 5. Insignificant Emission Units and Activities.

The following conditions apply to Insignificant Emissions Units and Activities at this source:

5.1. General. For the purpose of this permit, an emission unit or activity is insignificant based on one or more of the following:

a. Actual emissions of all regulated air pollutants from a unit or activity are less than the emission thresholds established in WAC 173-401-530(4). Link to WAC 173-401-530

b. The emission unit or activity is listed in WAC 173-401-532 as categorically exempt.

c. The emission unit or activity is listed in WAC 173-401-533 and is considered insignificant if its size or production rate based on maximum rated capacity is below the specified level.

d. The emission unit or activity generates only fugitive emissions as defined in WAC 173-400-030(41).

[WAC 173-401-530(1)]

5.2. No Applicable Requirements. No emissions unit or activity subject to a federally enforceable applicable requirement (other than generally applicable requirements of the state implementation plan) shall qualify as an insignificant emissions unit or activity. Generally applicable requirements of the state implementation plan are those federally enforceable requirements that apply universally to all emission units or activities without reference to specific types of emission units or activities. [WAC 173-401-530(2)(a)]

5.3. No Testing, Monitoring, Recordkeeping or Reporting. This permit does not require testing, monitoring, recordkeeping or reporting for insignificant emission units or activities, except as required by Puget Sound Clean Air Agency Regulation I, Sections 7.09(b) and 9.20 and their incorporation into this permit (see Specific Conditions **2.A.13.**, **2.A.14.** & **2.B.5.**). Compliance with Puget Sound Clean Air Agency Regulation I, Sections 7.09(b) and 9.20 as defined in the terms of this permit, shall be deemed to satisfy the requirements of WAC 173-401-615 and 173-401-630(1). [WAC 173-401-530(2)(c)]

5.4. General Applicable Requirements. Insignificant emission units and activities are subject to all General Applicable Requirements set forth in Section 4, Subsection D. of this permit. Where this permit does not require testing, monitoring, recordkeeping and reporting for insignificant emissions units or activities, the permittee may certify continuous compliance if there were no observed, documented, or known instances of noncompliance during the reporting period. Where this permit requires testing, monitoring, recordkeeping and reporting for insignificant emission units or activities, the permittee may certify continuous compliance when the testing, monitoring, and recordkeeping required by the permit revealed no violations during the period, and there were no observed, documented, or known instances of noncompliance during the reporting period. [WAC 173-401-530(2)(d)]

5.5. Documentation.

a. Upon request from the PSCAA the permittee must provide sufficient documentation to enable the PSCAA to determine that the emission unit or activity has been appropriately listed as insignificant.

b. Upon request from the PSCAA, at any time during the term of the permit, if the permittee lists an activity or emissions unit as insignificant under Specific Condition **5.1.a.**, then upon request from the PSCAA the permittee shall demonstrate to the PSCAA that the actual emissions of the unit or activity are below the emission thresholds listed in WAC 173-401-530(4).

[WAC 173-401-530(5)]

5.6. Permit Revision. An activity or emissions unit that qualifies as insignificant solely on the basis of Specific Condition **5.1.a.** shall not exceed the emissions thresholds specified in WAC 173-401-530(4), until the permit is modified pursuant to WAC 173-401-725. [WAC 173-401-530(6)]

5.7. Identified Insignificant Emissions Units and/or Activities. As of the date of permit issuance, the emission units listed in Table 5-1 are defined as insignificant for the reasons indicated. The Permittee does not have to certify that these emission units are in compliance with the generally applicable requirements listed in Section II of this permit. [WAC 173-401-530(2)(d)]

Table 5-1. Insignificant Emission Units Based on Maximum Rated Capacity

The following units and activities are listed as insignificant based on maximum rated capacity per WAC 173-401.	
Description	**Rule Citation**
Two 20,000-gallon diesel fuel storage tanks.	WAC 173-401-530(1)(d) & (4)
One 700-gallon waste oil tank.	WAC 173-401-533(2)(c)
Four, 173-horsepower portable generators that are used to power the waste tipper. [1, 2]	WAC 173-401-533(2)(g)

Notes:

1. If any of these portable generators remain in one location at the site for more than 12 consecutive months, the associated non-road diesel engine will become subject to regulation as a stationary reciprocating internal combustion engine (RICE) pursuant to either 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines or 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Reciprocating Internal Combustion Engines, as applicable based on date of manufacture. At such time, an AOP revision application shall be submitted to the Agency to incorporate the engine or engines into the permit as regulated engine(s) in Section 3, Subsection D.
2. The following table provides descriptive information for the Tipper Engines:

Asset Number	HP	Model Year	Manufacturer	Model No.	Serial No.
PP004	173	2018	Columbia	CAT 4.4	JKT02131
PP005	173	2018	Columbia	CAT 4.4	JKT02133
PP006	173	2020	Columbia	CAT 4.4	JKT13965
PP007	173	2021	Columbia	CAT 4.4	JKT17674

Back to Table of Contents

Attachment 6-1. Puget Sound Clean Air Agency Method 5.

RESOLUTION NO. 540

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE PUGET SOUND AIR POLLUTION
CONTROL AGENCY ADOPTING MODIFIED
PARTICULATE SOURCE TEST PROCEDURES

WHEREAS, Regulation I Section 9.09(f) requires procedures for source sampling performed in connection with standards of Regulation I and II for particulate and gases to be done using current Environmental Protection Agency requirements or procedures and definitions adopted by the Board; and

WHEREAS, to conform to current safe and less toxic chemical storage, the particulate measurement procedures currently used by the Agency have been proposed for modification; and

WHEREAS, the Expanded Advisory Council reviewed and approved said source test laboratory procedure modifications; and

WHEREAS, a public hearing was held by the Puget Sound Air Pollution Control Agency Board of Directors on August 11, 1983, to allow public input and critique on the proposal; and

WHEREAS, the Board deems it necessary to adopt said modification to source test procedures; now therefore,

BE IT RESOLVED BY THE BOARD OF PUGET SOUND AIR POLLUTION CONTROL AGENCY:

The Board of Directors does hereby adopt the modifications to the source test procedures, a copy of which is attached hereto and made a part hereof.

PASSED AND APPROVED by the Board of Directors of the Puget Sound Air Pollution Control Agency held this 11th day of August, 1983.

PUGET SOUND AIR POLLUTION CONTROL AGENCY

By _____
Chairman

Attest:

_____
Air Pollution Control Officer

Approved as to form:

_____
Agency Attorney

Attachment 6-1. Puget Sound Clean Air Agency Method 5 (Continued).

Proposed Revised PSAPCA

Particulate Source Test Procedures

Engineering Division

Puget Sound Air Pollution Control Agency
200 West Mercer Street, Room 205
P.O. Box 9863
Seattle, Washington 98109

June 9, 1983

Attachment 6-1. Puget Sound Clean Air Agency Method 5 (Continued).

I. Procedures for Particulate Source Sampling

Unless otherwise authorized by the Control Officer, all particulate source sampling performed to demonstrate compliance with the emission standards of Regulation I shall be done using current Environmental Protection Agency Methods 1-5 contained in 40 CFR Part 60, Appendix A, as modified in Section II of this document.

II. Procedure for Determining Particulate Matter in the Impinger Catch (Back Half)

The analysis and calculations for Method 5 shall conform to that described by EPA in the current 40 CFR Part 60, Appendix A, except that the back half catch shall be included as particulate matter. The back half weight is the sum of the impinger catch (organic and inorganic) and the back half acetone rinse weights.

A. Sample Recovery of the Back Half

1. Purging

Whenever SO_2 interference is suspected, purge the impingers immediately after the test run is complete with N_2 or clean air for a minimum of one-half the sample volume.

2. Impinger Liquid

Measure the volume of water collected in all impingers and place the water from the first three impingers in a container. Thoroughly rinse all sample-exposed surfaces between the filter and fourth impinger with water and place in above container.

3. Acetone Rinse

Thoroughly rinse all sample-exposed surfaces between the filter and the fourth impinger with acetone and place the washings in a tared beaker to dry.

B. Analysis of the Back Half

1. Impinger Liquid Extraction

a. Add 50-100 mℓ of dichloromethane to the impinger liquid.

b. Spin for at least ten minutes.

Attachment 6-1. Puget Sound Clean Air Agency Method 5 (Continued).

c. Pour the liquid into a separatory funnel and drain the organic phase into a tared beaker (organic fraction).

d. Drain the remaining liquid into a beaker and repeat Steps a, b, and c. Perform the extraction several times with fresh dichloromethane until the organic fraction is clear. Keep each organic extraction in a separate beaker.

e. Following the last extraction, drain the remaining liquid from the separatory funnel into a tared beaker (inorganic fraction).

f. Allow the organic fraction beakers to dry under a hood at room temperature.

g. Evaporate the inorganic fraction in such a manner that the beaker contents do not become exposed to temperatures greater then 212°F.

h. Dry weighed beakers containing a sample of the acetone, dichloromethane and a sample of distilled deionized water to check for blank weight.

i. Desiccate organic, inorganic and blank beakers for at least 24 hours at room temperature in a disiccator containing silica gel. Weigh to a constant weight and report the results to the nearest 0.1 mg. Constant weight is defined in Section 4.3 of Method 5.

2. Back Half Acetone Rinse

a. Dry the acetone rinse in a hood at room temperature.

b. Desiccate and weigh the beaker to constant weight and record.

C. Reagents

1. Water

Use distilled deionized water in the impingers and to rinse all glassware.

2. Acetone

Use reagent grade, ≤ 0.001 percent residue in glass bottles.

3. Dichloromethane

Use reagent grade, ≤ 0.001 percent residue in glass bottles.

Back to Table of Contents

Attachment 6-2. Ecology Method 9.

Revised July 12, 1990

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

SOURCE TEST METHOD 9A.

VISUAL DETERMINATION OF OPACITY FOR A THREE MINUTE STANDARD

1. Principle

The opacity of emissions from stationary sources is determined visually by a qualified observer.

2. Procedure

The observer must be certified in accordance with the provisions of Section 3 of 40 CFR Part 60, Appendix A, Method 9, as in effect on July 1, 1990, which are hereby adopted by reference.

The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction, and when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, non-circular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of site should not include should not include more than one plume at a time when multiple stacks are involved, and in any case, the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

The observer shall record the name of the plant, emission location, type of facility, observer's name and affiliation, and the date on a field data sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a filed data sheet at the time opacity readings are initiated and completed.

The observer shall make a note of the ambient relative humidity, ambient temperature, the point in the plume the observations were made, the estimated depth of the plume at the point of observation, and the color and condition of the plume. It is also helpful if pictures of the plume are taken.

Attachment 6-2. Ecology Method 9 (Continued).

Opacity observations shall be made at the point of greatest opacity in the portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume, but instead shall observe the plume at 15-second intervals.

When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which water vapor is no longer visible

When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. Each momentary observation recorded shall be deemed to represent the average opacity for a 15-second period.

3. Analysis

The opacity of the plume is determined by individual visual observations. Opacity shall be reported as the range of values observed during a specified time period, not to exceed 60 consecutive minutes. The opacity standard is exceeded if there are more than 12 observations, during any consecutive 60-minute period, for which an opacity greater than the standard is recorded.

4. References

Federal Register, Vol. 36, No. 247, page 24895, Dec. 23, 1971.

“Criteria for Smoke and Opacity Training School 1970-1971” Oregon-Washington Air Quality Committee.

“Guidelines for Evaluation of Visible Emissions” EPA 340/1-75-007.

Back to Table of Contents

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1)

State of California
AIR RESOURCES BOARD

Executive Order G-70-97-A

Stage I Vapor Recovery Systems for Underground
Gasoline Storage Tanks at Service Stations

WHEREAS, the Air Resources Board (the "Board") has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, certification procedures for systems designed for the control of gasoline vapor emissions during filling of underground gasoline storage tanks ("Stage I vapor recovery systems") in its "Certification Procedures for Gasoline Vapor Recovery Systems at Service Stations" as last amended December 4, 1981 (the "Certification Procedures"), incorporated by reference in Section 94001 of Title 17, California Administrative Code;

WHEREAS, the Board has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, test procedures for determining compliance of Stage I vapor recovery systems with emission standards in its "Test Procedures for Determining the Efficiency of Gasoline Vapor Recovery Systems at Services Stations" as last amended September 1, 1982 (the "Test Procedures"), incorporated by reference in Section 94000 of Title 17, California Administrative Code;

WHEREAS, the Board finds it beneficial to consolidate Executive Orders G-70-47-B, G-70-4-A, and G-70-2-G, certifying Stage I vapor recovery systems in order to have a complete listing by manufacturer of all Stage I vapor control equipment which has been certified and is available for use in the coaxial and/or two point Stage I vapor recovery systems;

WHEREAS, the Board finds it necessary to revise Executive Order G-70-97 to clarify the requirement for pressure/vacuum relief valves on the vents of underground storage tanks and to clarify the interchangeability of certain Stage I vapor recovery system componets.

NOW THEREFORE, IT IS HEREBY ORDERED that Executive Order G-70-97 issued on May 13, 1985 for Stage I vapor recovery systems for underground gasoline storage tanks be modified by this Executive Order G-70-97-A.

IT IS FURTHER ORDERED that Stage I Systems will conform to one of the four options shown in Figures 1 thru 4 of this Executive Order and only certified vapor recovery components (or fittings) may be used in the systems. Exhibits 1 thru 3 (Attached) list by manufacturer all of the certified fittings approved for use with Stage I vapor recovery systems. The systems shall otherwise comply with all the certification requirements in the latest "Certification Procedures for Gasoline Vapor Recovery Systems at Service Stations" applicable to Stage I systems.

IT IS FURTHER ORDERED that any underground storage tank equipped with a Stage I vapor recovery system and filled from a gasoline delivery tank equipped with pressure-differential activated vapor-return vent valves must have a pressure-vacuum relief valve on the vent of the underground storage tank.

IT IS HEREBY ORDERED that compliance with the applicable certification requirements and rules and regulations of the Division of Measurement Standards, the Office of the State Fire Marshal, and the Division of Occupational Safety and Health of the Department of Industrial Relations is made a condition of this certification.

IT IS FURTHER ORDERED that the components and alternative configurations certified hereby shall perform in actual use with the same effectiveness as the certification test system.

IT IS FURTHER ORDERED that any alteration of the equipment, parts, design, or operation of the configurations certified hereby, is prohibited, and deemed inconsistent with this certification, unless such alteration has been approved by the undersigned or the Executive Officer's designee.

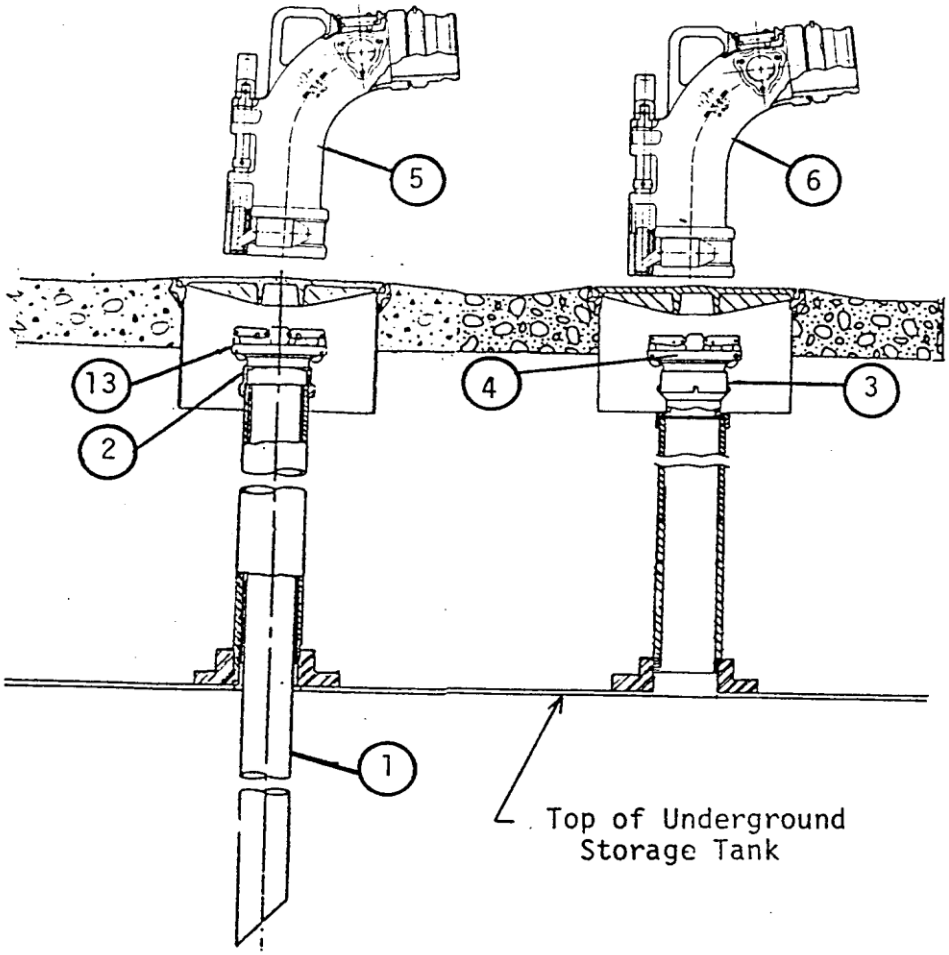
Executed at Sacramento, California this 9th day of December 1985.

James D. Boyd
Executive Officer

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

FIGURE 1

Two Point Stage 1 Vapor Recovery System
Without Overfill Protection



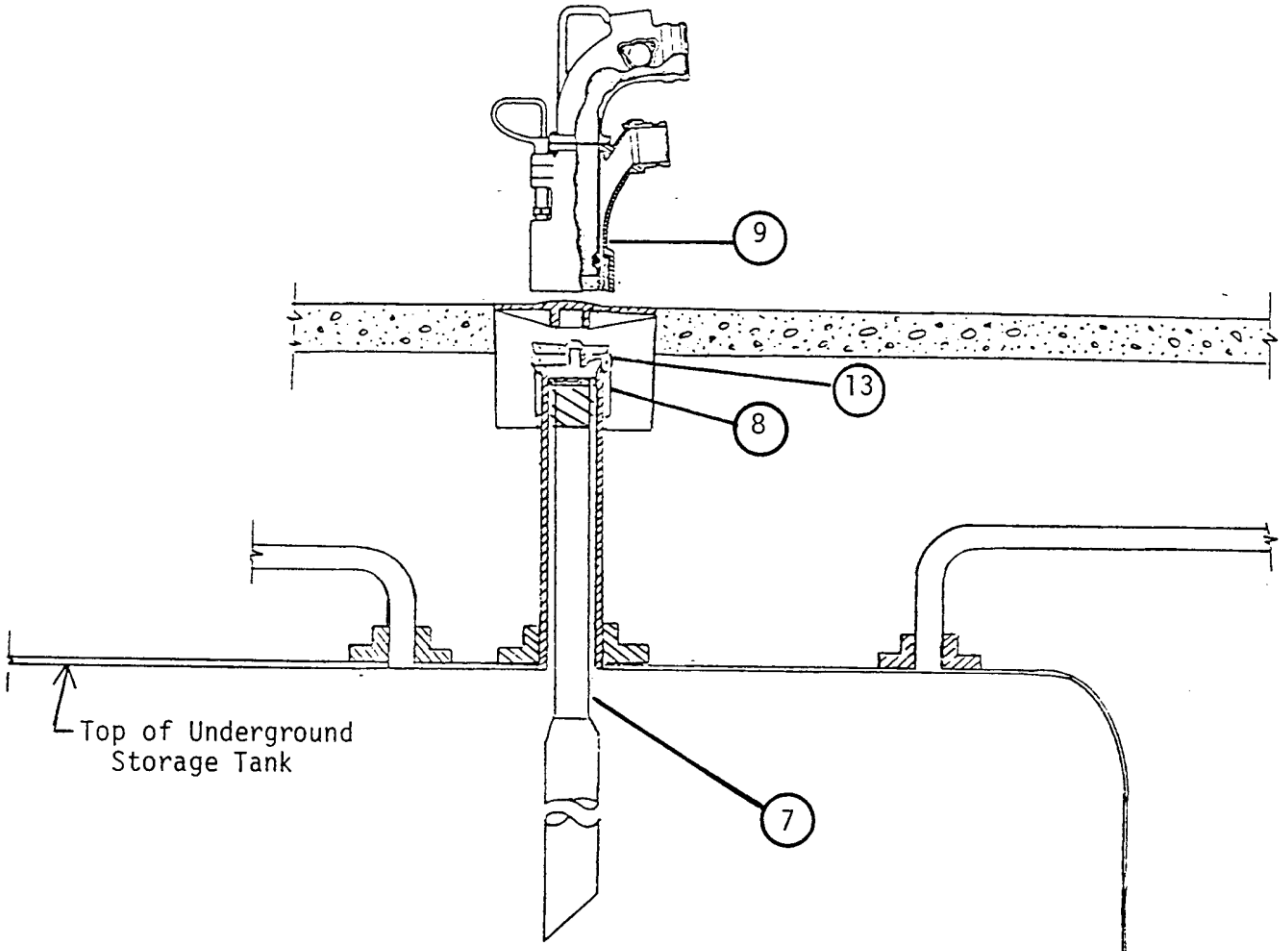
LEGEND

1	Fill Tube	4	Vapor Cap
2	Fill Adapter	5	Product Elbow
3	Vapor Adapter	6	Vapor Elbow
		13	Fill Cap

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

FIGURE 2

Coaxial Stage 1 Vapor Recovery System
Without Overfill Protection



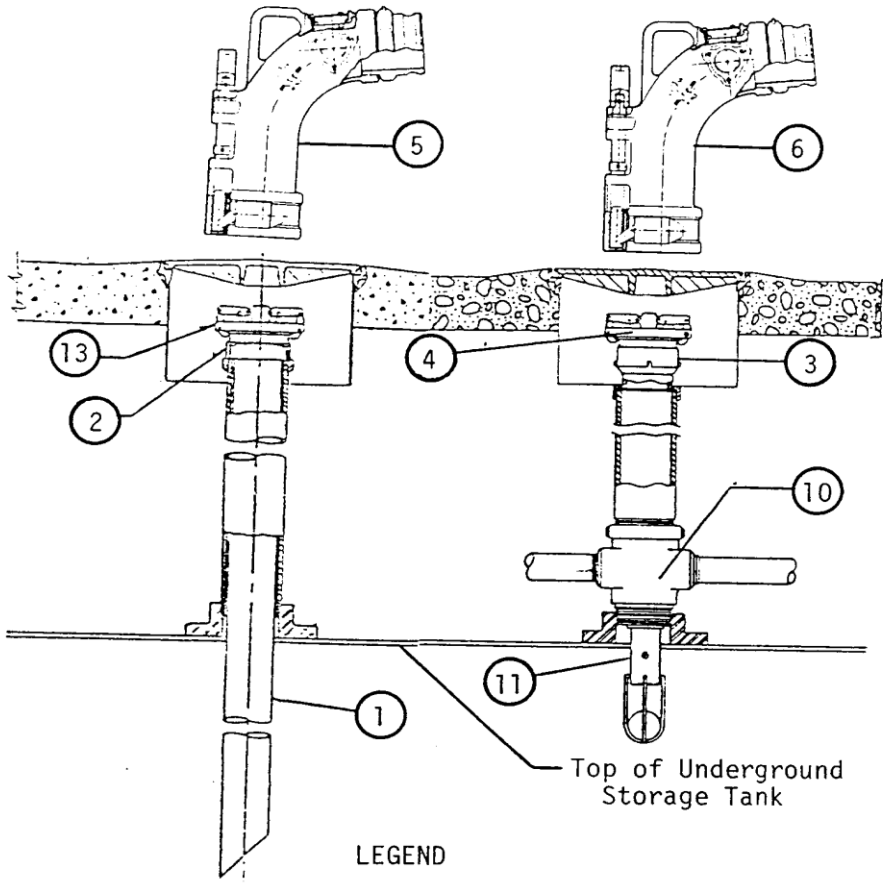
LEGEND

7	Coaxial Poppeted Fill Tube	9	Coaxial Elbow
8	Coaxial Fill Adapter	13	Fill Cap

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

FIGURE 3

Two Point Stage I Vapor Recovery System With Overfill Protection



LEGEND

1. Fill Tube
2. Fill Adapter
3. Vapor Adapter
4. Vapor Cap
5. Fill Elbow
6. Vapor Elbow
10. Extractor Assembly
11. Float Vent Valve
13. Fill Cap

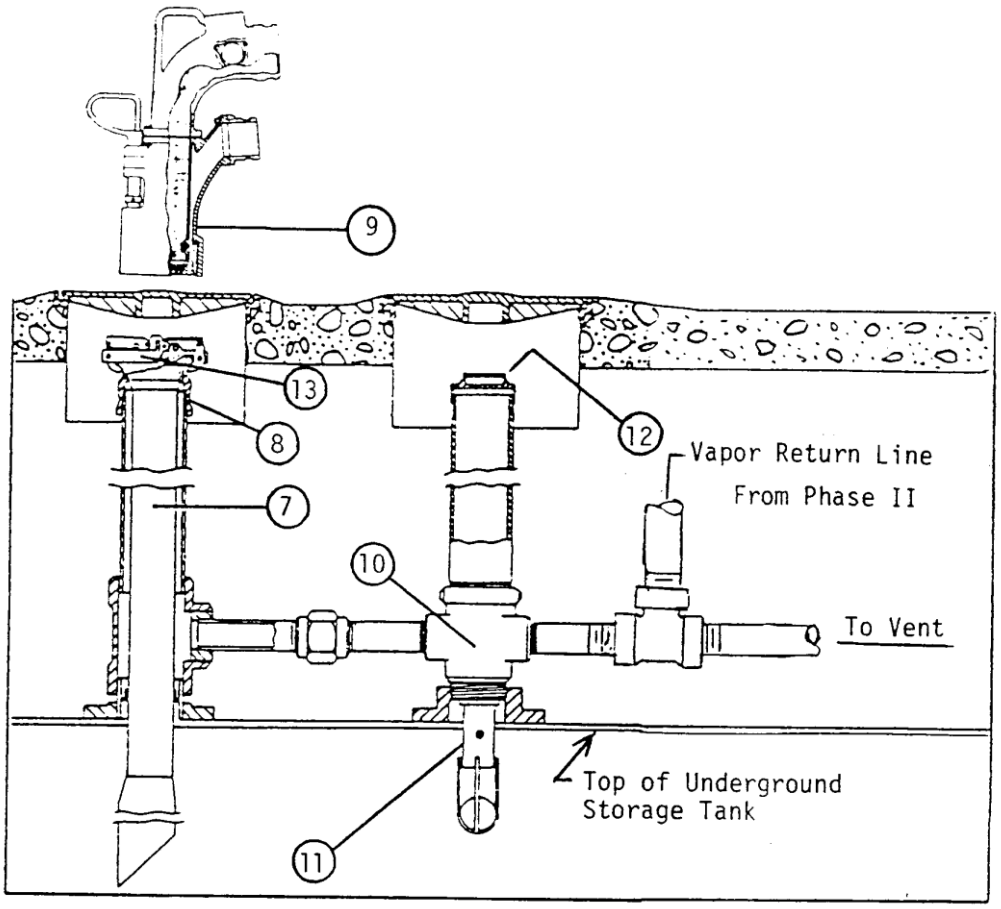
WARNING:

1. This system is not approved for use at service stations equipped with Red Jacket or Healy Phase II vapor recovery systems.
2. Float valve overfill protection systems should only be used on submerged pumping systems not with suction pump systems.
3. Overfill protection systems should only be used on gravity drop systems. Do not use where pump off unloading is used.

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

FIGURE 4

Coaxial Stage 1 Vapor Recovery System
With Overfill Protection



LEGEND

(7)	Coaxial Poppeted Fill Tube	(10)	Extractor Assembly
(8)	Coaxial Fill Adapter	(11)	Float Vent Valve
(9)	Coaxial Elbow	(12)	Pipe Cap 1/
		(13)	Fill Cap

WARNING:

1. This system is not approved for use at service stations equipped with Red Jacket or Healy Phase II vapor recovery systems.
2. Float valve overfill protection systems should only be used as submerged pumping systems, not with suction pump systems.
3. Overfill protection systems should only be used on gravity drop systems. Do not use where pump off unloading is used.

1/ Required when a two point system is modified to a coaxial system.

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

EXHIBIT 1

Fittings Approved For Use On The Two Point Stage I Vapor Recovery Systems

	Fittings Required For All Two Point Stage I Vapor Recovery Systems For Locations see Figure 1						Additional Fittings Required For Two Point Vapor Recovery Systems With Stage I Overfill Protection. For Locations See Figure 3		
Legend No.	(1)	(2)	(3)	(4)	(5)	(6)	(10) + (11)	(10)	(11)
Manufacturer	Fill Tube	Fill Adapter	Vapor Adapter	Vapor Cap	Elbows Fill	Elbows Vapor	Extractor Assembly With Float Vent Valve	Extractor	Float Vent Valve
OPW	61 T	61 AS 633 T	1611 AV	1711 T 1711 TK	60 AS 60 T 60 TT	1711VT 1711VP	233 - MSD 233 - VTS 233 - SD	233 - VM 233 - V 233 - V	53 - VM 53 - VTS 53 - VM
Universal	723	724 727	0611 V	0612 VC 0613 VC 0614 VC		0711 V	V 420		37
EBW	782	776 778	300	304					
McDonald	245	268 A 267 A							
CNI		613 615	611 DB	611 VR			119		
Emco-Wheaton	A 20	A 30	A 76	A 99	F523	F 77	A79 Series	562291 or 562016	A-75
Andrews 1/	TF	54 AG		400 DC-L	56 TFR				
Evertite		97 A			99 C				
York-Serv, Inc.		101 102							

1/ Now owned by Dixon Valve & Coupling Company.

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

EXHIBIT 2

Fittings Approved For Use On The Coaxial Stage I Vapor Recovery System

Fillings Required For All Coaxial Stage I Vapor Recovery Systems				Additional Fittings Required For Coaxial Stage I Vapor Recovery Systems with Overfill Protection		
Legend No.	(7) + (8)	(9)	(10) + (11)	(10)	(11)
Manufacturer	Coaxial Poppeted Fill Tube Assembly with Adapter	Coaxial Elbow	Extractor Assembly With Float Vent Valve	Extractor Assembly	Float Vent Valve
OPW	68-TCP	60 TC 60 TTC	233-MSD 233-VTS	233-VM	53-VM 53-VTS
Emco Wheaton	4" Tube A88-001 3" Tube A88-003	F 298	A79-002 A79-003 A79-004	562290 or 562016 or	A 75
EBW	783-215				
Universal Valve Co.			V-420		37
CNI			119		

Attachment 6-3. CARB Executive Order G-70-97-A (Stage 1) (Continued)

EXHIBIT 3

Fittings Approved For All Stage I Vapor Recovery Systems

Legend No.	(12)	(13)		
Manufacturer	Pipe 1/ Cap	Fill Caps		Pressure Vacuum Relief Valve
		Top Seal	Side Seal	
OPW	116	634 TT	62 62 TT	95 UTE
Universal		731 733	727 732 734	
EBW		777	775	
McDonald		268 C	267 C	
CNI		64	32 33	
Emco Wheaton	A584	A 39 A 97		
Andrews 2/		400 FPC 54 LC		
Varec				2010-811
Hazlett				H-PVB-1

1/ Required when a Two Point System is converted to a Coaxial System with overfill protection.

2/ Now owned by Dixon Valve & Coupling Company.

Back to Table of Contents

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2)

State of California
AIR RESOURCES BOARD

Executive Order G-70-52-AM
Certification of Components for Red Jacket, Hirt, and Balance
Phase II Vapor Recovery Systems

WHEREAS, the Air Resources Board (the "Board") has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, certification procedures for systems designed for the control of gasoline vapor emissions during motor vehicle fueling operations ("Phase II vapor recovery systems") in its "Certification Procedures for Gasoline Vapor Recovery Systems at Service Stations" as last amended December 4, 1981 (the "Certification Procedures"), incorporated by reference in Section 94001 of Title 17, California Code of Regulations;

WHEREAS, the Board has established, pursuant to Sections 39600, 39601, and 41954 of the Health and Safety Code, test procedures for determining compliance of Phase II vapor recovery systems with emission standards in its "Test Procedures for Determining the Efficiency of Gasoline Vapor Recovery Systems at Service Stations" as last amended September 1, 1982 (the "Test Procedures"), incorporated by reference in Section 94000 of Title 17, California Code of Regulations;

WHEREAS, the certification for use with Phase II vapor recovery systems has been applied for as specified in Attachment A of this Executive Order;

WHEREAS, Section VIII-A of the Certification Procedures provides that the Executive Officer shall issue an order of certification if he or she determines that a vapor recovery system conforms to all of the requirements set forth in Sections I through VII;

WHEREAS, I find that the equipment specified in Attachment A of this Executive Order, when used on Phase II balance and assist vapor recovery systems, conforms with all the requirements set forth in Sections I through VII of the Certification Procedures and will not compromise the efficiency of the Phase II vapor recovery systems on which they will be installed;

NOW THEREFORE, IT IS HEREBY ORDERED that the certification, Executive Order G-70-52-AL, is hereby modified to add vapor recovery equipment listed in Attachment A and to incorporate the requirements and conditions specified in the Exhibits of this Order for use on Phase II vapor recovery systems;

IT IS FURTHER ORDERED that the equipment listed in Attachment A of this Executive Order is certified as shown in Exhibits 4 through 11. A reference identifying the vapor recovery systems for which the hose configurations are approved is contained in Exhibit 1. Certified components for the systems are listed in Exhibit 2. A cross reference identifying which vapor recovery nozzle is approved for each vapor recovery system is shown in Exhibit 3. The systems shall otherwise comply with all the certification requirements in the latest applicable Phase II vapor recovery system certification.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

IT IS FURTHER ORDERED that where a balance type vapor recovery system is to be installed at a new installation only the balance type coaxial vapor recovery nozzles and coaxial hose configurations may be used.

IT IS FURTHER ORDERED that nozzle bellows covers, hereinafter refered to as "boot protectors" may not be used on any nozzles after July 26, 1992, and that they are prohibited prior to that date on certain nozzles as specified in Exhibits 2 and 3 of this Order.

IT IS FURTHER ORDERED that the compliance with the applicable certification requirements and rules and regulations of the Division of Measurement Standards, the Office of the State Fire Marshal, and the Division of Occupational Safety and Health of the Department of Industrial Relations are made a condition of this certification.

IT IS FURTHER ORDERED that the components and alternative hose configurations certified hereby shall perform in actual use with the same effectiveness as the certification test system.

IT IS FURTHER ORDERED that any alteration of the equipment, parts, design, or operation of the configurations certified hereby, is prohibited, and deemed inconsistent with this certification, unless such alteration has been approved by the undersigned or the Executive Officer's designee.

IT IS FURTHER ORDERED that all nozzles approved for use with the Phase II vapor recovery systems specified in this Executive Order shall be 100 percent performance checked at the factory including checks of proper functioning of all automatic shutoff mechanisms.

Executed at Sacramento, California this 4 day of October, 1991.

James D. Boyd
Executive Officer

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Executive Order G-70-52-AM
Attachment A

Gasoline Vapor Recovery Equipment Added to Exhibit 2

Dresser Division/Wayne Industries
590 Blending Dispenser
390Dx-GQU Dispenser

Emco Wheaton A4019 coaxial hose breakaway coupling

Gates Kleanaire coaxial hose

Gilbarco Advantage motor fuel dispenser

Goodyear Maxxim coaxial hose with green outer hose

High retractor dispenser - coaxial hose configuration with liquid removal system (Exhibit 8c)

OPW Division/Dover Corporation
66-CL coaxial hose breakaway coupling
43-CRT elbow swivel

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 1

Executive Order G-70-52-AM

Phase II Vapor Recovery Systems

Certified for Hose Configurations Shown in Exhibits 4-11

Executive Order G-70-	Vapor Recovery System Name
14	Red Jacket
17	Emco Wheaton Balance
23	Exxon Balance
25	Atlantic Richfield Balance
33	Hirt
36	OPW Balance
38	Texaco Balance
48	Mobil Balance
49	Union Balance
53	Chevron Balance

Additional Executive Orders Pertaining to

Vapor Recovery Nozzles Not Listed in the Above Orders

Executive Order G-70-	Vapor Recovery System Name
78	EZ-flo rebuilts
102	EZ-flo rebuilts
107	Rainbow rebuilts
125	Husky Model V
127	OPW 111V
134	EZ-flo rebuilts

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2

Component[1] Executive Order G-70-52-AM List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a,b,c	9a,b,c	10	11	11a	Exhibit 3 X-Reference
Nozzles (new or rebuilt by original manufacturer)[2]											
Emco Wheaton A3003, RA3003[7]	001:007:005	X		X	X						1
Emco Wheaton A3005, RA3005	005:007:006	X	X	X	X	X	X	X	X	X	2
Emco Wheaton A3006, RA3006	005:007:020	X		X	X						3
Emco Wheaton A3007, RA3007[7/8]	005:007:025	X	X	X	X	X	X	X	X	X	4
Emco Wheaton A4000, RA4000[7/8]	005:007:022	X		X	X						5
Emco Wheaton A4001, RA4001[8]	005:007:023	X	X	X	X	X	X	X	X	X	6
Emco Wheaton A4002[8]	005:007:022	X		X	X						7
Emco Wheaton A4003[8]	005:007:023	X	X	X	X	X	X	X	X	X	8
Emco Wheaton A4005, RA4005[8]	005:007:025	X	X	X	X	X	X	X	X	X	9
OPW 7V-E (34,36,47,49)	002:008:014-17	X		X	X						10
OPW 11V-C (22,24,47,49)	005:008:030	X	X	X	X	X	X	X	X	X	11
OPW 11VS-C (22,24,47,49)[7]	005:008:039	X		X	X						12
OPW 11V-E (34,36,47,49)	005:008:033	X	X	X	X	X	X	X	X	X	13
OPW 11VS-E (34-36,47,49)	005:008:035	X		X	X						14
OPW 11V-F (22,24,47,49)	005:008:037	X	X	X	X	X	X	X	X	X	15
OPW 11VS-F (22,24,47,49)[7]	005:008:038	X		X	X						16
OPW 111-V (22,24,47,49)[8]	005:008:045	X	X	X	X	X	X	X	X	X	17
Husky Model V[8]	005:021:005	X	X	X	X	X	X	X	X	X	18

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 2

Component[1] Executive Order G-70-52-AM List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a,b,c	9a,b,c	10	11	11a	Exhibit 3 X-Reference
Rebuilt Nozzles (rebuilt by other than original manufacturer)[2]											
EZ-flo 3003[7,9]	005:029:003	X		X	X						1
EZ-flo 3005[9]	005:029:004	X	X	X	X	X	X	X	X	X	2
EZ-flo 3006[9]	005:029:004	X		X	X						3
EZ-flo 3007[9]	005:029:005	X	X	X	X	X	X	X	X	X	4
EZ-flo A4000[7,8]	005:029:006	X		X	X						5
EZ-flo A4001[8]	005:029:006	X	X	X	X	X	X	X	X	X	6
EZ-flo A4002[8,9]	005:029:006	X		X	X						7
EZ-flo A4003[8,9]	005:029:006	X	X	X	X	X	X	X	X	X	8
EZ-flo A4005[8,9]	005:029:006	X	X	X	X	X	X	X	X	X	9
EZ-flo EZE 8 (22,24,47,49)[10]	005:029:002	X		X	X						10a
EZ-flo 11VS (coaxial)[8]	005:029:007	X	X	X	X	X	X	X	X	X	15
EZ-flo 11VS (dual)[7,8]	005:029:007	X		X	X						16
EZ-flo 11VE (coaxial)[8]	005:029:007	X	X	X	X	X	X	X	X	X	13
EZ-flo 11VE (dual)[8]	005:029:007	X		X	X						14
Rainbow RA3003[7,11,16]	005:035:002	X		X	X						1
Rainbow RA3005[11,16]	005:035:003	X	X	X	X	X	X	X	X	X	2
Rainbow RA3006[11]	005:035:004	X		X	X						3
Rainbow RA3007[11]	005:035:005	X	X	X	X	X	X	X	X	X	4
Rainbow RPP (34,36,47,49)	005:035:006	X		X	X						10b
Nozzle Bellows											
Daystar[13]		X	X	X		X	X	X	X		

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 3

Executive Order G-70-52-AM

Component[1] List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits												
		4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
High-Retractor Hose Configurations[3]														
Overhead Hose Retractors														
CNI Series 9900, 9910 and 9930		X	X						X	X	X			X
Dresser Wayne 360-series		X	X											
Gasboy Model 90-750-2		X	X											
Gilbarco									X	X	X			
OPW 55 (coax)			X											
OPW 56 (dual)		X												
Petro-Vend PV-8		X	X											
Pomeco 100A, B, C and 102		X	X								X			X
Radikas		X	X								X			X
Red Jacket		X	X								X			X
Rusken		X	X								X			X
Topmaster		X	X								X			X
Universal Valve #880		X	X								X			X
High Retractor Dispensers[4]														
Bennett Pump 6012, 6013, 6022, 6024, 6025, 6027			X											
Dresser Wayne Series 370/380				X										
Dresser Wayne DecadeMarketer Series 310/320					X									
Gasboy Series 50		X	X											
Tokheim Series 162		X	X											
Tokheim 262 [19]		X	X											
Tokheim 242 and 244			X											
Tokheim 330A and 333A MMD					X									
Tokheim retrofit 222 and 333												X		
Low Retractor Dispensers[4]														
Tokheim TCS 311, 312, 322, 324, 413, 426, 614, 628													X	X

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 4

Component[1] Executive Order G-70-52-AM List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
High-Hang Hose Dispensers[3]														
Bennett Pump 7012, 7024, 8022, 8024, 8033											X	X		
Bennett Pump 8036, 9036, 9048											X	X		
Dresser Wayne 390					X	X	X	X	X	X	X	X		
Dresser Wayne 490						X	X	X				X		
Dresser Wayne 390Dx-GQU									X	X	X	X		
Gilbarco MPD									X	X	X	X		
Gilbarco Advantage									X	X	X	X		
Koppens Calcutrim											X	X		
Southwest 2300 and 2400 MPD											X	X		
Tokheim High-discharge TCS H311, H312, H322, H324, H413, H426, H614, H628											X	X		
Product Blending Dispensers[18]														
Dresser Wayne 395-1L Blender												X		
Dresser Wayne 375 Blender												X		
Dresser Wayne 585 Blender												X		
Dresser Wayne 590 Blender												X		
Gilbarco SalesMaker (SMK) Blender												X		
Gilbarco Multi-Product (MPD) Blender												X		
Tokehim 262 with blend valves[19]			X											
Tokehim 426 TCS with blend valves												X	X	
Coaxial Hose Assembly[16]														
B.F. Goodrich Coax	005:014:001		X	X		X			X			X		
B.F. Goodrich Super II Coax	005:014:001		X	X		X			X			X		
Dayco Petroflex 2000 Mdl 7574	005:033:001		X	X		X	X	X	X	X	X	X	X	X
Dayco Petroflex 2000 Mdl 7573	005:033:002		X	X		X	X	X	X	X	X	X	X	X
Dayco Petroflex 3000 Model 7575 Blending Hose	005:033:006											X		
Gates Kleanaire	005:045:001		X	X		X	X	X	X	X	X	X	X	X

(continued next page)

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 5

Executive Order G-70-52-AM[1/]
Component List for Red Jacket, Hirt, or Balance
Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
Coaxial Hose Assembly [16/] (continued from previous page)														
Goodyear Maxxim (black or green)														
(1/2" or 5/8" inner hose)	005:036:001		X	X		X	X	X	X	X	X	X	X	X
Thermold Superlite (HPD Industries)														
(1/2" or 5/8" inner hose)	005:037:001		X	X		X	X	X	X	X	X	X	X	X
Vapor Systems Technologies	005:044:001		X	X		X	X	X	X	X	X	X	X	X
Liquid Removal Systems														
Gilbarco Venturi CoVent (1/2")	005:026:011							X			X	X		
Gilbarco CoVent-2 (5/8")	005:026:012							X			X	X		
Wayne Purge System	[22/]											X		
Coaxial Hose Assemblies with Liquid Removal Systems														
Dayco Petroflex 7573 (1/2")	005:033:003							X			X	X	X	
Dayco Petroflex 7574 (5/8")	005:033:004							X			X	X	X	
Goodyear Maxxim Plus (5/8")	005:036:001							X			X	X	X	
Thermold Superlite "V"	005:037:002							X			X	X	X	
Coaxial Hose Fittings														
OPW 38-C [14/]	005:008:041		X	X										
OPW 38-CS [14/]	005:008:041		X	X										
OPW 38-CX [14/]	005:008:041		X	X										
Emco Wheaton 4041 [14/]	005:007:029		X	X										
Emco Wheaton 4042 [21/]	005:007:030		X	X					X	X	X	X		
Hose Breakaway Fittings - Dual Hose Systems Only														
Enterprise Brass Works 697-V	005:034:001	X		X	X									
Husky Safe-T-Break	005:021:003	X		X	X									
Richards R85 Safe-T-Gard	005:031:003	X		X	X									

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 6

Executive Order G-70-52-AM[1/]
Component List for Red Jacket, Hirt, or Balance
Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits												
		4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
Coaxial Hose Breakaway Fittings - Factory or Kit Repairable Only														
Catlow C-200	005:030:003		X	X		X	X	X	X	X	X	X	X	X
Dayco C-200	005:033:005		X	X		X	X	X	X	X	X	X	X	X
Enterprise Brass Works 897	005:034:002		X	X		X	X	X	X	X	X	X	X	X
Husky 2730 Safe-T-Break	005:021:004		X	X		X	X	X	X	X	X	X	X	X
Richards Industries CXE-39	005:031:005		X	X		X	X	X	X	X	X	X	X	X
Coaxial Hose Breakaway Fittings - Designed to be Recoupled Without Repair Kit														
Catlow 2.N.1 (Nozzle end installation prohibited)[20/]	005:030:004											X		
Emco Wheaton A4019	005:007:031		X	X		X	X	X	X	X	X	X	X	X
Husky 3030 Safe-T-Break	005:021:004		X	X		X	X	X	X	X	X	X	X	X
Richards Industries CX-40	005:031:004		X	X		X	X	X	X	X	X	X	X	X
Richards Insustries RCX-40	005:031:004		X	X		X	X	X	X	X	X	X	X	X
OPW 66-C (w/ pigtail)	005:008:044											X		
66-CL (w/o pigtail)	005:008:047		X	X		X	X	X	X	X	X	X	X	X
Vapor Check Valves														
Emco Wheaton														
A225	005:007:23	X		X										
A225-003	005:007:23	X		X	X									
A226	005:007:23		X											
A227	005:007:23		X[19/]						X	X	X	X		
A228-001	005:007:024		X	X		X	X	X	X	X	X	X	X	X
Red Jacket systems only may also use:														
Red Jacket 104-184	002:001:003	X	X	X	X	X			X			X		
Hirt systems only may also use:														
Hazlett HC-2 ball check valve		X		X	X									
Hirt 3/4" NPT solenoid valve		X		X	X									

Attachment 6-4. CARB Executive Order·G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 7

Component[1/] Executive Order G-70-52-AM List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
Swivels[5/]														
Nozzle Swivels														
Emco Wheaton														
A4110-001(45°)	005:007:31		X			X	X		X	X		X		
A4113-001(90°)	005:007:31					X			X					
Husky I+VI	005:021:2	X		X	X									
Husky I+VI F	005:021:2	X		X	X									
OPW 43	005:008:6	X		X	X									
OPW 43-C[6]/ (30°)	005:008:27		X			X	X		X	X		X		
OPW 43-CF-(45°)	005:008:040		X			X	X		X	X		X		
OPW 43-T[6]/ with 3/4" or 1" fuel line	005:008:31	X		X	X									
OPW 43-CR(90°)	005:008:46		X			X			X					
OPW 43-CRT(90°)	005:008:46		X			X			X					
Pomeco Model 7	005:025:2	X		X	X									
RCR 3 D	005:031:002	X		X	X									
Island Swivels														
Emco Wheaton A93-001	005:007:13		X											
OPW 36-CE	005:008:28		X											
Dispenser Swivels														
Emco Wheaton														
A4113-001 (90°)	005:008:31		X			X	X	X	X	X	X	X		
A92-001	005:007:11		X											
Wedgon PS 3445 VRM	005:013:2	X		X										
OPW 43-CR(90°)	005:008:46		X			X	X	X	X	X	X	X		
OPW 43-CRT(90°)	005:008:46		X			X	X	X	X	X	X	X		
Retractor Swivel														
Searle Leather & Packing B-1399 or State Fire Marshal approved equivalent			X											

Attachment 6-4. CARB Executive Order·G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 8

Executive Order G-70-52-AM[1/]
List for Red Jacket, Hirt, or Balance
Phase II Vapor Recovery Systems

Component[1/] Manufacturer/Item and Model Number	SFM ID Number	Exhibits 4	5	6	7	8a	8b	8c	9a	9b	9c	10	11	11a
Flow Limiter														
Emco Wheaton A-10	001:007:1	X	X	X	X	X	X	X	X	X	X	X	X	X
or State Fire Marshal approved equivalent														
Recirculation Traps (Existing installations only) [17/]														
Emco Wheaton A008-001	001:007:4	X	X	X	X									
Emco Wheaton A94-001	005:007:8	X	X	X	X									
Emco Wheaton A95-001	005:007:9	X	X	X	X									
OPW 78, 78-S, 78-E, 78-ES	001:008:13													
	002:008:12	X	X	X	X									

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 9

Executive Order G-70-52-AM

Footnotes to Component 1/ List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

1/ Specific components for the Red Jacket system are listed in the latest version of Executive Order G-70-14. Specific components for the Hirt system are listed in the latest version of Executive Order G-70-33.

2/ See Exhibit 3 for a Nozzle/System Cross-Reference.

3/ High-hang or high-retractor hose configurations are required on all existing Balance, Red Jacket and Hirt stations by July 26, 1986, except for dispensers in compliance with Exhibit 11.

4/ Other dispensers are in compliance with ARB requirements if they are approved by the Division of Measurement Standards and are applicable to any of the configurations shown by Exhibits 4,5,6, & 7 in this Executive Order.

5/ Other nozzle multiplane swivels and island single plane swivels may be used if approved by California State Fire Marshal. Nozzle multiplane swivels and island single plane swivels are required on all existing twin hose dispensers by July 26, 1986.

6/ 43-T swivel not allowed with Hirt ball check valve.

7/ Dual-port nozzles not permitted on new installations utilizing a balance type Phase II vapor recovery system.

8/ Boot protectors are prohibited on Emco Wheaton A4000-series nozzles, EZ-flo 4000-series and 11V-series nozzles and OPW 111V and Husky Model V nozzles.

9/ Specific components for EZ-flo rebuilt 3000-series vapor recovery nozzles are listed in the latest version of Executive Order G-70-101. Specific components for EZ-flo rebuilt A4000-series and 11V-series vapor recovery nozzles are listed in the latest version of Executive Order G-70-134.

10/ Specific components for the EZ-flo Rebuilt OPW 7V-E vapor recovery nozzle are listed in the latest version of Executive Order G-70-78.

11/ Specific components for the Rainbow Rebuilt Emco Wheaton A3003, A3005, A3006, and A3007 vapor recovery nozzles are listed in the latest version of Executive Order G-70-107.

12/ Emco Wheaton red and gray bellows for A3000-type nozzles may not be used after July 26, 1989. (Bellows discolor in use and may appear tan rather than red or gray.)

13/ The boot must be used with Daystar Spacer (Daystar part number F00232-NL-00), and is only approved for use on Emco Wheaton 3003- and 3005-type nozzles.

14/ Appropriate certified swivels must be used to prevent closure of vapor passage due to kinking.

15/ Use of Rainbow Petroleum Products RA3003/RA3005 Blow Molded Gasoline Vapor Recovery Bellows approved.

16/ Coaxial hose assemblies which do not contain liquid removal systems may be used on Exhibits which are not indicated provided they are used with a certified liquid removal system (such as the Gilbarco Co-Vent) which is certified for that Exhibit.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 2, page 10

Executive Order G-70-52-AM

Footnotes to Component[1] List for Red Jacket, Hirt, or Balance Phase II Vapor Recovery Systems

17/ Recirculation traps are permitted on existing installations only. Removal of internal assembly from existing recirculation traps is recommended whenever possible to reduce pressure drop.

18/ Any installation of blended product dispensers must be plumbed to allow the return of vapors from any product produced by blending to all tanks from which the component fuels may be withdrawn.

19/ The Emco Wheaton A227 vapor check valve may be installed in a vertical position (manufacturer's instructions specify installation within five degrees of horizontal) in Tokheim 262 dispensers manufactured before 1/1/90.

20/ Installation of the Catlow 2.N.1 breakaway at the nozzle end of the hose is prohibited.

21/ The Emco Wheaton A4042 fitting is to be marketed in combination with a gray scuff guard which clearly identifies it as an A4042 fitting. This gray scuff guard is not to be installed on A227 vapor check valves, and the use of the black scuff guard with which the A227 valve is marketed is prohibited with the A4042. Emco Wheaton A227 valves modified by removing poppets in an attempt to create A4042 fittings are considered uncertified equipment.

22/ Coaxial hoses with liquid removal systems are approved as indicated for Exhibits which require liquid removal systems. The use of hoses containing liquid removal systems is not prohibited on other Exhibits provided all requirements of the Exhibits, including hose loop specifications, are met.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 3
Executive Order G-70-52-AM

Phase II Vapor Recovery System/Nozzle Cross-Reference
(Red Jacket and Hirt Assist Systems or Balance Systems)

Nozzle 1/	Dispensing Rate Systems Using Nozzles 2/	GPM Not To Exceed	Comments and Exhibit 2 Cross-Reference Number
Emco Wheaton A3003, RA3003	Hirt	10 3/	Soft, tight-fitting faceplate
EZ-flo 3003	Balance	10	Insertion interlock Dual-hose passageways Secondary (pressure) shutoff mechanism 4/ Vapor check valve in nozzle |1|
Rainbow RA3003			
Emco Wheaton A3005, RA3005	Hirt	10	Same as A3003 except coaxial
EZ-flo 3005	Balance	10	Insertion interlock Soft, tight-fitting faceplate Secondary (pressure) shutoff mechanism 4/ Vapor check valve in nozzle. |2|
Rainbow RA3005			
Emco Wheaton A3006, RA3006	Hirt	10 3/	Loose-fitting assist-type facecone.
EZ-flo 3006	Red Jacket	10	No insertion interlock. Secondary (pressure) shutoff mechanism 4/ Slim handle. Dual-hose passageways Remote vapor check valve required. |3|
Rainbow RA3006			
Emco Wheaton A3007, RA3007	Hirt	10	Same as A3006 except coaxial passageways
EZ-flo 3007	Red Jacket		Loose-fitting assist-type facecone Secondary (pressure) shutoff mechanism 4/ Remote vapor check valve required. |4|
Rainbow RA3007			
Emco Wheaton A4000 5/RA4000 5/	Hirt	10 3/	Soft, tight-fitting faceplate
EZ-flo 4000 5/ 7/	Balance	10	Insertion interlock Secondary (pressure) shutoff mechanism 4/ Remote vapor check valve required Dual-hose passageways |5|
Emco Wheaton A4001 5/RA4001 5/	Hirt	10	Same as A4000 except coaxial.
EZ-flo 4001 5/	Balance	10	Insertion interlock. Soft, tight-fitting faceplate. Secondary (pressure) shutoff mechanism 4/ Remote vapor check valve required |6|

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 3 (continued)
Executive Order G-70-52-AM

Phase II Vapor Recovery System/Nozzle Cross-Reference
(Red Jacket and Hirt Assist Systems or Balance Systems)

Nozzle 1/	Dispensing Rate Systems Using Nozzles 2/	GPM Not To Exceed	Comments and Exhibit 2 Cross-Reference Number
Emco Wheaton A4002 5/ 7/ EZ-flo 4002 5/	Hirt	10 3/	Loose-fitting assist-type facecone. No insertion interlock. Secondary (pressure) shutoff mechanism 4/ Dual-hose passageways Remote vapor check valve required. |7|
Emco Wheaton A4003 5/ EZ-flo 4003 5/ 7/	Hirt	10	Same as A4002 except coaxial passageways Loose-fitting assist-type facecone Secondary (pressure) shutoff mechanism 4/ Remote vapor check valve required. |8|
Emco Wheaton A4005 5/ RA4005 5/ EZ-flo 4005 5/ 7/	Hirt Balance	10 10	Vapor check valve in nozzle. Insertion interlock. Soft, tight-fitting faceplate. Secondary (pressure) shutoff mechanism 4/ Coaxial passageways |9|
OPW 7V Model E 6/ -34 (unleaded, with clip) -36 (leaded, w/out clip) -47 (unleaded, with clip) -49 (unleaded, w/out clip -60 (leaded, with clip) -61 (unleaded, with clip) -62 (leaded, w/out clip) -63 (unleaded, w/out clip)	Hirt Red Jacket	10 3/ 10	No insertion interlock. Loose-fitting assist-type facecone. Remote vapor check valve required. Dual passageways No new 7V nozzles being made by OPW. Secondary (pressure) shutoff mechanism 4 |10|
E-Z Flo EZE8 -34 (leaded, with clip) -36 (leaded, w/out clip) -47 (unleaded, with clip) -49 (unleaded, w/out clip)	Hirt Red Jacket	10 3/ 10	Rebuilt OPW 7V Model E nozzle. Loose-fitting assist-type facecone. No interlock, dual passageways. Remote vapor check valve required. Secondary (pressure) shutoff mechanism 4 |10a|
Rainbow Petroleum Products RPP-34 (leaded, w/ clip) RPP-36 (leaded, w/out clip) RPP-47 (unleaded, with clip) RPP-49 (unleaded, w/out clip)	Hirt Red Jacket	10 3/ 10	OPW 7V Model E nozzle with Rainbow boot. No insertion interlock. Secondary (pressure) shutoff mechanism 4/ Loose-fitting assist-type facecone. Remote vapor check valve required. |10b|

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 3 (continued)
Executive Order G-70-52-AM

Phase II Vapor Recovery System/Nozzle Cross-Reference
(Red Jacket and Hirt Assist Systems or Balance Systems)

Nozzle 1/	Dispensing Rate Systems Using Nozzles 2/	GPM Not To Exceed	Comments and Exhibit 2 Cross-Reference Number	
OPW 11V Model C	Hirt	10	Coaxial passageways.	
-22 (leaded, with clip)	Balance	10	Insertion interlock.	11
-24 (leaded, w/out clip)			Soft, tight-fitting faceplate	
-47 (unleaded, with clip)			Secondary (pressure) shutoff mechanism 4/	
-49 (unleaded, w/o clip)			Vapor check valve in nozzle	
			No new Model C nozzles being made by OPW	
OPW 11VS Model C	Hirt	10 3/	Same as 11V except dual passageways.	
-22 (leaded, with clip)	Balance	10	Insertion interlock.	12
-24 (leaded, w/out clip)			Soft, tight-fitting faceplate.	
-47 (unleaded, with clip)			Secondary (pressure) shutoff mechanism 4/	
-49 (unleaded, w/o clip)			Vapor check valve in nozzle	
			No new Model C nozzles being made by OPW.	
OPW 11V Model E	Hirt	10	Coaxial passageways.	
-34 (leaded, with clip)	Red Jacket	10	Loose fitting assist-type facecone.	13
-36 (leaded, w/out clip)			No insertion interlock.	
-47 (unleaded, with clip)			Remote vapor check valve required.	
-49 (unleaded, w/out clip)			Secondary (pressure) shutoff mechanism 4/	
EZ-flo 11V-E (coaxial) 5/				
OPW 11VS Model E 5/	Hirt	10 3/	Same as 11V E except dual passageways.	
-34 (leaded, with clip)	Red Jacket/	10	Loose fitting assist-type facecone.	14
-36 (leaded, w/out clip)			No insertion interlock.	
-47 (unleaded, with clip)			Remote vapor check valve required.	
-49 (unleaded w/out clip)			Secondary (pressure) shutoff mechanism 4/	
EZ-flo 11V-E (dual) 5/				
OPW 11V Model F	Hirt	10	Vapor check valve in nozzle.	
-22 (leaded, with clip)	Balance	10	Insertion interlock.	15
-24 (leaded, w/out clip)			Secondary (pressure) shutoff mechanism 4/	
-47 (unleaded, with clip)			Soft, tight-fitting faceplate.	
-49 (unleaded, without clip)			Coaxial passageways.	
EZ-flo 11V-F (coaxial) 5/				

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 3 (continued)
Executive Order G-70-52-AM

Phase II Vapor Recovery System/Nozzle Cross-Reference
(Red Jacket and Hirt Assist Systems or Balance Systems)

Nozzle 1/	Dispensing Rate Systems Using Nozzles 2/	GPM Not To Exceed	Comments and Exhibit 2 Cross-Reference Number
OPW 11VS Model F			
-22 (leaded, with clip)	Hirt	10 3/	Same as 11V F except dual passageways.
-24 (leaded, w/out clip)	Balance	10	Vapor check valve in nozzle. 16
-47 (unleaded, w/ clip)			Secondary (pressure) shutoff mechanism 4/
-49 (unleaded, w/6/ clip)			Insertion interlock.
EZ-flo 11V-F (dual)			Soft, tight-fitting faceplate.
OPW 111V 5/			
-22 (leaded, with clip)	Hirt	10	Vapor check valve in nozzle.
-24 (leaded, w/out clip)	Balance	10	Insertion interlock. 17
-47 (unleaded, with clip)			Secondary (pressure) shutoff mechanism 4/
-49 (unleaded, without clip)			Soft, tight-fitting faceplate.
			Coaxial passageways.
Husky Model V 5/			
	Hirt	10	Vapor check valve in nozzle.
	Balance	10	Insertion interlock. 18
			Secondary (pressure) shutoff mechanism 4/
			Soft, tight-fitting faceplate.
			Coaxial passageways.

1/ Spout and bellows may be changed from leaded to unleaded, or vice versa, when products in storage tanks are changed accordingly.

2/ The Executive Orders pertaining to Balance Phase II vapor recovery systems are listed in Exhibit 1.

3/ Flow rate of 12 gpm permitted only on dual Hirt systems which use 3/4" vapor hose.

4/ Secondary (pressure) shutoff mechanism at or below 10" water column (between 6" and 10", not over 10").

5/ Boot protectors are prohibited on Emco Wheaton A4000-series nozzles, EZ-flo 4000-series and 11V-series nozzles and OPW 111V and Husky Model V nozzles.

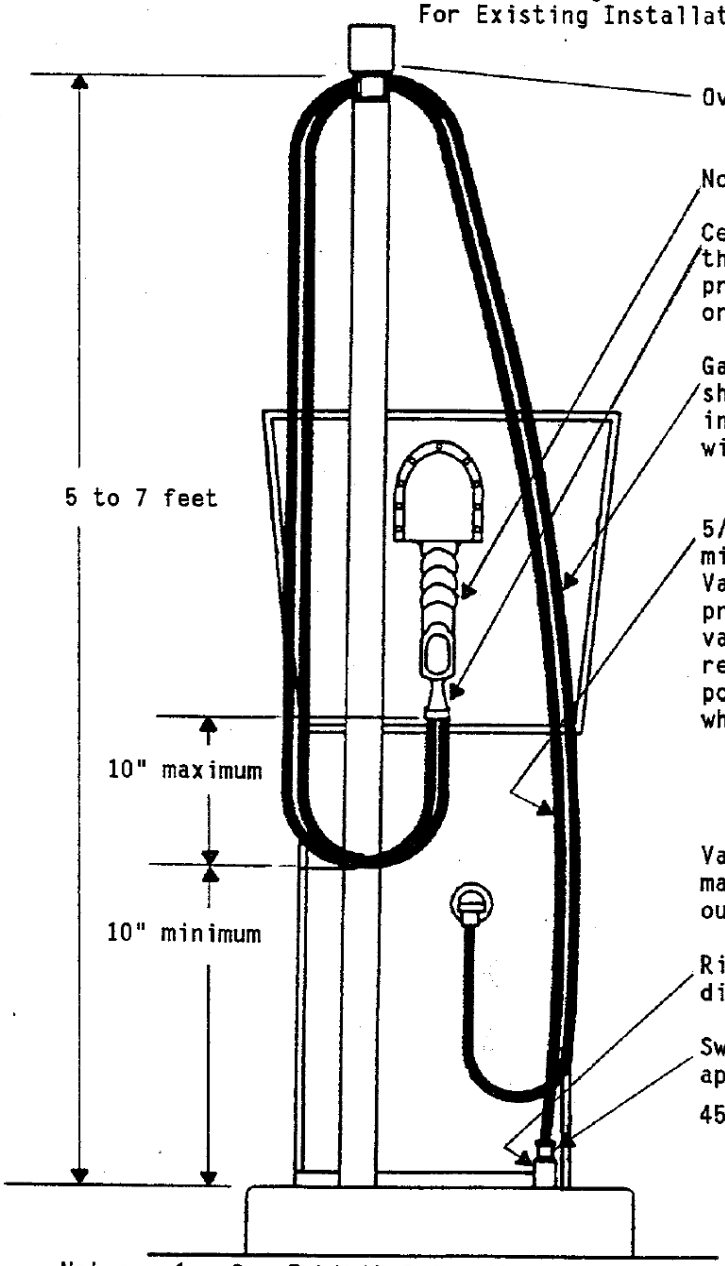
6/ OPW 7V Model E nozzle with OPW 7V Model H bellows/faceplate is acceptable.

7/ EZ-flo rebuilt nozzle bodies may be certified only with Emco Wheaton "front end" parts. Refer to the latest version of Executive Order G-70-134 for a listing of the approved combinations.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

EXHIBIT 4
Executive Order G-70-52-AM

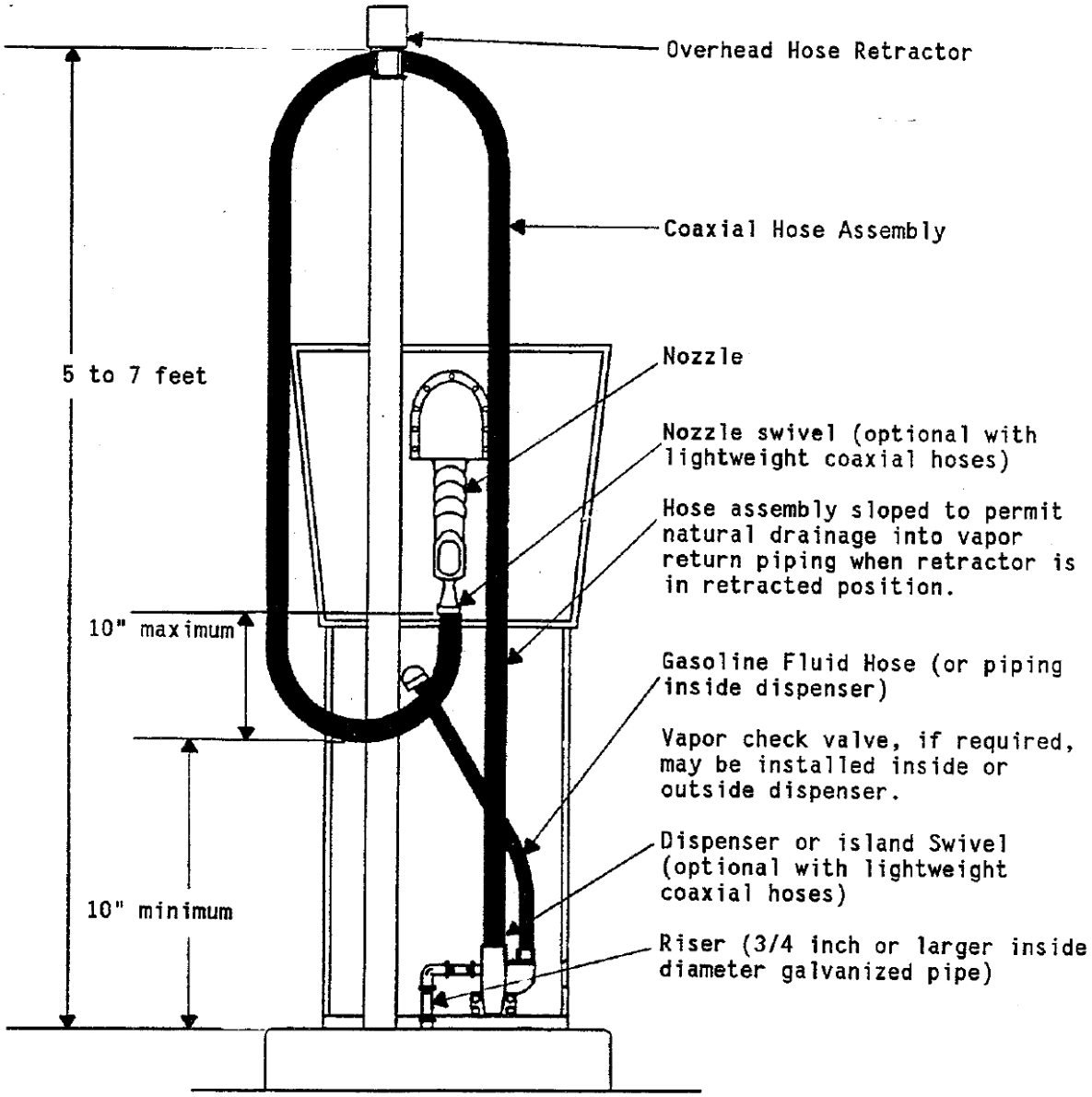
Dual Hose Side Mount High-Retractor Configuration
For Existing Installations Only



Notes:
1. See Exhibit 2 for the component list.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. (A maximum flow rate of 12 gpm is permitted with the Hirt system provided vapor hoses are 3/4" ID.)
3. Use appropriate hose ties.
4. Vapor return piping may be installed on the inside or the outside of the dispenser cabinet.
5. The Emco Wheaton and EZ-flo A4000 and A4002 nozzles are permitted only when used in conjunction with certified vapor check valves.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

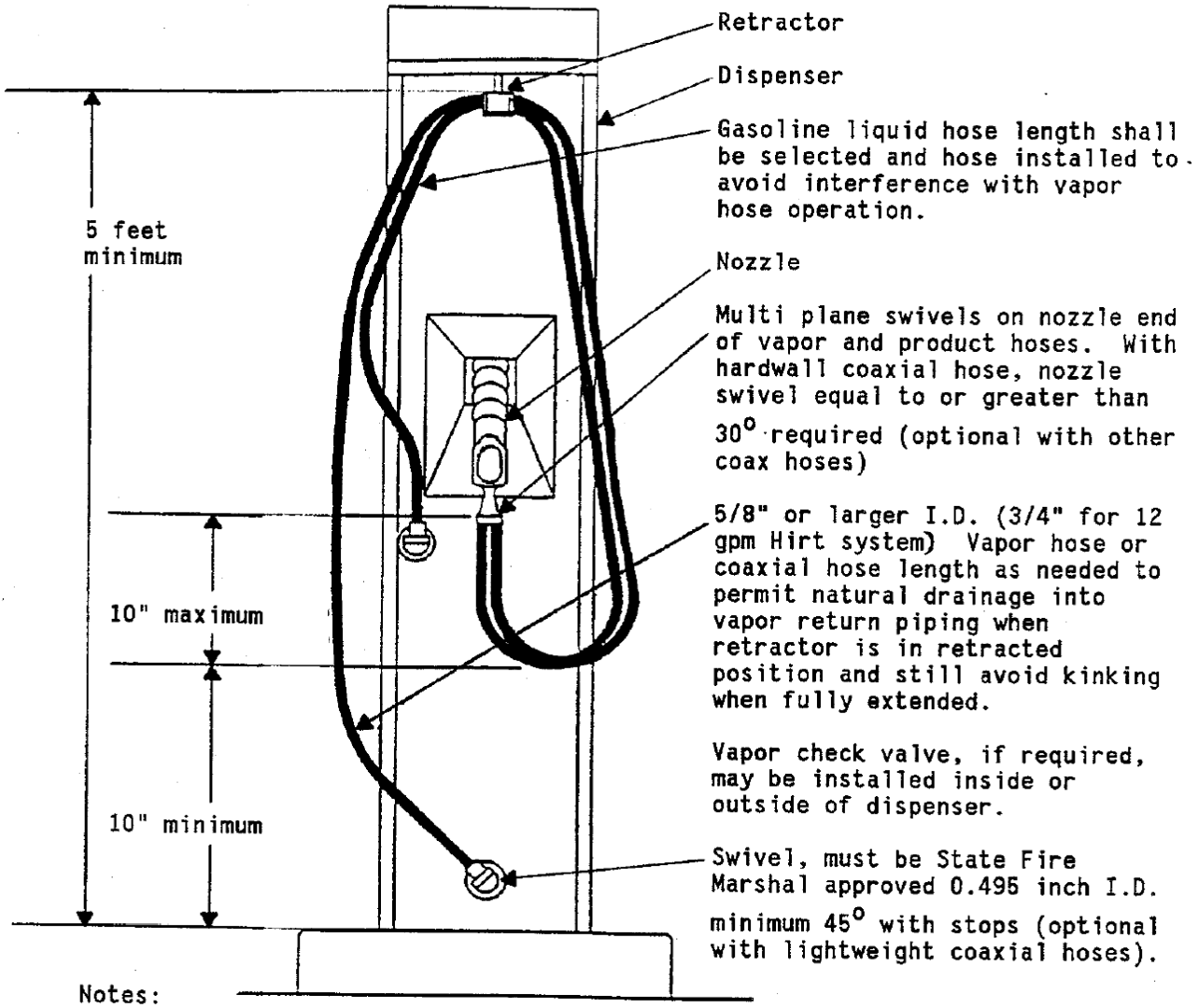
EXHIBIT 5
Executive Order G-70-52-AM
Coaxial Hose Side-Mount High-Retractor Configuration
For New and Existing Installations



Notes:
1. See Exhibit 2 for the component list.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
3. Vapor return piping may be installed on the inside or on the outside of the dispenser cabinet.
4. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
5. Nozzle and dispenser or island swivels are required with hardwall coaxial hoses, and are optional with lightweight coaxial hoses.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

EXHIBIT 6
Executive Order G-70-52-AM
Dual and Coaxial Hose Dispenser-Mount High-Retractor Configuration

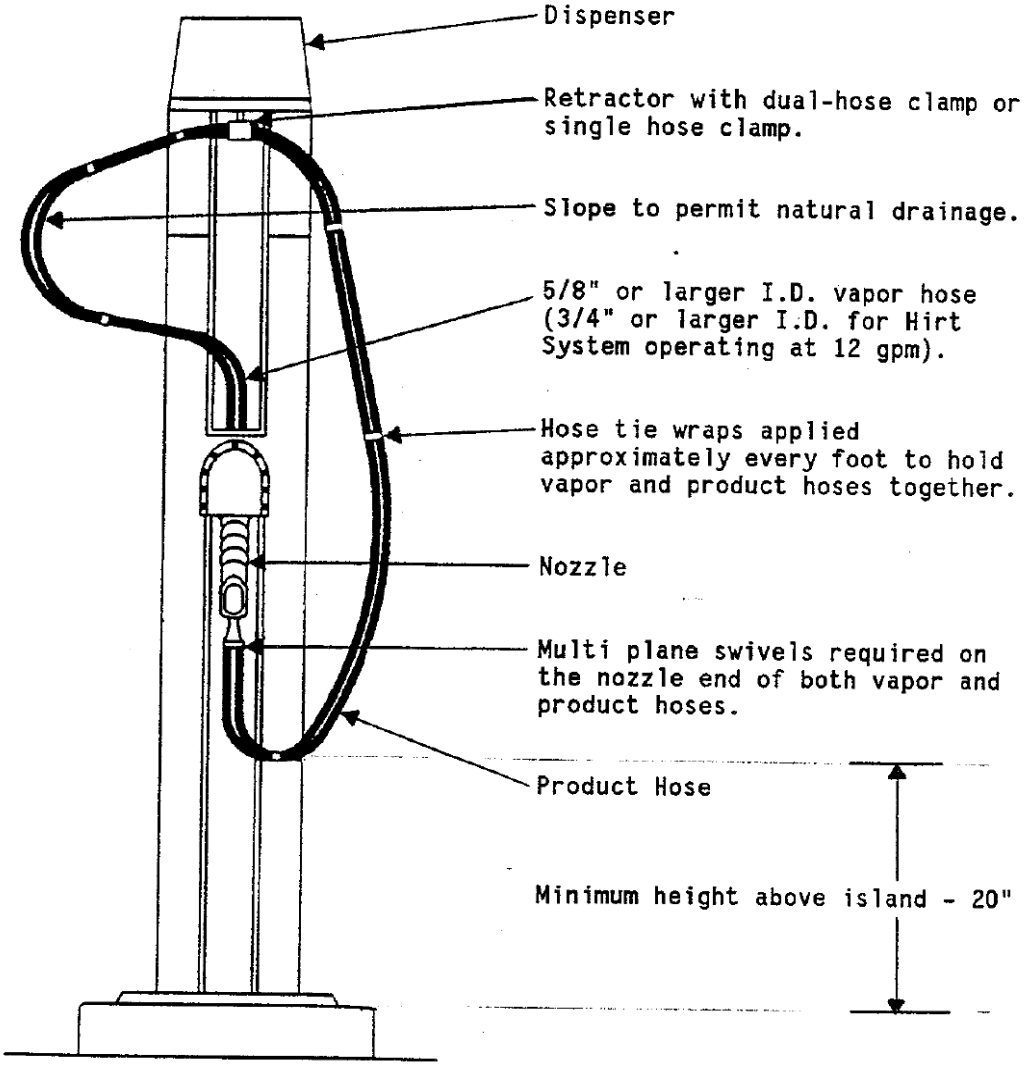


Notes:

1. See Exhibit 2 for the component list.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm (12 gpm for dispensers with the Hirt system provided that 3/4" ID vapor hoses are used), and may be required on any gasoline dispenser at the discretion of the local air pollution control district.
3. Use appropriate hose ties.
4. Vapor return piping may be installed inside or outside dispenser cabinet.
5. Riser shall be 3/4 inch or larger inside diameter galvanized pipe.
6. The Emco Wheaton and EZ-flo A4000, A4001, A4002 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
7. The coaxial hose dispenser-mount high-retractor configuration can be used for all new and existing installations. The dual hose dispenser-mount high-retractor configuration may not be used for new installations.
8. Nozzle and dispenser swivels are required with dual hoses and with hardwall coaxial hoses, and are optional with lightweight coaxial hoses.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

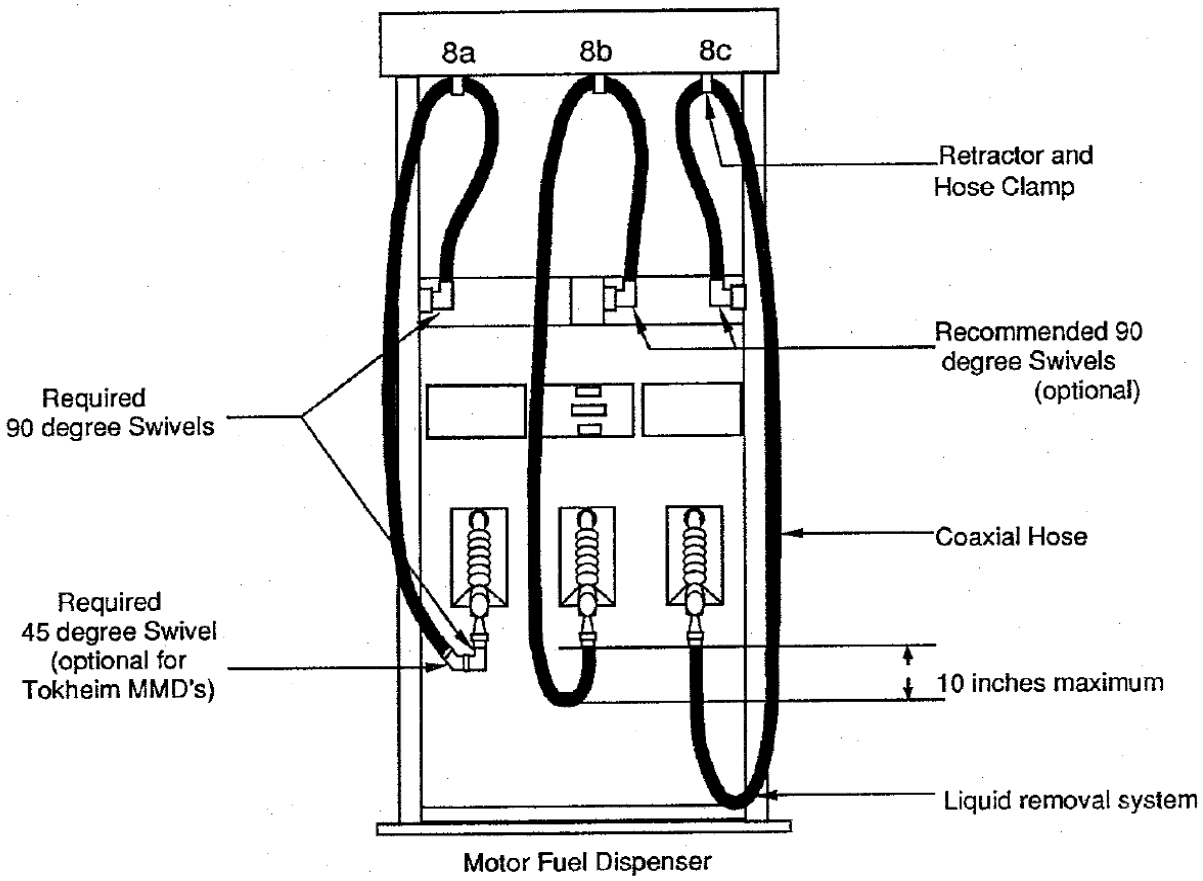
EXHIBIT 7
Executive Order G-70-52-AM
Dual Hose Dispenser-Mount High-Retractor Configuration
For Existing Installations Only



Notes:
1. See Exhibit 2 for the component list.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm (12 gpm for dispensers for the Hirt System).
3. Hose swivels not required at dispenser end of hoses.
4. Riser must be 3/4 inch or larger inside diameter galvanized pipe.
5. Dual hose dispenser-mount high-retractor configuration not permitted on new installations.
6. The Emco Wheaton and EZ-flo A4000 and A4002 nozzles are permitted only when used in conjunction with certified vapor check valves.

Attachment 6-4. CARB Executive Order·G-70-52-AM (Stage 2) (Continued)

EXHIBIT 8
Executive Order G-70-52-AM
High-Retractor Dispenser - Coaxial Hose Configurations
For New and Existing Installations

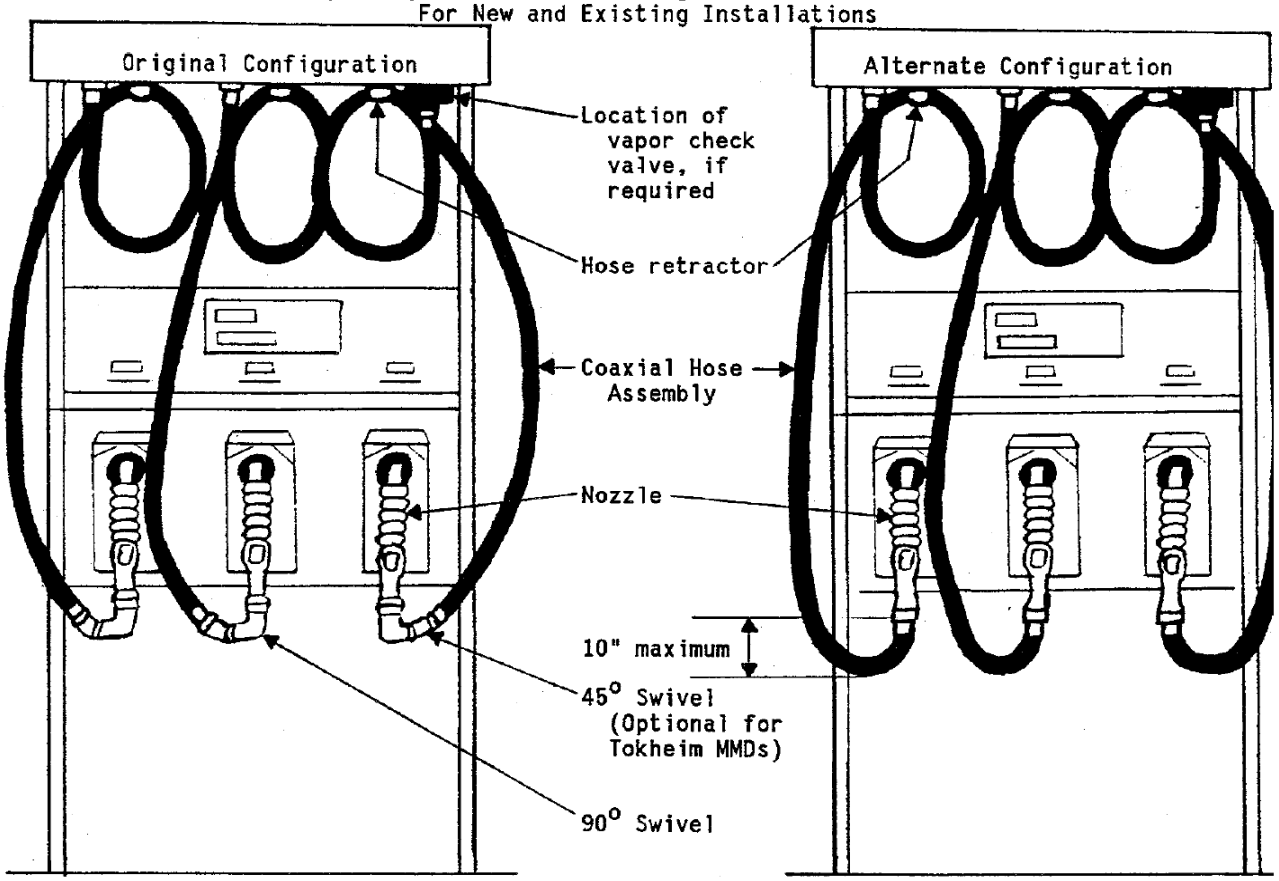


Notes:

1. Use a 1 inch or larger diameter galvanized pipe for riser.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on any gasoline dispenser at the option of the local air pollution control district. Flow limiters are not recommended for configurations requiring liquid removal systems if flowrates are10 gpm or less for all nozzles.
3. For configuration 8a only, the maximum length of the hose assembly is 9 feet. For dispenser islands greater than 4 feet in width, the maximum length of the hose assembly shall not exceed the sum of one-half the dispenser width, in feet, plus 7 feet.
4. Retractor must retract coaxial hose to top of dispensers when not in use and hose must slope downward to dispenser to provide natural drainage from the retractor to the dispenser. Tension on retractor hose clamp must not be in excess of that required to return hose to top of dispenser.
5. For configuration 8c, the hose may not touch the island or the ground when not in use. In the case of a dogbone island where the wider ends protect the hose from damage by vehicle tires, the hose may touch the vertical face of the dogbone island at the option of the local air pollution control district.
6. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
7. Configuration 8a with swivels is required with hardwall coaxial hoses.
8. Liquid removal system is required with configuration 8c and shall be located so that the liquid pickup is in the bottom of the hose loop during vehicle fuelings.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

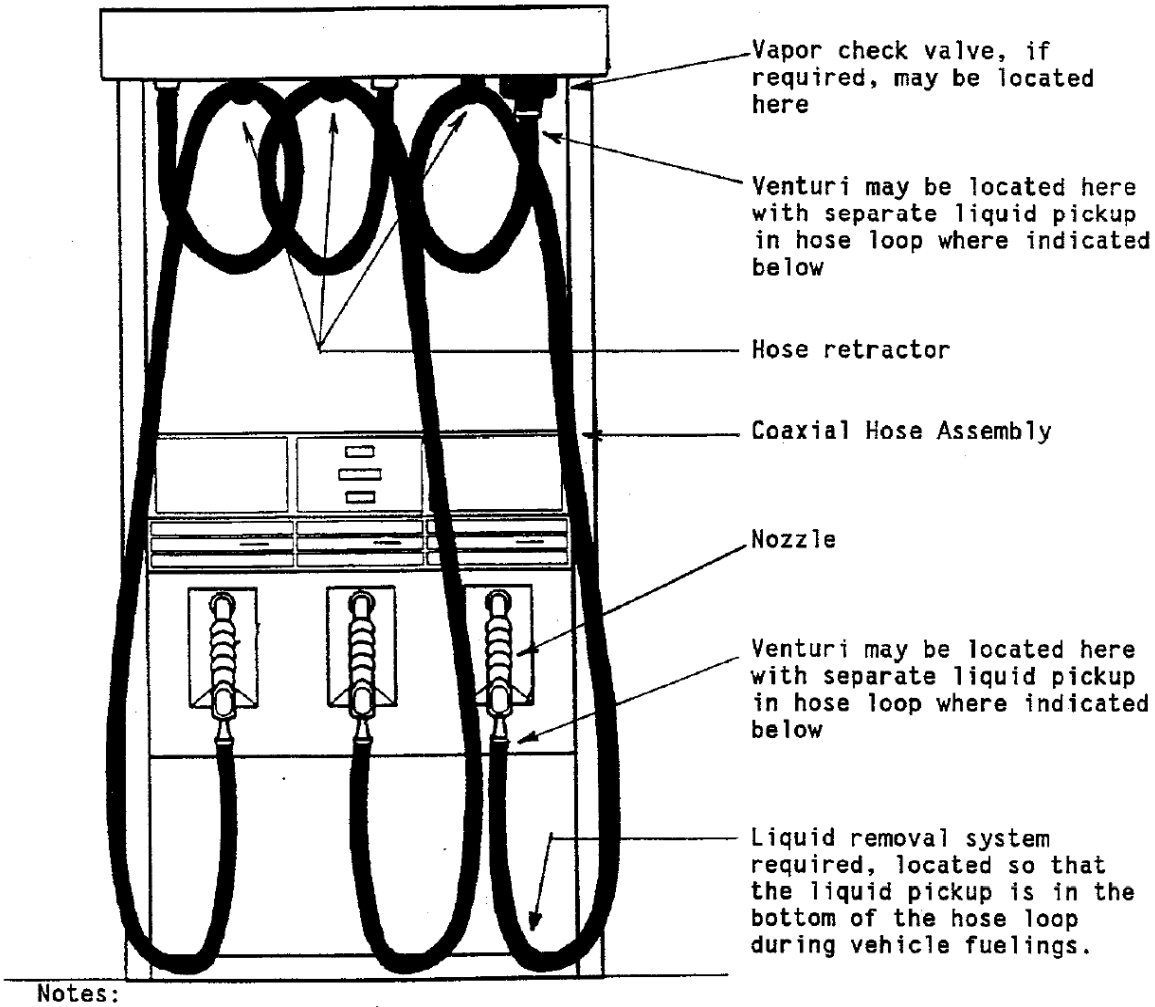
Exhibit 9 (a and b)
Executive Order G-70-52-AM
High-Hang Coaxial Hose Configuration with Retractor
For New and Existing Installations



Notes:
1. Use a 1 inch or larger inside diameter galvanized pipe for riser.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
3. For dispenser islands less than 4 feet in width, the maximum length of the hose assembly is 9-1/2 feet. For dispenser islands greater than 4 feet in width, the maximum length of the hose assembly shall not exceed the sum of one-half the dispenser island width, in feet, plus 7-1/2 feet.
4. Retractor must retract coaxial hose to top of dispensers when not in use.
5. Tension on retractor hose clamp must not be in excess of that required to return hose to top of dispenser.
6. Original configuration required with hardwall hoses.
7. 90 degree swivel is not required if hose stiffener at nozzle is 24" in length (Hose stiffeners pertain only to B.F. Goodrich hoses).
8. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

Exhibit 9c
Executive Order G-70-52-AM
High-Hang Coaxial Hose Configuration With Liquid Removal System
For New and Existing Installations

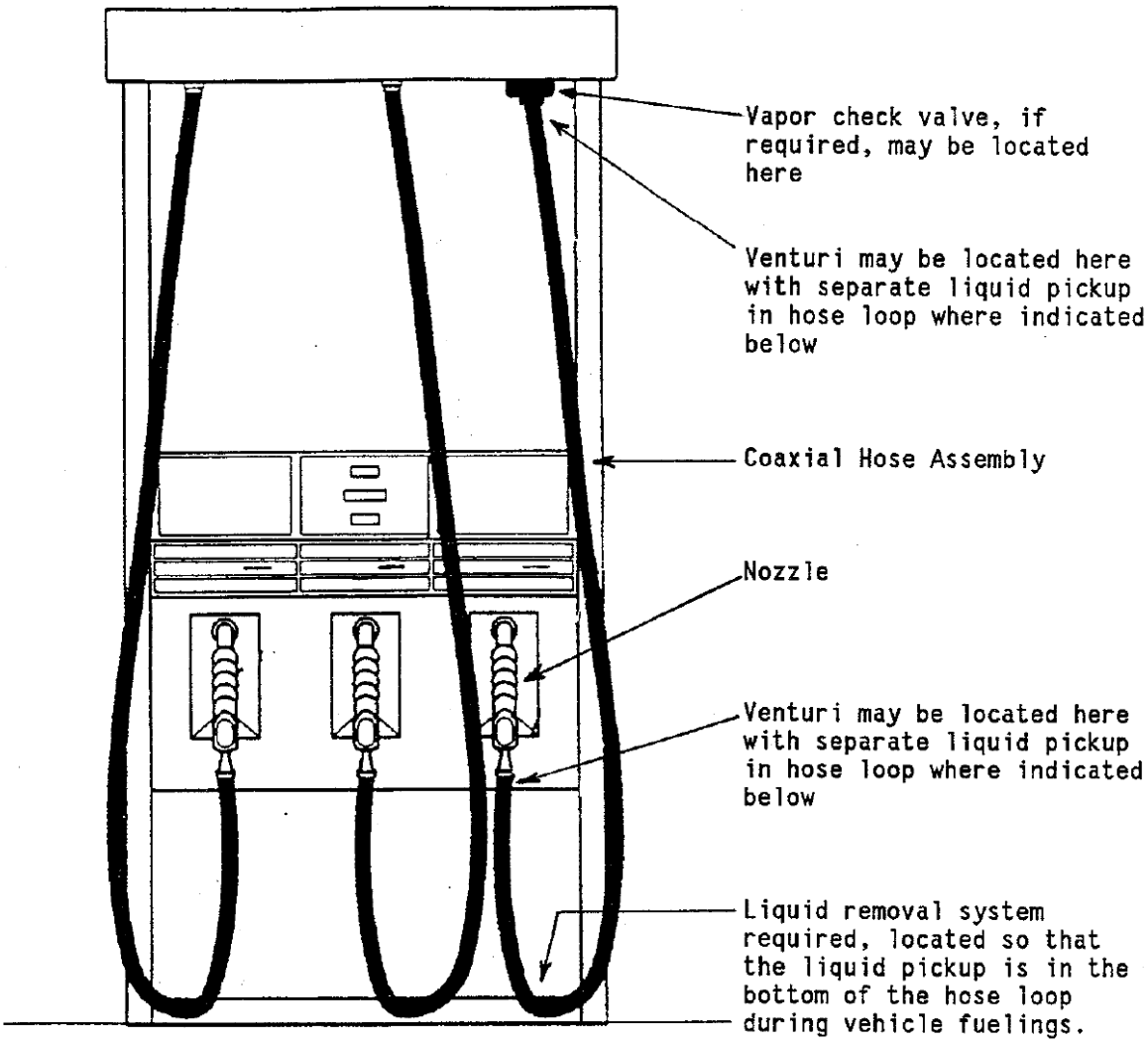


Notes:

1. Use 1 inch or larger inside diameter galvanized pipe for riser.
2. The maximum length of the hose assembly, including any breakaway valve, vapor check valve or pigtail hose, shall not exceed 13 feet.
3. An ARB certified liquid removal system must be installed and maintained according to the manufacturer's current specifications.
4. A flow limiter is required on all dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
5. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
6. The hose may not touch the island or the ground when not in use. In the case of a dogbone island where the wider island ends protect the hose from damage by vehicle tires, the hose may touch the vertical face of the dogbone island at the option of the local air pollution control district.
7. Retractor must retract coaxial hose to top of dispensers when not in use.
8. Tension on hose clamp must not be in excess of that required to return hose to top of dispenser.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

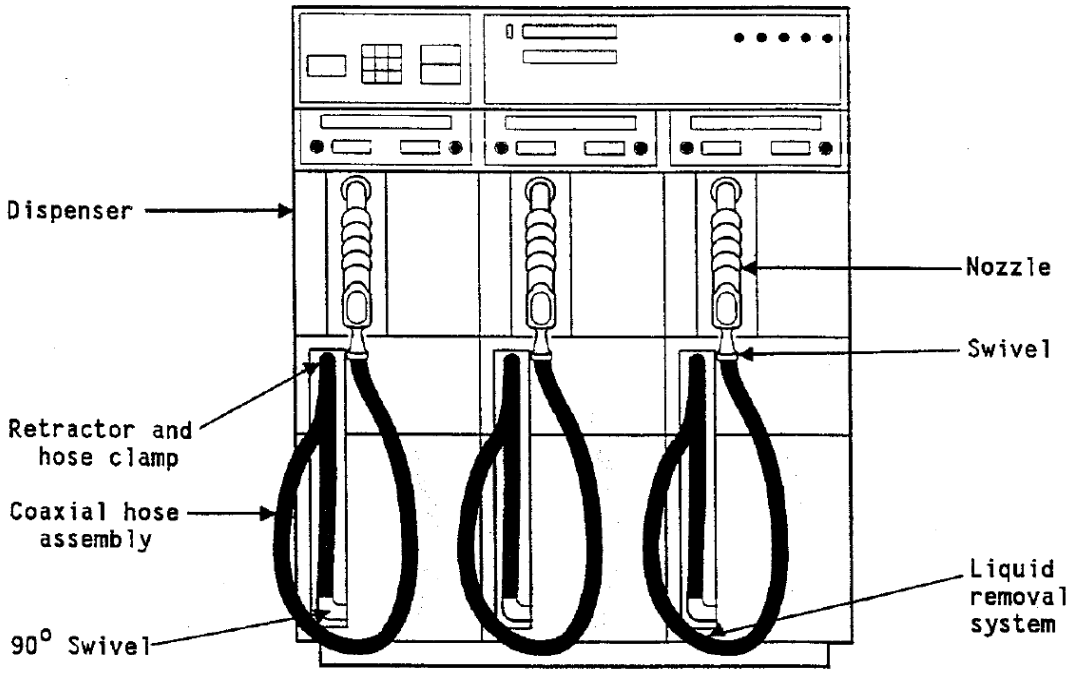
EXHIBIT 10
Executive Order G-70-52-AM
High-Hang Coaxial Hose Configuration With Liquid Removal System
For New and Existing Installations



Notes:
1. Use 1 inch or larger inside diameter galvanized pipe for riser.
2. The maximum length of the hose assembly is 10-1/2 feet.
3. An ARB certified liquid removal system must be installed and maintained according to the manufacturer's current specifications.
4. A flow limiter is required on all dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
5. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
6. The hose may not touch the island or the ground when not in use. In the case of a dogbone island where the wider island ends protect the hose from damage by vehicle tires, the hose may touch the vertical face of the dogbone island at the option of the local air pollution control district.

Attachment 6-4. CARB Executive Order·G-70-52-AM (Stage 2) (Continued)

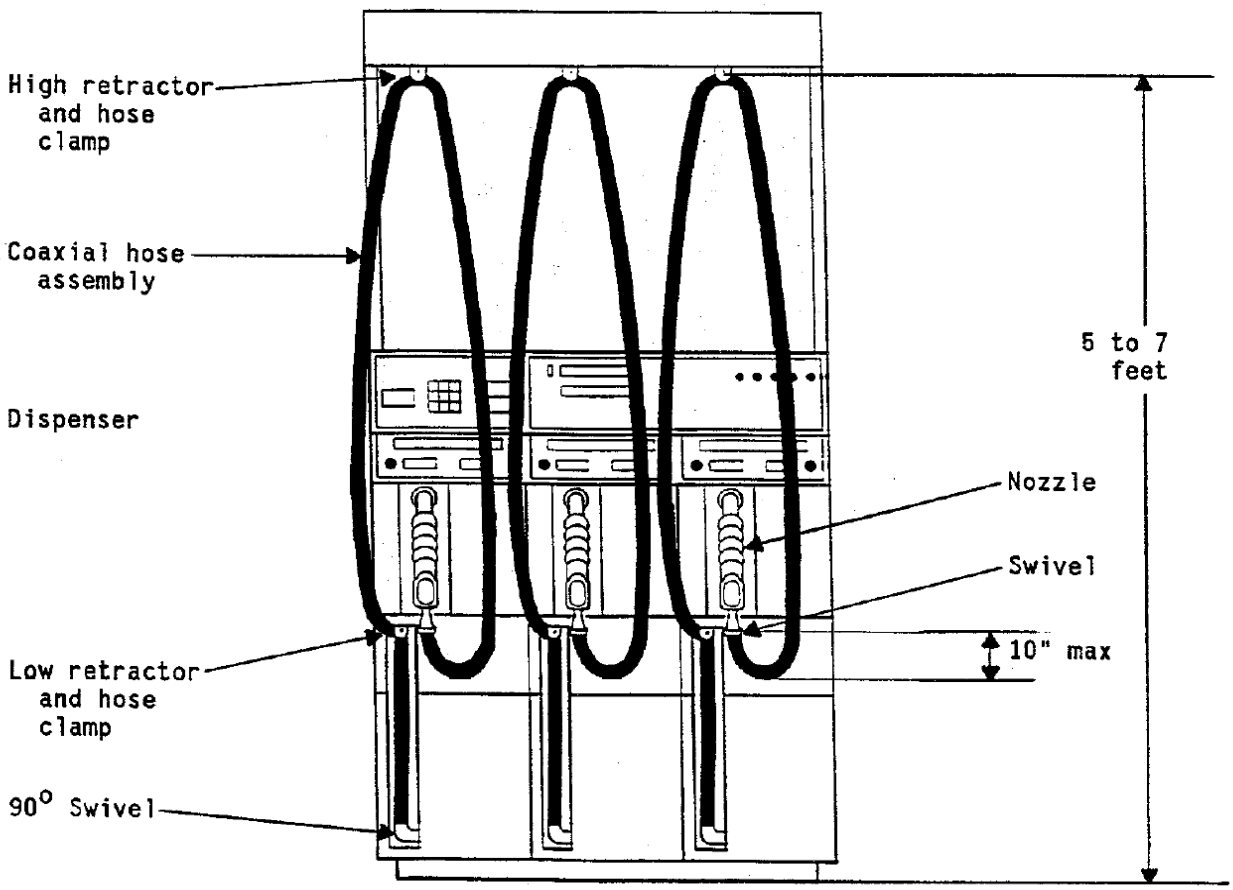
EXHIBIT 11
Executive Order G-70-52-AM
Low-Profile Dispenser with Retractor and Liquid Removal System
For New and Existing Installations



Notes:
1. Use 1 inch or larger inside diameter galvanized pipe for riser.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
3. An ARB certified liquid removal system must be installed and maintained according to manufacturer's specifications.
4. Retractor must retract coaxial hose to dispenser when not in use. The hose must fit snugly against the dispenser from the low retractor to the 90° swivel.
5. Tension on retractor hose clamp must not be in excess of that required to return hose to dispenser.
6. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.
7. The hose may not touch the island or the ground when not in use. In the case of a dogbone island where the wider island ends protect the hose from damage by vehicle tires, the hose may touch the vertical face of the dogbone island at the option of the local air pollution control district.

Attachment 6-4. CARB Executive Order G-70-52-AM (Stage 2) (Continued)

EXHIBIT 11a
Executive Order G-70-52-AM
Low-Profile Dispenser with Retractors
For New and Existing Installations



Notes:
1. Use 1 inch or larger inside diameter galvanized pipe for riser.
2. A flow limiter is required on dispensers that have a maximum flowrate in excess of 10 gpm. A flow limiter may be required on all gasoline dispensers at the option of the local air pollution control district.
3. Low retractor must be present and must retract hose to dispenser when not in use. Hose must fit snugly against dispenser from low retractor to 90 degree swivel.
4. High retractor must retract hose fully when hose is not in use and must provide natural drainage from high retractor to the 90° swivel.
5. Tension on retractor hose clamp must not be in excess of that required to return hose to dispenser.
6. The Emco Wheaton and EZ-flo A4001 and A4003 nozzles are permitted only when used in conjunction with approved vapor check valves.

Back to Table of Contents