

Statement of Basis – January 4, 2001 King County Solid Waste Division Cedar Hills Regional Landfill

Administrative Revision No. 2, March 25, 2004



Aerial View of Cedar Hills Landfill – May 1998

Purpose of this Statement of Basis

This document summarizes the legal and factual basis for the proposed permit conditions in the King County Solid Waste Division Cedar Hills Regional Landfill air operating permit to be issued under the authority of the Washington Clean Air Act, Chapter 70.94 Revised Code of Washington (RCW), Chapter 173-401 of the Washington Administrative Code (WAC), and the Puget Sound Clean Air Agency (previously known as Puget Sound Air Pollution Control Agency (PSAPCA)) Regulation I, Article 7. Unlike the permit, this document is not a legally enforceable document. It includes references to the applicable statutory or regulatory provisions that relate to King County Solid Waste Division's air emissions, and provides a description of King County Solid Waste Division's activities, including a short compliance history.

Source Description

Service – Municipal Solid Waste Landfill

The King County Solid Waste Division handles 100% of the mixed solid waste generated in King County, exclusive of that generated within the Cities of Seattle and Milton. The landfill is located 20 miles southeast of Seattle and is owned and operated by the King County Solid Waste Division. In 1960, the King County Board of Commissioners issued the Cedar Hills Special Use Permit that opened the landfill.

The King County Solid Waste Division is required to have an operating permit because the new construction of Area V made 40 CFR 60, Subpart WWW applicable to the facility. That subpart required that an application be submitted for a Title V air operating permit.

King County Solid Waste Division Cedar Hills Landfill 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. Monofill 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 treat any leachate, collect and control methane gas emissions, and prevent soil erosion. Cedar Hills Landfill occupies 920 acres with approximately 406 acres available for landfilling and support functions. The remaining landfill capacity is approximately 14 million tons or approximately 15 years. However, current plans are to close the landfill sometime around the year 2012, before reaching its capacity.

The landfill consists of:

- 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, and
- An office and equipment complex.

Responsible Individual

With Administrative Revision 2, Theresa Jennings replaced Rodney G. Hansen as Director of the Solid Waste Division and is listed as the responsible individual meeting the requirements of WAC 173-401-200 (27)(c). Though the site is called the “Cedar Hills Regional Landfill,” the organization in King County that is responsible for the day-to-day operations of the facility is the King County Public Works - Solid Waste Division. The term “King County Solid Waste Division” is used throughout the permit.

Pollutants Emitted to Air

The primary source of landfill emissions is anaerobic biodegradation of which the main products are methane, CO₂, and Non-Methane Organic Compounds (NMOC). Amine and mercaptan-based constituents that can be detected in the parts-per-billion range as odors are also components of landfill gas. Fugitive dust from traffic on dirt roads and trackout on public highways are also of concern. In 1999, thermal treatment of the landfill gas produced 70 tons of NO_x, 10 tons of CO, and 46 tons of SO_x.

Process Overview and Specific Production Steps

Landfill Operations

Tractor trailers transport refuse to the landfill where it is deposited on the “working face” of the active refuse cell. As the day progresses, self-propelled machinery compacts the waste at the working face and deposits soil on top that is then compacted to form a daily cover. The purpose of the daily cover is to reduce vectors (birds, rats and their predators), litter, and odors from the new refuse. As the cell is filled, the exposed perimeter slopes are covered each year with a “summer” cover system that consists of a layer of sand, a geotextile filter fabric, and a layer of low-permeability soil seeded with grass. The cover system is designed to reduce both landfill gas (LFG) emissions and leachate seepage from the refuse.

A final cover system is placed on the finished outside surfaces of a refuse cell when final refuse grades have been achieved. The final cover system, designed and constructed to comply with state and federal regulations (not covered in the operating permit), encloses the refuse to limit fugitive emissions to the maximum extent practicable so that the landfill gas collection system can operate efficiently.

Landfill Gas Management

Landfill gas collection is accomplished by a network of vertical wells and horizontal collection trenches installed in both the closed and active areas of the landfill. When vacuum is applied to these wells and trenches, the system is said to be under “active extraction.” In contrast, a collection system that relies on gas flowing only as a result of internal, natural pressure gradients in the landfill is said to be a “passive” system. Both active and passive systems are used at the Cedar Hills Landfill. In addition, many leachate system pipes, cleanouts, manholes, and other

facilities where gas can be generated or conveyed have been connected to the gas manifolds and header piping systems, where gas is conveyed under vacuum to a control facility.

Gas is treated by thermal oxidation in both open, elevated flares and enclosed ground flares. Gas is conveyed from most of the closed refuse areas and all active refuse areas to an integrated landfill gas control station located at the north end of the landfill. This facility, known as the North Flare Station, consists of four enclosed ground flares, vacuum exhausters, and instrumentation for control of both operations. A fifth ground flare is permitted with installation to be completed in year 2000. A small portion of the gas collected in the landfill is treated at two other locations. An open, elevated flare is located on the South Solid Waste Area. This is a shallow depth area of old refuse at the south end of the landfill. Passive networks of collection trenches installed within the old refuse feed this flare. Another open flare, located in the southeast corner of the landfill, burns gas collected under active extraction by the Southeast Pit perimeter migration control system. This flare and exhauster are called the Southeast Flare Station. A spare 1000 cfm mobile, skid-mounted portable flare is not connected into the system and acts as a backup flare for maintenance projects at this landfill and other closed landfills in King County.

Landfill gas is sometimes found in leachate piping, and the leachate itself can be odor producing. For this reason, the leachate manholes and pump stations are designed with watertight covers and fittings to prevent the escape of gas and odors. Several of these facilities and leachate cleanouts are connected to the landfill gas collection system to reduce the potential for fugitive emissions.

During the five-year period after issuance of the operating permit, the King County Solid Waste Division may sell some or most of its landfill gas production to outside public or private corporations, for the purpose of converting the gas to energy. It is expected, however, that some treatment/control of waste landfill gas would still take place due to the low BTU value of gas recovered from the perimeter gas capture and leachate-gas separation systems. If the BTU value of this gas is very low and does not support combustion, gas control methods may include carbon adsorption, biofiltration, or chemical scrubbing.

Vehicle and Landfill Maintenance Activities

Support facilities at the Cedar Hills Landfill include a central maintenance shop building; several additional structures; an outdoor truck wash facility; fueling stations for gasoline-, diesel-, and propane-powered vehicles; a storage area for 55-gallon drums of oil, grease, and kerosene; and an outside storage yard for spare materials. The gasoline station has CARB-approved Stage 1 and Stage 2 vapor recovery systems.

The King County Solid Waste Division operates and maintains a fleet of support vehicles used at the landfill. Routine maintenance and mechanical repairs of the vehicles, equipment, and refuse trailers are performed at the central maintenance shop building. When required, some of these activities are performed at the location of the damaged vehicle elsewhere on the landfill property. In the course of such work, waste fluids such as antifreeze, oil, grease, and fuel are collected and stored. A "Safety-Kleen" station is used to clean vehicle parts. Some welding and roller/brush painting activities are done as needed.

Miscellaneous Activities

The offices of the operations manager occupy four small structures at the south end of the landfill. The buildings also contain an employee lunchroom area with sanitary and shower facilities, as well as office space for the environmental monitoring and engineering support staffs. Staff and county vehicles are present on the landfill property day and night. Unpaved roads are watered, and paved roads are swept for dust control. Small machines and equipment used to maintain the landfill property include mowers, weed-eaters, air compressors, portable generators, hand-held augers, plastic pipe welders, and portable pumps. The various buildings on the site are ventilated via the heating and air conditioning systems. These include the vehicle maintenance shop heaters which combust less than one-half million BTU per hour of waste vehicle lubricating oil.

Review of King County Solid Waste Division Permit Application

The Puget Sound Clean Air Agency received the original air operating permit application on June 7, 1995. King County Solid Waste Division submitted revisions and addenda to the original application that were received by the Puget Sound Clean Air Agency on August 1, 1995 and September 1, 1995. The Puget Sound Clean Air Agency acknowledged that the application was complete in a September 1, 1995 letter to King County Solid Waste Division.

Compliance History

In the last 5 years, the Puget Sound Clean Air Agency has inspected King County Solid Waste Division a total of 72 times. These visits were in response to 879 complaints received by the Puget Sound Clean Air Agency. There were 47 complaints and 11 inspections in 1995, 208 complaints and 22 inspections in 1996, 483 complaints and 18 inspections in 1997, 112 complaints and 11 inspections in 1998, 28 complaints and 5 inspections in 1999, and 1 complaint and 5 inspections in the first half of 2000. During this period, the Puget Sound Clean Air Agency issued eight Notices of Violation (NOVs) resulting in two civil penalties. The table below lists each NOV, the requirement cited, a description of the violation, and the resolution of the case.

Date of NOV	Notice of Violation (NOV) No.	Regulation or Order of Approval No.	Description	Resolution
6/19/96	35303	Puget Sound Clean Air Agency Order of Approval No. 6454 Condition No. 4 (Dated 5/16/96)	Failure to comply with approval Condition No. 4 for a Portable Mobile Flare Station. King County Solid Waste Division failed to install a continuous temperature recorder for the flare within 30 days of startup. (Unit installed one day later - 6/20/96)	(Case Closed 12/23/96) - Civil Penalty (CP) No. 8501 for \$1000. Suspended \$750, and paid \$250, with a two-year Assurance of Discontinuance Agreement (AOD)
4/21/97	35318	Puget Sound Clean Air Agency Reg I, Section 9.20	Causing or allowing the South Solid Waste Passive Flare to remain unlit with the valve in the "open" position.	(Case Closed 11/20/97) - CP No. 8696 for \$3000. Suspended \$3000 with

Date of NOV	Notice of Violation (NOV) No.	Regulation or Order of Approval No.	Description	Resolution
		(Adopted 6/9/88)	Uncontrolled escape of landfill gas to the ambient air was allowed through the unlit flare.	Settlement Agreement and Consent Order signed after flare was upgraded with automatic valve closures
6/30/97	Asbestos 4-4363	Puget Sound Clean Air Agency Reg III, Sections: 4.02(a), (Adopted 6/8/95) 4.03(a), & 4.03(a)(4), (Revised 9/12/96) 4.04(a), 4.05(a), 4.05(b)(1), 4.05(b)(4), 4.05(b)(6), 4.05(b)(7), & 4.05(b)(9) (Adopted 6/8/95)	Employee Break Room Floor - Tile removed with 5% asbestos in the mastic. Failure to have an AHERA survey conducted prior to the beginning of the work. Failure to submit notification to the Agency of an asbestos removal. Failure to have the required notification and survey available for inspection. Failure to remove asbestos prior to renovation work that disturbed the asbestos-containing material. Failure to have certified asbestos workers conduct the asbestos removal. Failure to conduct the asbestos removal in a controlled area. Failure to remove asbestos using wet methods. Failure to keep from damaging asbestos-containing material being removed. Failure to keep asbestos-containing waste material wet and sealed in leak-tight containers and to mark the containers with the required waste generator information.	(Case Closed 10/9/97) – CP No. 8695 for \$3500. Suspended \$2500, and paid \$1000, with a two-year AOD
9/28/98	36758	Puget Sound Clean Air Agency Reg I, Section 9.12(b), (Adopted 8/10/89) and Puget Sound Clean Air Agency Reg I, Section 9.20 (Adopted 6/9/88)	Causing or allowing the operation of two open ended lateral landfill gas collection lines on the west side of Area 4 at lift 13.	(Case Closed 5/17/00) – CP No. 8965 for \$3000. Suspended \$3000, with a two-year AOD. King County to implement an ISO-14000 Environmental Management System
8/17/99	36774	Puget Sound Clean Air Agency Reg I, Section 6.03(a) (Adopted 7/8/99)	Two new gasoline tanks and Stage 1 & 2 vapor recovery systems installed without prior approval from the Agency for a Notice of Construction Application.	(Case Closed 5/17/00) – CP No. 9033 for \$2000. Suspended \$2000 with a two-year AOD. King County to implement an ISO-14000 Environmental Management System

In addition, on two occasions, the Puget Sound Clean Air Agency issued Compliance Status Reports (CSRs) to the King County Solid Waste Division advising that fugitive gas flows and odor releases were unacceptable (February 1, 1995 and November 12, 1996).

Each year, the Puget Sound Clean Air Agency has received the required emission statements. The King County Solid Waste Division currently also reports certification of compliance with the NSPS requirements semiannually (quarterly, if King County Solid Waste Division is out-of-compliance with the NSPS) to EPA Region 10 and the Puget Sound Clean Air Agency as required by the NSPS - 40 CFR Part 60, Subparts A and WWW.

There are currently no outstanding enforcement actions.

Emission Inventory

See Attachment A.

Applicable Requirements

Applicable requirements are listed in several sections of this operating permit as outlined below. The permit lists only the requirements that the Puget Sound Clean Air Agency has determined to be within the scope of the definition of “applicable requirements” under the operating permit program. King County Solid Waste Division is legally responsible for complying with all applicable requirements of the operating permit as well as other requirements that do not fit the definition of “applicable requirements” found in Chapter 173-401 Washington Administrative Code (WAC). Some of the applicable requirements contain terms or monitoring, maintenance and recordkeeping that require detailed explanation in this statement of basis. The specific conditions are listed below, along with any necessary explanations in monitoring, maintenance, and recordkeeping requirements.

The King County Solid Waste Division is subject to all the requirements listed in Section I of the permit. Section I.A contains the requirements that are applicable facility-wide and Section I.B contains requirements applicable only to specific emission units. The requirements in Section I.B only apply to the specific emission units cited; however, the requirements in Section I.A also apply to the specific emission units or activities described in Section I.B. If the monitoring, maintenance, and recordkeeping method for any requirement in Section I.A is more extensive for specific emission units, that requirement is repeated in Section I.B with the additional monitoring, maintenance and recordkeeping requirements.

The tables list the citation for the “applicable requirement” in the second column. The third column (Date) contains the adoption or effective date of the requirement. In some cases, the effective dates of the Federally Enforceable Requirement and the State Only Requirement are different because only rules approved by EPA through Sections 110, 111, and 112 of the federal Clean Air Act are federally enforceable and either the state has not submitted the regulation to the EPA or the EPA has not approved it.

The first column is used as an identifier for the requirement, and the fourth (Requirement Paraphrase) column paraphrases the requirement. The first and fourth columns are for

information only and are not enforceable conditions of this permit. The actual enforceable requirement is embodied in the requirement cited in the second and third columns.

The fifth column (Monitoring, Maintenance & Recordkeeping Method) identifies the methods described in Section II of the permit. Following these methods is an enforceable requirement of this permit. The sixth column identifies the averaging time for the reference test method. The last column (Reference Test Method) identifies the reference method associated with an applicable emission limit that is to be used if and when a source test is required. In some cases where the applicable requirement does not cite a test method, one has been added.

In the event of conflict or omission between the information contained in the fourth and sixth columns and the actual statute or regulation cited in the second column, the requirements and language of the actual statute or regulation cited shall govern. For more information regarding any of the requirements cited in the second and third columns, refer to the actual requirements cited.

Those requirements are explained in detail below.

Section I. A. (Facility-Wide) Applicable Requirements

Requirements I.A.1 and 1.A.11

Both WAC 173-400-040(1) and Puget Sound Clean Air Agency Regulation I, Section 9.03 standards are 20% opacity and apply to all stationary sources.

The monitoring method is based on monthly visual inspections of all emission points at King County Solid Waste Division, with the source taking corrective action within 24 hours or using the reference test method, WDOE Method 9A, to determine opacity if any visible emissions are noted. The Puget Sound Clean Air Agency has determined that the monitoring should be daily for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*.

- 1) Initial compliance. The Puget Sound Clean Air Agency has not observed visible emissions from these activities during any inspection, nor has King County Solid Waste Division.
- 2) Margin of compliance. The monitoring method is designed so that the King County Solid Waste Division will take corrective action before a violation occurs. The emission units are unlikely to generate visible emissions except under the most unusual circumstances. In addition, the Puget Sound Clean Air Agency has inspected this facility at least five times annually since 1995 and has not identified opacity issues with the stationary equipment. Because we have never observed any visible emissions for the facility, the margin of compliance with the 20% opacity standard is high. Therefore, the Puget Sound Clean Air Agency has determined that monthly monitoring is adequate except as provided for under specific emission unit monitoring requirements. Recording of visible emissions is not necessarily a deviation of the opacity requirements. However, failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific permit

term. Taking corrective action does not relieve King County Solid Waste Division from the obligation to comply with the opacity requirement itself.

- 3) Variability of process and emissions. Annual emissions from the facility are generally proportionate to the amount and age of waste present at the landfill. Waste acceptance rates are relatively constant on an annual and daily basis. Landfill gas emission rates change slowly as a function of barometric pressure. However, the most significant potential sources of opacity emissions are the flares, waste handling activities, and building heating. The flares and waste handling are addressed elsewhere in the permit and subject to specific Operation and Maintenance (O&M) and inspection requirements.
- 4) Environmental impacts of problems. Observed opacity is generally related to emissions of particulate matter or finely divided liquid droplets. The stationary emission units at King County Solid Waste Division typically do not generate visible emissions. Experience with flare system failures since 1995, including one major failure due to silica sand blockages in one flare's burner tips, has not resulted in any observed opacity violations.
- 5) Technical considerations. Catastrophic failure of a building's heating unit is a likely cause of an opacity standard deviation at King County Solid Waste Division. However, these units are fired in accordance with an acceptable O&M Plan, thereby minimizing the probability of an opacity standard violation.

Requirements I.A.2 and I.A.12

Both Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040 (6) are equivalent requirements (SO₂ emissions not to exceed 1000 ppm), except for the second paragraph of the WAC 173-400-040(6) which is not in the Puget Sound Clean Air Agency regulation. That paragraph, which is not federally enforceable, allows for exceptions to this requirement if the source can demonstrate that there is no feasible method of reducing the SO₂ concentrations to 1000 ppm. Since the Puget Sound Clean Air Agency rules do not allow the exception, the second paragraph does not apply to the King County Solid Waste Division. The King County Solid Waste Division can only burn landfill gas in the flares. "Landfill Gas" (LFG) is roughly a 45/45 mixture of methane and carbon dioxide. The remaining 10% is made up of oxygen, nitrogen, hydrogen, water vapor, and trace constituents. The trace constituents make up between 1-3% of the LFG. Most of the trace compounds are Non-Methane Organic Compounds (NMOC). Some of these remainder constituents are sulfur compounds. The presence of these trace compounds in LFG is thought to be due primarily to the disposal of waste containing these compounds into the landfill, although some may also be present as a result of natural decomposition processes within the landfill. An example is hydrogen sulfide (H₂S) from decomposition of gypsum board. When sulfur-bearing compounds are combusted in the flares with the other components of landfill gas, a large portion of the sulfur leaves the flares as sulfur dioxide (SO₂). SO₂ concentration measurements have ranged from 2 to 10 ppmv during 4 source tests conducted on the North Flare Station since 1996. Note that these measured values are less than 1 percent of the 1,000 ppm SO₂ standard. There is no reason to believe that the

amount of sulfur in the flares will significantly increase. Therefore, it is reasonable to assume that combustion units that are fired on landfill gas cannot exceed the 1,000 ppm SO₂ limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6). The other emission units are not capable of generating SO₂ emissions as permitted. Therefore, the permit does not contain additional monitoring requirements.

Requirement I.A.3

Puget Sound Clean Air Agency Regulation I, Section 9.09 limits particulate emissions to 0.05 grain per dry standard cubic foot (gr/dscf) from equipment used in a manufacturing process. Puget Sound Clean Air Agency Regulation I, Section 9.09 also limits particulate emissions from fuel burning equipment using a fuel other than wood to 0.05 grain per dry standard cubic foot (gr/dscf) corrected to 7% O₂. WAC 173-400-060 limits particulate emissions to 0.1 gr/dscf from general process units (i.e., units using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion). WAC 173-400-050(1) limits particulate emissions to 0.1 gr/dscf corrected to 7% O₂ from combustion and incineration units (i.e., units using combustion for waste disposal, steam production, chemical recovery or other process requirements; but excluding open burning).

The monitoring method is based on monthly visual inspections of all emission points at King County Solid Waste Division, with the source taking corrective action or using the reference test method, WDOE Method 5, to determine particulate matter emission concentration if any visible emissions are noted. Recording of visible emissions is not necessarily a violation of the grain-loading standard, because the threshold for visible emissions occurs at a grain loading of less than 0.05 gr/dscf. However, failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific permit term. Taking corrective action does not relieve King County Solid Waste Division from the obligation to comply with the particulate standard itself.

The Puget Sound Clean Air Agency has determined that the monitoring should be monthly for the same reasons listed for Requirements I.A.1 and I.A.11, since particulate emissions from these units are directly related to opacity emissions.

Requirements I.A.4, I.A.5, I.A.14, and I.A.15

Puget Sound Clean Air Agency Regulation I, Sections 9.11(a) and 9.15(d) and WAC 173-400-040(5) are similar requirements that address emissions that may be environmentally detrimental or cause a nuisance. Although the permit lists these requirements together, King County Solid Waste Division must comply with each. The monitoring method is based on responding to complaints and general inspections of the facility to identify any emissions that are likely to be injurious to human health, plant or animal life, or property, or that unreasonably interfere with enjoyment of life and property. Receiving complaints does not necessarily mean King County Solid Waste Division is in violation of this requirement, but King County Solid Waste Division has a responsibility to investigate complaints and take corrective action if necessary. The monitoring method specifies additional monthly

inspections of the facility to monitor for changes at the landfill that may result in emissions. Monthly inspections are appropriate for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*.

The facility is currently in compliance with these requirements. The emissions most likely to be environmentally detrimental or cause a nuisance are the landfill gas generated by installed waste, and the waste filling and compaction process at the working face. Annual emissions from the facility are generally proportionate to in-place waste. Waste receipts are relatively constant on a per-shift basis, so emissions from waste handling are relatively constant for each day of facility operation. The rate of landfill gas generation is very constant and controlled by the gas collection and flare system, which is the subject of other monitoring methods. The facility O&M Plan requires that the size of the working face stay minimized to handle just the daily flow of incoming waste. This controls odor and dust emissions from the final placement and compaction of the waste. Water is kept at the working face and is also used on all non-paved surfaces for dust control. Additionally, all approaches to the working face are paved. Currently, the new Area V is unlikely to generate emissions in excess of allowable limits except under the most unusual circumstances, as long as King County Solid Waste Division follows its O&M Plan. Monthly facility-wide inspections will insure that the King County Solid Waste Division can respond to any externally caused changes in conditions that may increase emissions.

Requirements I.A.6, I.A.7, and I.A.16

Puget Sound Clean Air Agency Regulation I, Section 9.15(a) requires best available control technology (BACT) for all fugitive dust emissions. WAC 173-400-040(3) addresses fugitive dust emissions for some activities and WAC 173-400-040(8) requires reasonable precautions or reasonably available control technology (RACT) to control fugitive emissions. Puget Sound Clean Air Agency Regulation I, Section 9.15(a) refers to cleaning vehicle undercarriages before they leave a facility to prevent track-out of mud or dirt onto public roadways. Puget Sound Clean Air Agency Regulation I, Section 9.15(a)(4) refers to prevention of escape of dust-bearing materials from trucks operated on public roadways. Recording of fugitive dust emissions is not necessarily a violation of the requirement, since the requirement does not prohibit fugitive dust emissions, but prohibits fugitive dust unless BACT is employed.

King County Solid Waste Division does not handle or process materials that are likely to cause fugitive dust emissions. In Western Washington, the municipal solid waste contains enough moisture that alone it does not cause fugitive dust to leave the working face area of the landfill. During the hot and dry days of July and August, the landfill uses a water truck to wet the non-paved surfaces that the hauling trucks use for offloading.

King County Solid Waste Division has the responsibility to perform inspections of its property to determine if vehicles are creating track-out or spillage of mud or dirt onto paved public roadways. King County Solid Waste Division's parking lots and roadways are all paved. A new truck wheel wash facility was installed in the spring of 2000. All hauling

vehicles that have left the paved portions of the landfill are required to use it before leaving the facility. The Puget Sound Clean Air Agency considers these reasonable precautions to prevent track-out or spillage onto public roadways.

Therefore, the monitoring method specifies monthly inspections of the facility to monitor for fugitive emissions for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*. The monitoring method is based on visual inspections with the King County Solid Waste Division taking corrective action as soon as possible but no later than within 24 hours if any fugitive dust emissions are noted. The monitoring method is consistent with Puget Sound Clean Air Agency's "*Agency Policy on Fugitive Dust Controls, March 1995,*" which specifies reasonable precautions that must be taken to prevent fugitive dust emissions, but does not necessarily define BACT for all processes.

- 1) Initial compliance. The Puget Sound Clean Air Agency has never had a fugitive dust complaint nor during the last five years has the King County Solid Waste Division had a violation of these fugitive dust regulations.
- 2) Margin of compliance. The emission units are unlikely to generate emissions in excess of allowable limits except under the most unusual circumstances, so long as King County Solid Waste Division follows its O&M Plan.
- 3) Variability of process and emissions. Some of the largest trucks allowed on Washington State highways currently carry waste into this landfill. Equipment used on site is also among the largest that can be currently purchased. Waste receipts are relatively constant on a per-shift basis, so emissions are relatively constant for each day of facility operation. All vehicles that leave the paved roadways to discharge waste are required to pass through the newly installed wheel wash facility. There are no changes that are likely to occur from outside influences that may suddenly increase fugitive emissions leaving the facility. The most significant variable affecting emissions would be the degree to which King County Solid Waste Division follows its O&M Plan.
- 4) Environmental impacts of problems. Most likely impact would be from a truck not using the truck wash and tracking out mud, or from an extremely dusty load being received at the working face of the landfill.
- 5) Technical considerations. If a truck bypasses the wheel wash facility, it still must travel approximately one-half mile to the main highway on a paved road that is easily cleaned by on-site personnel. Even if a large quantity of a dusty material like gypsum drywall arrived at the landfill, emissions would not likely reach off site of the landfill. This is due to a special use permit issued in 1960 to establish the landfill that requires a 1000-foot buffer zone around the active landfill. Facility-wide inspections, either in response to a complaint or at least monthly as set in the monitoring method, will insure that the King County Solid Waste Division can respond to any externally-caused changes in conditions that increase fugitive emissions.

The fugitive dust requirements that are in the state implementation plan are addressed in I.A.6 through I.A.8. The Puget Sound Clean Air Agency Board of Directors revised Section 9.15 on March 11, 1999, and it became effective April 17, 1999. We have included the revised fugitive dust requirements in the state-only section. The amended version will be forwarded to EPA as a SIP amendment. Upon approval of the SIP changes, the revised version of Regulation I, Section 9.15 will be federally enforceable and the old version will no longer apply. The revised rule requires the use of reasonable precautions for fugitive dust and lists some examples of reasonable precautions. The Monitoring, Maintenance and Recordkeeping Methods are the same as those listed in I.A.6. through I.A.8.

Requirement I.A.8

Puget Sound Clean Air Agency Regulation I, Section 9.15(c) prohibits fugitive dust emissions from any refuse burning equipment, fuel burning equipment, equipment used in a manufacturing process, or control equipment. The monitoring method specifies monthly inspections of the facility to monitor for changes at the landfill that may cause fugitive emissions for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*. King County Solid Waste Division does not have any refuse burning equipment (i.e., equipment employed to burn any solid or liquid combustible refuse), and all other equipment subject to this requirement is now either controlled or vented directly through a stack. Other monitoring methods are in place to insure that landfill gas continues to be routed to the control devices (flares). Other combustion sources for heating use liquid fuels that would pass their emissions through their stacks are subject to other monitoring methods, and are not likely to cause fugitive emissions. Therefore, it is very unlikely that King County Solid Waste Division would cause a violation of this standard while complying with the other requirements in the permit.

Requirements I.A.9, EA 1.2, EA 3.1, and EA 4.1

Puget Sound Clean Air Agency Regulation I, Section 9.20 requires King County Solid Waste Division to maintain equipment in good working order. Section 9.20(a) applies to sources that received a Notice of Construction Order of Approval under Puget Sound Clean Air Agency Regulation I, Article 6. Section 9.20(b) applies to equipment not subject to Section 9.20(a). Section II.A Monitoring, Maintenance, and Recordkeeping Procedures of the permit identifies the minimum monitoring criteria for maintaining equipment in good working order. This section identifies both facility-wide criteria and specific criteria for the emission units and activities. In addition, the facility-wide inspections provide monitoring of the general effectiveness of King County Solid Waste Division's O&M Plan. The Puget Sound Clean Air Agency chose to list all of Section II.A as the monitoring method because many parts of Section II.A apply to several emission units and activities. Where there are specific monitoring requirements for specific emission units, the Puget Sound Clean Air Agency has listed them in Section II.A.2. The Puget Sound Clean Air Agency has determined that following the requirements of Section II of the permit provides sufficient monitoring criteria to certify that the equipment has been maintained in good working order. However, the Puget Sound Clean Air Agency reserves the right to evaluate the maintenance of each piece

of equipment to determine if it has been maintained in good working order. Note that EA 1.2, EA 3.1, and EA 4.1 are emission unit-specific requirements, but they have been included here because this explanation is the same as it would be if it were repeated in the “Emission Unit Specific” section below.

Requirement I.A.10

In accordance with Puget Sound Clean Air Agency Regulation I, Section 7.09(b), King County Solid Waste Division is required to develop and implement an O&M Plan to assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II, and III. The requirement specifies that the Plan shall reflect good industrial practice, but does not define how to determine good industrial practice. To clarify the requirement, the Puget Sound Clean Air Agency added that, in most instances, following the manufacturer’s operations manual or equipment operational schedule, minimizing emissions until the repairs can be completed and taking measures to prevent recurrence of the problem may be considered good industrial practice. This language is consistent with a Washington Department of Ecology requirement in WAC 173-400-101(4). The Puget Sound Clean Air Agency also added language establishing criteria for determining if good industrial practice is being used. These include, but are not limited to, monitoring results, opacity observations, review of operations and maintenance procedures, and inspections of the emission unit or equipment. The Puget Sound Clean Air Agency added this wording in response to Washington State court decision, *Longview Fibre Co. v. DOE*, 89 Wn. App. 627 (1998), which held that similar wording was not vague and gave sufficient notice of the prohibited conduct.

Puget Sound Clean Air Agency Regulation I, Section 7.09(b) also requires King County Solid Waste Division to promptly correct any defective equipment. However, the underlying requirement in most instances does not define “promptly”; hence for significant emission units and applicable requirements that King County Solid Waste Division has a reasonable possibility of violating or that a violation would cause an air quality problem, the Puget Sound Clean Air Agency added clarification that “promptly” usually means within 24 hours. For many insignificant emission units and equipment not listed in the permit, “promptly” cannot be defined because the emission sources and suitable pollution control techniques vary widely, depending on the contaminant sources and the pollution control technology employed. However, the permit identifies a means by which to identify if King County Solid Waste Division is following good industrial practice.

As described in Section V.P, King County Solid Waste Division must report to the Puget Sound Clean Air Agency any instances where it failed to promptly repair any defective equipment. In addition, King County Solid Waste Division has the right to claim certain problems were a result of an emergency (Section V.R) or unavoidable (Section V.S).

Following these requirements demonstrates that King County Solid Waste Division has properly implemented the O&M Plan, but it does not prohibit the Puget Sound Clean Air Agency or EPA from taking any necessary enforcement action to address violations of the underlying applicable requirements after proper investigation.

Requirement I.A.13

Puget Sound Clean Air Agency Regulation I, Section 9.10(a) specifies that HCl emissions shall not exceed 100 ppm (dry), corrected to 7% O₂ for combustion sources. In landfill gas (LFG), trace constituents make up between 1-3% of the total volume. Most of the trace compounds are non-methane organic compounds (NMOC). Some of these remainder constituents are chlorine compounds. The presence of these trace compounds in LFG is thought to be due primarily to the disposal of waste containing these compounds into the landfill, although some may also be present as a result of natural decomposition processes within the landfill. When chlorine-bearing compounds are combusted in the flares with the other components of landfill gas, a large portion leaves the flares as hydrochloric acid (HCl).

Note that these measured values are less than 1 percent of the 100 ppm HCl standard, hence King County Solid Waste Division has demonstrated a large margin of compliance. Because of the large mass of waste already in the landfill, it is reasonable to expect that there will be a low variability in emissions. Therefore, it is reasonable to assume that combustion units that are fired on landfill gas cannot exceed the 100 ppm HCl limits in Puget Sound Clean Air Agency Regulation I, Section 9.10(a). Therefore, the permit does not contain additional monitoring requirements.

Requirement I.A.18

RCW 70.94.040 is similar to Puget Sound Clean Air Agency Regulation I, Section 9.11 and is listed separately here because it is not a federally enforceable requirement.

Section I. B. (Emission Unit Applicable Requirements)

Section I.B of the permit lists applicable requirements that are specific to an emission unit or activity. The Generally Applicable Requirements of Section I.A apply to all the emission units listed in Section I.B and are not repeated in this section. Monitoring Methods and Reference Methods are also identified if they are different from, or in addition to, those listed in Section I.A. Where a recently adopted federal regulation does not identify a monitoring method, the permit does not identify one either, because it is EPA's policy to incorporate all necessary monitoring into recently adopted federal regulations except where the Puget Sound Clean Air Agency has determined it necessary.

Orders of Approval issued by the Puget Sound Clean Air Agency – Obsolete Requirements

Obsolete Requirement	Effective Date	Requirement	Reason
Puget Sound Clean Air Agency Order of Approval No. 3271 Permit Condition No. 4	8/07/89	Initial test of emissions from flares within 60 days	Emission test results received

Obsolete Requirement	Effective Date	Requirement	Reason
Puget Sound Clean Air Agency Order of Approval No. 6002 Permit Conditions No. 5 and No. 6	6/1/95	Submit O&M and Source Test Plans Test emissions from flares within 60 days	O&M and Source Test Plans, and Emission Test results received
Puget Sound Clean Air Agency Order of Approval No. 7076 Permit Conditions No. 5 and No. 6	9/10/97	Submit O&M and Source Test Plans Test emissions from flares within 60 days	O&M and Source Test Plans, and Emission Test results received
Puget Sound Clean Air Agency Order of Approval No. 7676 Permit Conditions No. 4 and No. 5	9/22/99	Shall begin testing for facility-wide fugitive landfill gas emissions as per 40 CFR 60 WWS Quarterly Surface Emission Monitoring Protocol by 1/30/2000 Equipment, Personnel and Training in place prior to testing	Testing results received
Puget Sound Clean Air Agency Order of Approval No. 7836 Permit Condition No. 5, Third Sentence	10/20/99	A placard bearing the legend “Puget Sound Clean Air Agency Order of Approval No. 7836” shall be placed on or near the control panel	Placard in place on equipment

Emission Activity #1 (EA-1): Landfill Gas Collection and Destruction Operations

40 CFR 60 Subpart WWS Requirements Establishing Landfill Gas Collection and Control

When the contract was let to begin Area IV closure and Area V construction, 40 CFR 60 Subpart WWS – Standards of Performance for Municipal Solid Waste Landfills, became an applicable regulation. At that time, a landfill gas collection system was already in place and collecting more than 10 million cubic feet per day of landfill gas that was combusted through six landfill gas flares. The amount of gas then exceeded 50 megagrams per year.

Initial Reports. Prior to the drafting of the Title V operating permit for King County Solid Waste Division, the following reports were received by the Puget Sound Clean Air Agency making the associated sections of 40 CFR 60.752(b) obsolete.

These reports are not normally required when a collection and control system design plan on a new landfill is submitted prior to construction, or for existing landfills that have such collection and control systems already installed. [40 CFR 60.757(b)] However, the Puget Sound Clean Air Agency determined through inspection that the existing collection system did not perform to the standards in 40 CFR 60.752(b). The Puget Sound Clean Air Agency also discovered that the contracts to begin construction of the improved system were let without prior approval by the Agency as required in Subpart WWW. The Agency therefore required King County Solid Waste Division to submit the following initial reports in addition to the Collection and Control System Design Plan:

- 1) Design Capacity Report [40 CFR 60.752(a) and 60.757(a)] – The Puget Sound Clean Air Agency received this report on January 7, 1999.
- 2) Non-Methane Organic Compounds (NMOC) Emission Rate Report [40CFR 60.752(b) and 60.757(b)] – The Puget Sound Clean Air Agency received this report on June 23, 1999.

Collection and Control System Design Plan [40 CFR 60.7(a) and 60.752(b)(2)(i)] This report was received as part of Notice of Construction (NOC) Application for Approval No. 7676 on December 24, 1998. This application covered the closure of Area IV, the construction of Area V, and gas collection improvements for older sections of the landfill. The notice included the as-built drawings of the existing gas collection system, and proposed improvements for cross connection redundancy of the gas manifold system for the existing landfill. Also submitted was the gas collection system design for the new construction of Area V. The Puget Sound Clean Air Agency determined that the notice and application met the requirements of 40 CFR 40 CFR 60.759 – Specification for active collection systems, which was approved by September 23, 1999. If King County Solid Waste Division again increases the size of the landfill, it will have to meet the notice requirements in Section IV of the operating permit, Activities Requiring Additional Approval.

Collection and Control System Installation. The requirements in 40 CFR 60.752(b)(2)(ii) will be satisfied when King County Solid Waste Division completes the construction of the gas collection system as approved in Order of Approval No. 7676.

One passive flare treats approximately 50 cfm of landfill gas per minute from under a cap on the South Solid Waste Area. This area is the oldest on the landfill. Beginning in 1964, it was constructed above grade to a depth of 30 feet. The South Solid Waste Area was capped in 1986 at the same time as the Southeast Pit and the Main Hill. The flare itself for the South Solid Waste area currently meets the design requirements of 40 CFR 60.18 as required by 40 CFR 752(b)(2)(iii)(A), making this section obsolete. The Puget Sound Clean Air Agency approved the flare in Order of Approval No. 4520, and a subsequent system upgrade was approved in Order of Approval No. 7096.

Landfill Gas to Energy Projects and Landfill Gas Collection and Control. The standards in 40 CFR 60.752(b)(iii)(C) which cover the collection of landfill gas for alternative use or resale, and the monitoring requirements in 40 CFR 60.756(d) are not yet applicable. However, King County Solid Waste Division does plan on evaluating proposals from third parties to reuse its landfill gas for energy recovery projects. Should such a project take place while this operating permit is in effect, it will first have to be approved as described in Section IV of the operating permit, Activities Requiring Additional Approval (New Source Review).

Removing or Capping the Control System. The collection and control system will eventually be capped or removed when the landfill gas production decreases to the levels described in 40 CFR 60.752(b)(2)(v). This is most likely to happen during the five years that this operating permit is in force to the South Solid Waste Pit, which is the oldest section of the landfill. Prior to capping or removing the collection and control system on the South Solid Waste Pit, King County Solid Waste Division will give notice under Section IV-B, Replacement or Substantial Alteration of Emission Control Technology.

Continued Future Operations of the Gas Collection and Control Systems. Once the passive flare is removed and the active gas collection systems established, the landfill will need to be operated to comply with the following remaining sections of Subpart WWW:

40 CFR 60.753 – Operational Standards for Collection and Control Systems,
40 CFR 60.755 – Compliance Provisions, and
40 CFR 60.756 – Monitoring of Operations.

These sections make up the bulk of the requirements in Table 3 of the operating permit for the landfill gas collection and control system operations with references to the remaining parts of 40 CFR 60.757, Reporting Requirements; and 40 CFR 60.758, Recordkeeping Requirements.

Requirements EA 1.9 and EA 1.10

The air emission standard for municipal solid waste landfills allows King County Solid Waste Division the option of compliance testing the flares using either EPA Method 25C or Method 18 for compounds listed in most recent edition of EPA AP-42. As per Section II.A.2.(d)(2) and V.N.1 of the permit, King County Solid Waste Division must submit the method to be used to the Puget Sound Clean Air Agency for approval at least two weeks prior to compliance testing on the flares.

The greatest quantity of emissions from the landfill today is caused by the combustion of landfill gas in the enclosed combustion flares on the north side of the landfill. The pollutants of interest are NO_x and CO. These emissions are initially dependent on the design of the enclosed combustion flares. However, for this emission unit, day-to-day operation and the O&M Plan can

also make a big difference in the amount of pollutants released from the flares. Therefore, the Puget Sound Clean Air Agency has determined that, in addition to the initial performance testing of these emission units, annual testing would be appropriate for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*.

- 1) Initial compliance. In 1999, the landfill emitted 68 tons of NO_x and 9 tons of CO which is typical for this facility.
- 2) Margin of compliance. The landfill does not currently have any emission restrictions on the amounts of these pollutants that may be emitted. However, these enclosed combustion flares are required to be operated to keep these emissions as low as possible.
- 3) Variability of process and emissions. King County Solid Waste Division currently performs annual source testing of the flares. These source tests have recently demonstrated that the emissions of CO will vary widely depending on the condition of the flare tips.
- 4) Environmental impacts of problems. In 1995 and 1996, emissions of CO increased dramatically due to the inclusion of sand from broken gas collection pipes. This sand deposited silica on the interior of the burner tips causing CO emissions to jump from 13 tons in 1994 to 241 tons in 1996.
- 5) Technical considerations. The facility has an O&M Plan that covers all of the moving parts and staff accessible inspections that can be made on these units. However, source testing is the only method that will allow the facility to measure the effects on the landfill gas combustion system of processes taking place invisibly inside the landfill.

Requirement EA 1.25

On April 10, 2000, the EPA adopted a change to Subpart WWW. The change affected 40 CFR 60.752(b)(2)(ii)(B)(2), a requirement for liners on the bottom and all sides of wastes controlled by passive gas collection. The South Solid Waste Area currently has a plastic liner cap, but it does not have the required side and bottom liners. 40 CFR 60.752(b)(2)(ii) requires the installation of a proper gas collection system within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year. The Puget Sound Clean Air Agency interprets that to mean that by March 22, 2002, the passive system on the South Solid Waste Area must either meet 40 CFR 60.752(b)(2)(v) and 60.759(a)(3)(ii), which allows removal of gas collection systems on nonproductive areas, or the South Waste Area must be connected to an active gas collection system for control.

Order of Approval No. 7676 included a plan to either remove the passive flare and to then tie this area into the new active collection system, or shut down gas collection if testing shows that 40 CFR 60.752(b)(2)(v) and 60.759 (a)(3)(ii) are met. Testing to see if this area is "nonproductive" is scheduled to take place during the third quarter of 2000. The requirement that the passive flare be removed by March 22, 2002 has been placed in the operating permit as an applicable requirement.

Emission Activity #2 (EA-2): Asbestos Waste Disposal Operations

This emission activity covers the asbestos containing waste materials deposited in monofill trenches created in the municipal solid waste (MSW). When full, each trench location is surveyed and covered with MSW. Then a new monofill trench is created. The source of the asbestos is properly wetted, bagged, and tagged asbestos wastes from homes, commercial buildings, and underground utility services.

Requirement EA 2.2

40 CFR 61.154(a) requires that either there be no visible emissions to the outside air from any active waste disposal site or that alternately 40 CFR 61.154(c) be followed. Under 40 CFR 61.154(c), the requirement is for either the application of an addition of 6” of non-asbestos waste or for a petroleum-based dust suppression agent to be used for controlling wind-borne dust. Because of separate local regulations on abatement contractors, all asbestos-containing wastes received by the landfill are wetted and double-bagged, or boxed prior to arrival. For this reason, King County Solid Waste Division has elected not to use the alternative. However, the asbestos waste does receive 6” of final cover at the end of each day of operation.

Emission Activity #3 (EA-3): Fueling Operations

This emission unit consists of activities and equipment associated with gasoline receiving and dispensing from two 4000-gallon underground tanks which are used for fueling mobile equipment used onsite. Annual gasoline throughput for the site is expected to be less than 50,000 gallons. The tanks were installed in the fourth quarter of 1999.

WAC 173-491-040(4) applies to gasoline dispensing facilities located in ozone attainment areas with an annual gasoline throughput greater than 360,000 gallons and all new gasoline facilities with a gasoline storage capacity greater than 10,000 gallons. The King County Solid Waste Division gasoline dispensing facility has capacity and throughput that is less than the applicability thresholds; therefore, WAC 173-491-040(4) does not apply.

WAC 173-491-040(6) applies to "...gasoline dispensing facilities described in subsections (2) through (5) of this section." If "described" is functionally equivalent to the word "applicable," then WAC 173-491-040(6) does not apply because WAC 173-491-030(4) is not applicable.

Puget Sound Clean Air Agency Regulation II, Section 2.07(b) establishes requirements for gasoline dispensing facilities with a capacity greater than 1,000 gallons to have a Stage I vapor recovery system. A "Stage I vapor recovery system" returns gasoline fumes to the tank truck as the gas station tank is filled, thereby preventing emission of those fumes to the atmosphere. Puget Sound Clean Air Agency Regulation II, Section 2.08(b) establishes requirements for gasoline transport "tank trucks" to be equipped for Stage I vapor recovery.

There are two versions of Regulation II, Section 2.07(b): the "SIP," or federally enforceable, version which was promulgated on February 10, 1994; and the December 9, 1999 "state/local only" version, which has not yet been approved in the SIP. There are minor differences between the "SIP" and "state/local only" versions, but the monitoring methods are the same. Both

versions of the regulation require King County Solid Waste Division to have a Stage 1 vapor recovery system.

- The “SIP” version requires that the “transport tank” or tank truck also be equipped to balance vapors, and that the vapor return lines actually be connected when fuel transfer takes place.
- The “state/local only” version does not have the vapor recovery line connection requirement, but it does require the owner/operator to visually inspect the vapor recovery system each time after fuel delivery and to make any necessary repairs.

There are also two versions of Puget Sound Clean Air Agency Regulation II, Section 2.08; the “SIP” version which was promulgated on June 13, 1991, and the July 8, 1999 “state/local only” version.

- The “SIP” version of Regulation II, Section 2.08(a) states that Section 2.08 applies to all gasoline transport tanks (tank trucks) and “all facilities subject to Sections 2.05, 2.06, and 2.07 of Regulation II.” This means that certain parts of the “SIP” version of Regulation II, Section 2.08, which is intended to regulate tank trucks, apply to King County Solid Waste Division when the storage tank is being filled. Regulation II, Section 2.08(b) states that a tank truck cannot fill a Stage I gasoline storage tank unless either the storage tank owner/operator has on file a valid leak test certificate for the tank truck, or a valid inspection sticker is displayed on the tank truck. Regulation II, Section 2.08(c) appears to apply solely to the tank truck side of the operation. Regulation II, Section 2.08(d) does not allow the Stage I-controlled transfer of gasoline unless the vapor recovery system is operated and the concentration of gasoline vapors and the gasoline drip rate are below specified levels. Regulation II, Section 2.08(e) gives maximum allowable leak-down rate during pressure testing for tank trucks and does not appear to even remotely apply to gasoline storage tanks.
- The “state/local only” version of Regulation II, Section 2.08 applies solely to the tank truck and has no applicability to the gasoline station and/or storage tank whatsoever, other than a requirement that the vapor recovery system be connected to the storage tank during fuel transfer. The requirements for tank trucks are somewhat more detailed in the current version of Regulation II, Section 2.08, and only trucks that meet all the requirements may deliver gasoline to a Stage I gas station.

The monitoring, maintenance, and recordkeeping procedures required under the “state/local only” version of Regulation II, Section 2.07(b) reasonably assure compliance with both the new “state/local only” version of Regulation II, Section 2.07, as well as with all applicable requirements in the “SIP” version of Regulation II, Sections 2.07 and 2.08. This is because:

- The required CARB¹-approved system, combined with visual inspection and mandatory repair of any defective equipment at the storage tank *with each fill-up*, prevents leaks of vapor or liquid gasoline from the storage tank; and
- The “state/local only” Regulation II, Section 2.08 requirements from tank trucks, while not applicable to or monitored by King County Solid Waste Division, prevent gasoline liquid or

¹ “CARB” means “California Air Resources Board.”

vapor leaks from the tank truck, during filling, delivery, and transport.

Emission Activity #4 (EA-4): Facility Operations

This emission activity consists of maintenance activities and equipment used for landfill facilities maintenance. The activities occur site-wide and include maintenance of mobile equipment, landfill gas collection/destruction equipment and tools, leachate management, truck washers and all other plant facilities and utilities. It also includes a cold solvent cleaning tank in the maintenance shop using a solvent with a vapor pressure of 0.2 psia. There are no specific state only enforceable applicable requirements.

Monitoring, Maintenance and Recordkeeping Procedures

King County Solid Waste Division must follow the procedures contained in Section II of the permit, Monitoring, Maintenance, and Recordkeeping Procedures. Failure to follow a requirement in Section II may not necessarily be a violation of the underlying applicable emission standard in Section I. However, not following a requirement of Section II is a violation of Section II and King County Solid Waste Division must report such violations, as well as violations or deviations from any other permit condition, as a deviation under Section V.P.2 of the permit. In addition, all information collected as a result of implementing Section II can be used as credible evidence under Section V.N.2. of the permit. Reporting a permit deviation and taking corrective action does not relieve King County Solid Waste Division from its obligation to comply with the underlying applicable requirement.

A standard Puget Sound Clean Air Agency Notice of Construction Approval condition, NOC Condition No. 1, requires that the equipment, device or process be installed according to plans and specifications submitted to the Puget Sound Clean Air Agency. Once the equipment is installed, the Puget Sound Clean Air Agency requires certification by the applicant that the installation was as approved; this is usually done with a Notice of Completion. Normally within six months to a year after receiving a Notice of Completion, a Puget Sound Clean Air Agency inspector verifies by inspection that the equipment was installed as specified and in accordance with the Approval Order. While the Notice of Completion is a one-time requirement that King County Solid Waste Division has complied with, King County Solid Waste Division cannot change the approved equipment in such a manner that requires an NOC without first obtaining an NOC approval which is addressed in Section IV.A of the permit. In most cases, once King County Solid Waste Division has filed the Notice of Completion and a Puget Sound Clean Air Agency inspector has verified that the equipment was installed according to the Approval Order, the Puget Sound Clean Air Agency considers NOC Condition No. 1 an obsolete condition. However, in some cases in the permit the Puget Sound Clean Air Agency has identified a need to specify that the equipment cannot be altered in such a manner that requires an NOC Approval.

The permit requires King County Solid Waste Division to conduct monthly facility-wide inspections. These inspections are to include checking for prohibited activities under Section III of the permit and activities that require additional approval under Section IV of the permit, as well as checking for any “nuisance” odor bearing contaminants. The Puget Sound Clean Air Agency determined the frequency of these inspections after considering the potential for emissions, King County Solid Waste Division in-house training practices and similar factors. If

problems are identified, King County Solid Waste Division has the responsibility to not only correct the specific problem, but also to adjust the work practices and training to prevent future problems.

In determining the appropriate frequencies for monitoring identified in Section II.A of the permit, the Puget Sound Clean Air Agency considered several factors, including the following:

- King County Solid Waste Division’s compliance history and the likelihood of violating the applicable requirement;
- The complexity of the emission unit including the variability of emissions over time;
- The likelihood that the monitoring would detect a compliance problem;
- The likely environmental impacts of a deviation;
- Whether add-on controls are necessary for the unit to meet the emission limit;
- Other measures that King County Solid Waste Division may have in place to identify problems;
- The types of monitoring, process, maintenance, or control equipment data already available for the emissions unit;
- The technical and economic considerations associated with the range of possible monitoring methods;
- The type of monitoring found on similar emissions units; and
- Requirements for monitoring frequencies in applicable federal regulations.

Basis for Prohibited Activities

Some of the requirements King County Solid Waste Division identified in the operating permit application are included in Section III as prohibited activities. The Puget Sound Clean Air Agency has listed these activities in this section to highlight that they cannot occur at the facility. Since these activities are prohibited, routine monitoring of parameters is not appropriate; however, the permit does require King County Solid Waste Division to look for such activities during a routine facility-wide inspection.

Puget Sound Clean Air Agency Regulation I, Section 9.13 and WAC 173-400-040(7) contain similar requirements addressing concealment and masking of emissions. Although both requirements apply, the permit language has been simplified by grouping these requirements together.

The circumvention prohibition in 40 CFR 60.12 is covered by Section III.D, Concealment.

Activities Requiring Additional Approval

Some of the requirements King County Solid Waste Division identified in the operating permit application are included in Section IV as activities that require additional approval. For new source review, the permit language has been simplified. Chapter 173-460 WAC and Puget Sound Clean Air Agency Regulation I, Article 6 New Source Review Programs require approval to construct, install, establish, or modify an air contaminant source. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language. WAC 173-400-110 does not apply within Puget Sound Clean Air Agency's jurisdiction because the rule exempts areas that have a local program that is incorporated into the state implementation plan.

Notification and Recordkeeping 40 CFR 60.7 – King County Solid Waste Division has already notified the EPA Administrator that these subparts apply to this facility as required in 40 CFR 60.757(a), making 40 CFR 60.7(a)(1 through 3) obsolete. 40 CFR 60.7(a)(4) - Notification of a Physical or Operational Change, 40 CFR 60.14 - Modification, and 40 CFR 60.15 - Reconstruction, are included in Sections IV.A and B of Activities Requiring Additional Approval.

Standard Terms and Conditions

Some of the requirements King County Solid Waste Division identified in the operating permit application are included in Section V, Standard Terms and Conditions. This provided a mechanism for describing requirements that are more general in nature. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

Section V.P.2 of the permit requires King County Solid Waste Division to report deviations of the permit to the Puget Sound Clean Air Agency, normally within 30 days after the end of the month. Section V.P.1 of the permit requires that a responsible official certify all required reports at least once every six months. King County Solid Waste Division may submit the certification with the report or certify all the reports submitted in the previous six months. For example, if King County Solid Waste Division detected a deviation in January, it must report the deviation to the Puget Sound Clean Air Agency in February. A responsible official must certify the report according to WAC 173-401-520 at the time the report is submitted or any other time within six months of submitting the report.

If King County Solid Waste Division does not detect any deviations to report for a six-month period, then King County Solid Waste Division shall report that there were no deviations during the six-month period. A copy of the report must also be sent to EPA under 40 CFR 60.495(b).

Notification and Recordkeeping 40 CFR 60.7(b) - Startup, Shutdown, or Malfunctions and 60.7(f) - File of all Measurements, are adequately covered by the Standard Terms and Conditions in V.O. through V.Q.

Performance Test requirements of 40 CFR 60.8(b) and (c) are adequately covered by the Standard Terms and Conditions in V.N.

40 CFR 60.4(b) requires that all information required to be submitted to EPA also be sent to the Puget Sound Clean Air Agency.

40 CFR 60.19 - General Notification and Reporting Requirements is an applicable section that describes how reports are to be postmarked, calendar day is defined and the procedure for changing the reporting time periods (also see 40 CFR 60.7(e)(1)) is described.

Basis for Inapplicable Requirements

The opacity requirements in Regulation I, Sections 9.09(b)(1) and 9.09(b)(2) are inapplicable because the source does not (and is not required to) monitor opacity with continuous emission monitors.

WAC 173-490-030 - Operating permit sources are exempt from registration under RCW 70.94.161(17).

The transportation demand management plan requirement from RCW 70.94.531 (State Only Requirement) is an inapplicable requirement as it does not meet the definition of an applicable requirement.

Public Comments and Responses

Public comment period expired October 26, 2000. Only one comment was received as a result of this publication.

William K. Loken of 570 NW Everwood Dr in Issaquah, WA 98027 wrote: “I do not believe a public hearing is necessary. The draft air Operating Permit appears very comprehensive and complies with existing air quality requirements.”

EPA 45-day comment period expired December 20, 2000. Letter received from EPA dated December 19, 2000 stating, “The Permit is now eligible for issuance.”