Alaska Department of Environmental Conservation
Air Permits Program

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Anchorage Water & Wastewater Utility
John M. Asplund Water Pollution Control Facility

STATEMENT OF BASIS
for the terms and conditions of
Permit No. AQ0245TVP05

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INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit AQ0245TVP05.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0245TVP05 contains information on the stationary source as provided in the Title V permit application.

The John M. Asplund Water Pollution Control Facility (Asplund Facility) is owned and operated by the Permittee, Anchorage Water & Wastewater Utility (AWWU). The SIC code for this stationary source is 4952 - Sewerage Systems. The NAICS code for this stationary source is 221320 - Sewage Treatment Facilities.

The Asplund Facility is a primary wastewater treatment plant for the Anchorage Bowl and the surrounding communities, with a residential population of around 291,000 in 2020 and some industrial sources in the Anchorage area. The plant was built in 1972 and expanded to a capacity of 58 million gallons per day (mgd) in 1987. The natural water flow of Cook Inlet, the high level of primary treatment, chlorine disinfection, and marine monitoring program allow the EPA to issue a waiver from secondary treatment requirements under the Clean Water Act, Section 301(h). The Asplund Facility treats an average daily wastewater flow of approximately 30 mgd. Unit processes include screen, grit removal, clarification, disinfection, solids thickening, dewatering, and incineration. Biosolids and floating matter removed from the six clarifiers are thickened, de-watered, and incinerated. The residual ash is wetted and hauled to the municipal landfill for disposal. The effluent is chlorinated before it is discharged through an 800-foot long outfall to Knik Arm, an extension of Cook Inlet.

EMISSIONS UNIT INVENTORY AND DESCRIPTION

Under 18 AAC 50.326(a), the Department requires operating permit applications to include identification of all emissions-related information, as described under 40 CFR 71.5(c)(3).

The emissions units at the Asplund Facility that have specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit AQ0245TVP05.

Table A of Operating Permit AQ0245TVP05 contains information on the emissions units regulated by this permit as provided in the application. The table is provided for informational and identification purposes only. Specifically, the emissions unit rating/size provided in the table is not intended to create an enforceable limit.

Incinerator (EU ID 1)

A Zimpro Multiple-Hearth incinerator was installed at the stationary source to replace the older BSP Envirotech SSI, and began operation in 1986. The older BSP Envirotech incinerator is still located at the plant but has been removed from service. This incinerator is not capable of being operated. During a stack emissions test of EU ID 1 performed on September 11, 2007, the feed rate was calculated to be 9,986 dry tons of sludge per year. The Department determined that this

feed rate is an acceptable specification of the incinerator's rating[1]. This is the rate used to demonstrate compliance with applicable emissions standards for this unit.

Compliance monitoring devices of EU ID 1 include a COMS and a pressure differential meter on the scrubber system. Other required measuring systems include an oxygen monitor, temperature monitors on the hearths, a sludge belt scale, a natural gas meter, and an effluent flow-meter.

The incinerator has a multiple throat venturi scrubber and multiple impingement tray wet scrubber in series controlling air pollutant emissions in the exhaust from the incinerator. The SSI is a natural gas-fired unit and fueled by pipeline quality natural gas. The upper part of the tray scrubber is a mist eliminator. A second mist eliminator follows the tray scrubber. Ash handling is done under negative pressure, effectively containing any fugitive emissions within the ash ducts. The ash is watered and the slurry is trucked to the Anchorage landfill. Dewatered (belt pressed) sludge entering the incinerator top has around 30% solids. Rotating Rabble arms rake the sludge, exposing surface area to heat. The sludge travels from one hearth to the next during the incineration from the drying hearths (1 and 2) at the top, to the combustion hearths (3 and 4) in the center and finally to the cooling hearths (5 and 6) at the bottom.

Combustion gases from the top of the incinerator move up the scrubber aided by the ID fan's suction, through counter current water spray in a series of perforated impingement plates, to the stack exit. CEMS for measuring stack temperature, and opacity are located at the stack exit.

AWWU controls PM emissions from EU ID 1 with a wet scrubber that operates with a minimum pressure drop of 23.3 inches of water column and an afterburner that operates with a minimum temperature of 1,410°F. Source tests performed on EU ID 1 between 2007 and 2015 determined the emissions rates for pollutants but did not estimate the control efficiencies, except for metals removal efficiency, which was determined to be at least 96 percent. Literature research indicates wet scrubbers have PM control efficiencies of about 95 percent and afterburners operating at about 1,400°F have control efficiencies of about 97 percent. Therefore, the Department assumes the PM control efficiency[2] of the incinerator's control equipment is about the same as the metal removal efficiency of 96 percent.

The Permittee submitted site-specific monitoring plans to EPA on April 2, 2015, submitted the Initial Compliance Report to EPA on September 22, 2015, and submitted a final control plan to the US EPA on October 29, 2015. The Permittee submitted a notification of achievement and a Final Compliance Report to the US EPA with copies to the Department on April 4, 2016. The Permittee demonstrated initial compliance with emission limits in Table C and established the operating parameters of the SSI in Table D with a source test performed on July 17-19, 2016. The Permittee submitted the results of the source test to the Department on September 22, 2016.

[1] Determination made April 19, 2010, based on Department discussion with the Permittee; and relatively flat growth profile for Anchorage due to spatial limitations. Additionally, the stationary source installed an upstream filter (screen) for solids removal with screened solids sent to the landfill instead of the incinerator.

[2] Metal removal efficiency of the control equipment, Table 3-3 of the 2007 source test; Afterburner PM control efficiencies, Table 6, Page 553 of Air Pollution Engineering Manual, 1992 edition; Wet scrubber control efficiencies as given in https://cfpub.epa.gov/oarweb/mkb/contechnique.cfm?ControlID=27.

Generator Engine (EU ID 2)

The diesel-fired generator EU ID 2 is subject to the requirements of 40 CFR 60, Subpart IIII. The requirements of 18 AAC 50.055 for industrial processes and fuel burning equipment were included in Operating Permit AQ0245TVP04 for EU ID 2.

Natural Gas Boilers (EU IDs 4 and 5)

In October 2016, AWWU replaced four insignificant gas-fired boilers each rated at less than 4 MMBtu/hr with two gas-fired boilers (EU IDs 4 and 5), each rated at 5.3 MMBtu/hr. The new gas boilers are rated at less than 10 MMBtu/hr and therefore not subject to NSPS, Subpart Dc.

Insignificant Emission Units and Activities

The Permittee identified the following insignificant emission units and activities, which are not included in the permit because of their size, category, or production rates:

- Mobile sources;
- Air-conditioning, ventilating units, and heating units used for human comfort;
- Noncommercial food preparation;
- Consumer use of office equipment and products;
- Janitorial services and consumer use of janitorial products;
- Internal combustion engines used for landscaping purposes;
- Seven natural-gas fired space heaters (< 4 MMBtu/hr each);
- Three natural-gas fired HVAC units (< 4 MMBtu/hr each);
- One natural-gas fired humidifier (0.14 MMBtu/hr);
- One above ground 2,000 gallon diesel fuel tank;
- Two grit chambers (domestic sewage);
- One flow splitting structure (domestic sewage);
- Six clarifiers (domestic sewage);
- Four thickeners (domestic sewage);
- Three sludge belt presses;
- Chlorination weir;
- Two hot water boilers (< 4 MMBtu/hr each); and
- One hot water washer.

EMISSIONS

A summary of the potential to emit (PTE)[3] and assessable PTE as indicated in the application (and verified by the Department) from the John M. Asplund Water Pollution Control Facility is shown in the table below.

[3] *Potential to Emit* or *PTE* means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source, as defined in AS 46.14.990(22).

Table F - Emissions Summary, in Tons Per Year (tpy)

Emissions	NO_x	CO	PM_{10}	SO_2	VOC	CO_2e[1]	HAP	Total[2]
PTE	73.2	173.49	12.9	1.1	14.9	39,537	3.1	275.6
Assessable PTE	73	173	13	0	15	0	0	274

Notes:

1. CO_2e emissions are defined as the sum of the mass emissions of each individual GHG adjusted for its global warming potential.
2. Total PTE and total assessable PTE shown in the table do not include CO2e and HAP.
3. HAP emissions are a subset of either VOC emissions or PM_{10} emissions and are excluded from the assessable emissions total to avoid double counting.

The assessable PTE listed under Condition 60.1 is the sum of the PTE of each individual air pollutant, other than greenhouse gases (GHGs), for which the stationary source has the potential to emit in quantities of 10 tpy or greater. The emissions listed in Table F are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit for the stationary source.

The Permittee calculated SO_2 emissions for EU ID 2 using emission factors from AP-42, Table 3.4-1, assuming 0.75 wt% fuel sulfur. EU ID 2 is required to use fuel with a maximum sulfur content of 15 ppm by Condition 30.1.a so the Department recalculated SO_2 emissions for EU ID 2 using a mass balance equation and 0.0015 wt% sulfur.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with AS 46.14.130(b), an owner or operator of a Title V source[4] must obtain a Title V permit consistent with 40 CFR Part 71, as adopted by reference in 18 AAC 50.040.

Except for sources exempted or deferred by AS 46.14.120(e) or (f), AS 46.14.130(b) lists the following categories of sources that require an operating permit:

- A major source;
- A stationary source, including an area source, subject to federal New Source Performance Standards (NSPS) under Section 111 of the Clean Air Act or National Emission Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the CAA;
- Another stationary source designated by the Federal Administrator by regulation.

The Permittee is required to obtain an operating permit for the Asplund Facility as specified under 18 AAC 50.326(a) and 40 CFR 71.3(a), because the stationary source is:

- A major source. This stationary source is a major source because as defined in Section 302 of the CAA, it directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation; and
- A source, including an area source, subject to a standard, limitation or other requirement under Section 111 of the Act (NSPS) not exempted or deferred under AS 46.14.120(e) or (f);

[4] *Title V source* means a stationary source classified as needing a permit under AS 46.14.130(b) [ref. 18 AAC 50.990(111)].

AIR QUALITY PERMITS

Permits to Operate

The last Permit to Operate (PTO) issued for this stationary source is PTO No. 9521-AA001 Amendment #1, issued 6/23/95. This permit only revised conditions relevant to the Total Hydrocarbon CEMS required by 40 CFR Part 503. The previous permit was PTO No. 9521-AA001, issued 4/21/1995. This permit included all construction authorizations since it was issued before January 18, 1997 (the effective date of the new divided Title I/Title V permitting program). All stationary source-specific requirements established in this permit are included in this Title V operating permit, Permit No. AQ0245TVP05, as described in Table G.

Title I (Construction and Minor) Permits

The Department issued no construction permit for this stationary source after January 17, 1997 (the effective date of the new divided operating and construction-permitting program). The Department issued no minor permit for this stationary source after September 30, 2004.

Title V Operating Permits

Under AS 46.14.190, the owner or operator has requested multiple operating permits for this stationary source.

Permit No. AQ0245TVP01. The owner or operator submitted an application for an initial Title V operating permit dated December 5, 1997. The Department issued Operating Permit AQ0245TVP01 on June 30, 2003.

- Revision No. 1. The Department issued Revision 1 to Operating Permit AQ0245TVP01 on November 19, 2004 to correct material mistakes. This revision removed permit conditions which incorporated requirements of 40 CFR 503, which are based on the Clean Water Act.

Permit No. AQ0245TVP02. The Permittee submitted an application to renew the operating permit on January 22, 2008. On August 12, 2009, the Department requested additional information regarding the September 11, 2007 source testing results. The Department received the requested information on October 1, 2009. The Department requested additional information concerning the sewage sludge incinerator (SSI) during a teleconference on October 16, 2009 and received the additional information on November 25, 2009. The Department received additional information on June 3, 2010. The Department issued Operating Permit AQ0245TVP02 on March 2, 2011.

Permit No. AQ0245TVP03. AWWU submitted a renewal application for Operating Permit AQ0245TVP03 on September 4, 2014. The Department issued Operating Permit AQ0245TVP03 on April 12, 2016, without the requirements of 40 CFR 62 Subpart LLL because the EPA had not yet promulgated the federal plan for SSI.

- Revision No. 1. To incorporate the requirements of 40 CFR 62, Subpart LLL, the Department re-opened Operating Permit AQ0245TVP03 under AS 46.14 280(a)(3)(B). Processing of the revision was discontinued and the requirements of 40 CFR 62, Subpart LLL were incorporated into Operating Permit AQ0245TVP04.

Permit No. AQ0245TVP04. The Department issued Operating Permit AQ0245TVP04 on May 26, 2017. The Department included two 5.3 MMBtu/hr natural gas boilers (EU IDs 4 and 5) installed in October 2016 in Table A of Operating Permit AQ0245TVP04.

Permit No. AQ0245TVP05. AWWU submitted a renewal application for Operating Permit AQ0245TVP05 October 14, 2021. The applicant requested that the permit become effective either July 1, 2022 or January 1, 2023, to simplify reporting.

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1972[5]. Review of the permit files for this stationary source, which includes the past inspection reports and compliance evaluations, indicates a stationary source generally operating in compliance with its operating permit with the following exceptions. Full Compliance Evaluations conducted in 2015, 2017, and 2019 found intermittent violations of the opacity standard and failure to continuously measure oxygen content of EU ID 1 exhaust.

APPLICABLE REQUIREMENTS FROM PRECONSTRUCTION PERMITS

Incorporated by reference at 18 AAC 50.326(j), 40 CFR Part 71.2 defines "applicable requirement" to include the terms and conditions of any preconstruction permit issued under rules approved in Alaska's State Implementation Plan (SIP).

Alaska's SIP includes the following types of preconstruction permits:

- Permit to Operate issued on or before January 17, 1997 (these permits cover both construction and operations);
- Construction permits issued on or after January 18, 1997; and
- Minor permits issued on or after October 1, 2004.

Preconstruction permit terms and conditions include both source-specific conditions and conditions derived from regulatory applicable requirements such as standard conditions, generally applicable conditions, and conditions that quote or paraphrase requirements in regulation. These requirements include, but are not limited to, each emissions unit- or source-specific requirement established in these permits issued under 18 AAC 50 that are still in effect at the time of issuance of Operating Permit No. AQ0245TVP05.

Table G below lists the requirements carried into Operating Permit AQ0245TVP05 to ensure compliance with the preconstruction permit requirements.

Table G - Comparison of Permit to Operate No. 9521-AA001 Conditions to Operating Permit No. AQ0245TVP05 Conditions[1]

9521-AA001 Condition No.	Description of Requirement	AQ0245TVP05 Condition No.	How Condition was Revised
Conditions C.4, C.6 & C.9	Source test requirements	13	Minor rewording but no change to underlying requirements.

[5] April 8 2015 email from Michael Fezatte, TPO IV / WIMS-Title V Air Quality, AWWU

Exhibit C	Emission Testing Requirements	Table B	Alternative test methods are permitted and were added as requested in the permit renewal application.
Items 1 through 3, Exhibit D	Reporting requirements	14	No change

Note:

1. This table does not include all standard and general conditions.

NON-APPLICABLE REQUIREMENTS

This section discusses standard conditions that have not been included in the permit and other requirements that are not included for specific reasons.

- 40 CFR 64 Compliance Assurance Monitoring (CAM): CAM applies to a pollutant-specific emissions unit at a major source if the emission unit satisfies **all** of the following criteria listed in 40 CFR 64.2(a): (1) the emission unit is subject to an applicable emission limitation or standard; (2) the emission unit uses a control device to comply with any such emission limitation or standard; and (3) the emission unit has potential pre-control device emissions of the applicable regulated air pollutant equal to or greater than 100 percent of the amount, in tpy, required for the stationary source to be classified as a major source for the applicable regulated air pollutant. AWWU certified in the application for Operating Permit No AQ0245TVP05 that the CAM rule does not apply to any emission unit at the stationary source.
- 40 CFR 68 Chemical Accident Prevention Provisions: The Risk Management Plan requirements do not apply because the stationary source has no threshold quantities of a regulated substance used in a process as defined in 40 CFR 68.10.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The Department adopted regulations from 40 CFR 71, as specified in 18 AAC 50.040(j), to establish operating permit regulations. The EPA fully approved the Alaska Operating Permit Program on November 30, 2001, as noted in Appendix A to 40 CFR 70. This Statement of Basis, required under 40 CFR 71.11(b), provides the legal and factual basis for each condition of Operating Permit No. AQ0245TVP05. Additionally, and as required by 40 CFR 71.6(a)(1)(i), the state and federal regulations for each permit condition are cited in the permit.

Conditions 1, and 3 through 5, Visible Emissions Standard and MR&R

Legal Basis: These conditions require compliance with the applicable requirements in 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU ID(s) 2, 4, and 5 are fuel-burning equipment.

U.S. EPA approved the addition of these standards to the SIP, as noted in 40 CFR 52.70. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1). MR&R requirements are listed in Conditions 3 through 5 of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid Fuel-Burning Equipment and Flares.

The Department has determined that the standard conditions adequately meet the requirements of 40 CFR 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions meet the requirements of 40 CFR 71.6(a)(3).

Except for gas fuel-burning equipment, the Permittee must establish by visual observations of emissions unit exhaust, which may be supplemented by other means (e.g., a defined stationary source operation and maintenance program), that the stationary source is in continuous compliance with the state emission standards for visible emissions.

These conditions detail a stepwise process for monitoring to determine compliance with the state's visible emissions standard for liquid fuel-burning equipment. Equipment types covered by these conditions are stationary internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emissions units either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Gas Fuel-Burning Equipment:

Monitoring – The monitoring of gas fuel-burning emissions units for visible emissions is waived, i.e., no Method 9 or Smoke/No Smoke observations will be required. The Department has found that natural gas fuel-burning equipment inherently has negligible visible emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were burned in EU IDs 4 and 5 during the period covered by the report.

Liquid Fuel- Burning Equipment:

Monitoring – The emissions unit exhaust must be observed by either the Method 9 Plan or the Smoke/No Smoke Plan as detailed in Condition 3. Corrective actions such as maintenance procedures or more frequent observations may be required depending on the results of the observations.

Recordkeeping - The Permittee is required to record the results of all observations of emissions unit exhaust and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report emissions in excess of the state visible emissions standard and deviations from permit conditions. The Permittee is also required to include in the operating report a statement of which visible emissions plan was used for each emissions unit and copies of the results of all visible emission observations.

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU ID 2 does not qualify as insignificant per 18 AAC 50.326(d)(1) because it is subject to standards established under NSPS Subpart IIII however, EU ID 2 has actual emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived visible emissions monitoring for EU ID 2 unless the unit meets any of the significant emissions thresholds (400 hours per consecutive 12-month period is equivalent to the worst-case significant emissions threshold in 18 AAC 50.326(e) for EU ID 2).

The Permittee must annually certify compliance under Condition 85 with the visible emissions standard based on reasonable inquiry.

Condition 2, Incinerator Visible Emissions Standard and MR&R

Legal Basis: This visible emissions standard under 18 AAC 50.050(a) applies to the operation of any incinerator in Alaska, including an air curtain incinerator. The visible emission standard is included in the SIP approved by EPA, and the Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 2 requires the Permittee to comply with the applicable visible emissions standard in 18 AAC 50.050(a). The Permittee shall not cause or allow the affected incinerator(s) to violate this standard. The Permittee is required to monitor, record, and report according to Conditions 2.1 through 2.5.

Condition 7, Incinerator Particulate Matter Emissions Standard and MR&R

Legal Basis: Condition 7 requires compliance with the incinerator particulate matter standards under 18 AAC 50.050(b). These standards are contained in the federally approved

SIP. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The condition requires the Permittee to comply with the particulate matter emission standards applicable to incinerators based upon rated capacity. For incinerators that burn waste containing more than 10 percent wastewater treatment plant sludge by dry weight from a municipal wastewater treatment plan that serves 10,000 or more persons, the applicable particulate matter standard is 0.65 grams of PM per kilogram of dry sludge input. The Permittee may not cause or allow the affected incinerator to violate this standard.

The Permittee is required to monitor, record, and report according to Condition 7.1. Compliance is demonstrated by conducting source tests in accordance with 40 CFR 62 Subpart LLL under Condition 44.1.

Conditions 6 and 8 through 10, PM Standard and MR&R

Legal Basis: These conditions require compliance with the applicable requirement in 18 AAC 50.055(b).

- 18 AAC 50.055(b)(1) applies to the operation of fuel-burning equipment and industrial processes. EU IDs 2, 4, and 5 are fuel-burning equipment.

This PM standard applies because it is contained in the federally approved SIP. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: Condition 6 prohibits emissions in excess of the applicable state PM standard. MR&R requirements are listed in Conditions 8 through 10 of the permit. These conditions have been adopted into regulation as SPC IX.

The Department has determined that the standard conditions adequately meet the requirements of 40 CFR 71.6(a)(3). No additional emissions unit or stationary source operational or compliance factors indicate that unit-specific or stationary-source-specific conditions would better meet the requirements. Therefore, the Department concludes that the standard conditions meet the requirements of 40 CFR 71.6(a)(3).

Except for gas fuel-burning equipment, the Permittee must establish by visual observations, which may be supplemented by other means (e.g., a defined stationary source operation and maintenance program), that the stationary source is in continuous compliance with the state's emission standards for PM.

Gas Fuel-Burning Equipment:

Monitoring – The monitoring of gas fuel-burning emissions units for PM is waived, i.e., no source testing will be required. The Department has found that natural gas fuel-burning equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must state in each operating report whether only gaseous fuels were burned in EU IDs 4 and 5 during the period covered by the report.

Liquid Fuel-Burning Equipment:

Monitoring – The Permittee is required to either take corrective action or conduct PM source testing, if opacity threshold values are exceeded. For liquid fuel-burning engines and

turbines, the Department set opacity threshold values of 15 percent for stack diameters less than 18 inches and 20 percent for stack diameters equal to or greater than 18 inches. These opacity thresholds are based on a study conducted by the Department in an effort to establish a correlation between opacity and PM. The data was collected from diesel engines of various stack sizes.

The results of the correlation study predict that 20% opacity corresponds to a little less than the PM limit for an 18-inch stack. There may be engines that exceed the thresholds, but the intent of the standard condition is not to guarantee that each engine that might exceed the PM standard will be tested. The Department expects few, if any, engines to actually be tested under this condition. What the Department does expect is that with the adopted condition in place, operators that find an opacity above or near the testing threshold will take corrective action necessary to reduce PM emissions. This would achieve the desired environmental outcome without the added cost of testing. The Department expects this to be the case with both thresholds.

The method is premised on the fact that a five percent difference in opacity is distinguishable. The conditions mean that if opacity readings as measured using Method 9 – with all of its limitations – exceed the threshold, the Permittee must either take corrective action or conduct a PM source test. The compliance conditions for PM do not draw a legal conclusion about whether the method shows compliance with the visible emissions standard.

Recordkeeping - The Permittee is required to record the results of PM source tests and visible emissions observations conducted during the source tests.

Reporting - The Permittee is required to report incidents when emissions in excess of the opacity threshold are observed and the results of PM source tests. The Permittee is also required to include copies of the results of all visible emission observations taken during PM source testing in the operating report.

Significant Emissions Units under 18 AAC 50.326(d)(1):

EU ID 2 does not qualify as insignificant per 18 AAC 50.326(d)(1) because it is subject to standards established under NSPS Subpart IIII however, EU ID 2 has actual emissions less than the significant emissions thresholds in 18 AAC 50.326(e). Therefore, the Department has waived visible emissions monitoring for EU ID 2 unless the unit meets any of the significant emissions thresholds (400 hours per consecutive 12-month period is equivalent to the worst-case significant emissions threshold in 18 AAC 50.326(e) for EU ID 2).

The Permittee must annually certify compliance under Condition 85 with the PM emissions standard based on reasonable inquiry.

Conditions 11 and 12, Sulfur Compound Emissions Standard and MR&R

Legal Basis: This condition requires compliance with the sulfur compound emissions standard under 18 AAC 50.055(c).

- 18 AAC 50.055(c) applies to the operation of fuel-burning equipment and industrial processes. EU ID(s) 2, 4, and 5 are fuel-burning equipment.

The sulfur compound standard applies because it is contained in the federally approved SIP. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Permittee may not cause or allow the affected equipment to violate the applicable sulfur compound standard. Sulfur dioxide comes from the sulfur in the fuel (e.g., natural gas, fuel oils).

Liquid Fuels:

For the liquid fuel-burning equipment, EU ID 2, the MR&R conditions require compliance with the 40 CFR 60 Subpart IIII fuel sulfur limit in Condition 30.1.a of 15 ppm (0.0015 weight percent) sulfur. Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard.

Gaseous Fuels:

Condition 12.3 requires the Permittee to burn only natural gas in EU IDs 4 and 5. Natural gas, by definition (40 CFR 60.41), contains 20.0 grains or less of total sulfur per 100 standard cubic feet and will always comply with the emission standard in Condition 11. Natural gas is supplied to the Asplund Facility by ENSTAR.

The Permittee is required to certify that the gas supplied to the facility is pipeline quality natural gas and to report excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition.

Conditions 13 and 14, Preconstruction Permit Requirements

Legal Basis: The Permittee is required to comply with all stationary source-specific requirements that were carried forward from previous SIP-approved Permits to Operate (PTO) issued on or before January 17, 1997 and operating permits issued between January 18, 1997 and September 30, 2004, and with all stationary source-specific requirements in EPA PSD permits, SIP-approved construction permits, SIP-approved minor permits, and owner requested limits (ORLs) established under 18 AAC 50.225. These requirements include Best Available Control Technology (BACT), limits to ensure compliance with the attainment or maintenance of ambient air quality standards or maximum allowable ambient concentrations, and owner requested limits. Requirements from the permits listed above apply because they were originally developed through case-by-case action under a federally approved SIP or approved operating permit program.

Conditions 13 and 14 were carried forward from Permit to Operate No. 9521-AA001 (issued April 21, 1995) into subsequent operating permits.

Factual Basis: Condition 13 outlines the operational parameters of EU ID 1 that must be measured during source tests and the methods to be employed in testing those parameters. Condition 14 requires the Permittee to report several operating parameters with the operating report. These parameters provide information necessary to determine compliance with the operating parameters established during the source tests.

Condition 15, Insignificant Emissions Units

Legal Basis: The Permittee is required to meet the state emission standards in 18 AAC 50.050(a) for all incinerators regardless of size and 18 AAC 50.055 for all industrial processes and fuel-burning equipment regardless of size. 18 AAC 50.050(a) and 50.055 are contained in the federally approved SIP. The Department also added permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The condition requires insignificant emissions units to comply with the state emission standards for visible emissions, particulate matter emissions, and sulfur-compound emissions. Insignificant emissions units are not generally listed in operating permits unless specific monitoring, recordkeeping, and reporting are necessary to ensure compliance with the state emission standards. However, the Permittee may not cause or allow insignificant emissions units at the stationary source to violate these standards whether or not they are listed in the operating permit.

The Department finds that the insignificant emissions units at this stationary source do not require specific monitoring, recordkeeping and reporting to ensure compliance under these conditions.

Condition 15.4.a requires certification that the insignificant emissions units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution, based on reasonable inquiry.

The Department used the language in SPC V, adopted by reference under 18 AAC 50.346(b)(4), for the permit condition.

Conditions 16 through 25, NSPS Subpart A Requirements

Legal Basis: The EPA approved Alaska's Part 70 Program granted on November 30, 2001 (40 CFR 70 Appendix A). The Department is the permitting authority for the Part 70 program. As the permitting authority, the Department requires compliance with all permit conditions. Although the EPA has not delegated to the Department the authority to administer the New Source Performance Standard (NSPS) program, NSPS requirements are included in the definition for "applicable requirement" under 40 CFR 71.2, which has been adopted by the Department under 18 AAC 50.040(j)(1).

The NSPS provisions under Subparts O and IIII apply to the stationary source. Therefore, the Department requires compliance with those standards in a Part 70 permit issued under the approved program. However, the Department is unable to change the actual wording of the relevant standard to substitute "the Department" for "the Administrator" in those standards. Since the Department expects access to any permit-related information provided by the Permittee to the EPA, the Department will act on its responsibility as the permitting authority to determine compliance with the standard.

Most affected facilities (with the exception of some storage tanks) subject to an NSPS are subject to Subpart A. At this stationary source, EU ID 1 is subject to NSPS Subpart O and EU ID 2 is subject to NSPS Subpart IIII and therefore the units are subject to Subpart A. EU ID 2 is exempt from certain provision of Subpart A per 40 CFR 60.4218 because those provisions are also in NSPS Subpart IIII.

Conditions 16.1 through 16.3 - The Permittee has already complied with the notification requirements in 40 CFR 60.7 (a)(1) – (4) for EU ID 1. However, the Permittee is still subject

to these requirements in the event of a new NSPS affected facility[6] or in the event of a modification or reconstruction of an existing facility[7] into an affected facility.

Conditions 16.4 through 16.6 - The requirements to notify the EPA and the Department of the date of a continuous monitoring system performance demonstration, no less than 30 days before demonstration commences (40 CFR 60.7(a)(5) – (7)) are applicable to EU ID 1 because Condition 2.1 requires a COMS as an NSPS requirement.

Condition 16.7 - The requirements to notify the EPA and the Department of any proposed replacement of components of an existing facility (40 CFR 60.15) apply in the event that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

Condition 17 – The requirements in 40 CFR 60.7(b) to maintain start-up, shutdown, or malfunction records are applicable to EU ID 1. EU ID 2 is exempt from this condition per 40 CFR 60.4218 because the condition is also in NSPS Subpart IIII.

Conditions 18 and 19 - NSPS excess emission and monitoring systems performance report and summary report form in 40 CFR 60.7(c) and (d) are applicable to an owner or operator required to or electing to install a continuous monitoring device to monitor EUs subject to an NSPS emissions standard (EU ID 1). Excess emissions are defined in applicable subparts. The Department has included in Attachment A of the statement of basis a copy of the federal EEMSP summary report form for use by the Permittee.

Condition 20 – The NSPS general recordkeeping requirements under 40 CFR 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part. This requirement is satisfied by Condition 79, which requires at least five years of records retention, in accordance with 40 CFR 71.6(a)(3)(ii)(B) adopted under 18 AAC 50.040(j)(4).

Condition 21 - The Permittee has already complied with the initial performance test requirements in 40 CFR 60.8 for EU ID 1. However, the Permittee is still subject to these requirements in the event of a new NSPS affected facility, in the event of a modification or reconstruction of an existing facility into an affected facility or at such other times as may be required by EPA.

Condition 22 - Good air pollution control practices in 40 CFR 60.11 are applicable to EU ID 1. The requirements of 40 CFR 60.11 do not apply to EU ID 2 per Table 8 of NSPS Subpart IIII.

Condition 23 - The condition states that any credible evidence may be used to demonstrate compliance or to establish violations of relevant NSPS standards for EU ID 1. Per Table 8 of NSPS Subpart IIII, the requirements of 40 C.F.R. 60.11 do not apply to EU ID 2.

Condition 24 - Concealment of emissions prohibitions in 40 CFR 60.12 are applicable to EU ID(s) 1 and 2.

[6] *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 CFR 60.2.

[7] *Existing facility* means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type, as defined in 40 CFR 60.2.

Condition 25 - Monitoring requirements in 40 CFR 60.13 are applicable to EU ID 1 because a CMS is used to determine compliance with Subpart O emission standards. CMS and CEMS are optional for demonstrating compliance with 40 CFR 62 Subpart LLL.

Factual Basis: Subpart A contains general requirements applicable to all affected facilities (emissions units) subject to NSPS. In general, the intent of NSPS is to provide technology-based emission control standards for new, modified, and reconstructed affected facilities.

Conditions 26 and 27, NSPS Subpart O Requirements

Legal Basis: NSPS Subpart O applies to sewage sludge incinerators that were constructed or modified after July 11, 1973 and burn wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants or each incinerator that charges more than 1,000 kg per day municipal sewage sludge (dry basis). This condition prohibits the Permittee from exceeding emission standards set out in NSPS, Subpart O. EU ID 1 meets these criteria and is subject to NSPS Subpart O.

Factual Basis: This condition incorporates the Subpart O PM and visible emissions standards. The Permittee may not cause or allow EU ID 1 to violate these standards. This condition also provides MR&R specifically called for within the subpart and periodic emission testing developed to fill gaps in periodic monitoring under NSPS, Subpart O.

No owner or operator of any sewage sludge incinerator subject to the provisions of NSPS Subpart O (EU ID 1) shall discharge or cause the discharge into the atmosphere of:

1. Particulate matter at a rate in excess of 0.65 g/kg of dry sludge input (1.30 lb/ton of dry sludge input).
2. Any gases which exhibit 20 percent opacity or greater.

Periodic source testing under Conditions 7.1 and 13.1 will demonstrate compliance with the PM emission limit of Condition 27.1. The Permittee shall comply with the monitoring and recordkeeping requirements and procedures of 40 CFR 60.153; and the reporting requirements of 40 CFR 60.155(a), and if necessary, 40 CFR 60.155(b).

The 2015 source test reported an incinerator PM emission rate of 0.31 pounds per dry ton of biosolids, which is less than the 0.75 pounds per dry ton of biosolids threshold limit and qualifies AWWU for the operation monitoring exemptions provided in 40 CFR 60.153(d).

The owner or operator of any multiple hearth, fluidized bed, or electric sludge incinerator from which the average PM emission rate measured during the performance test performed under 40 CFR 60.154(d) exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input) shall include the records in Condition 27.7.c in the report, for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported.

Conditions 28 through 34, NSPS Subpart IIII Requirements

Legal Basis: NSPS Subpart IIII applies to stationary compression ignition internal combustion engines (CI ICE) that commence construction, modification, or reconstruction after July 11, 2005 where the stationary CI ICEs are manufactured after April 1, 2006 for non-fire pump engines and manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006 for fire pump engines.

EU ID 2 was identified in the renewal application as a non-emergency CI ICE and meets the applicability criteria of Subpart IIII under 40 CFR 60.4200(a)(2)(i).

Factual Basis: These conditions incorporate the Subpart IIII emissions standards applicable to EU ID 2. The Permittee may not cause or allow these emissions units to violate these standards. These conditions also provide MR&R specifically called for within the Subpart. The Permittee is required to operate and maintain the stationary CI ICE according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer.

Emission standards that apply to Subpart IIII-affected CI ICE depend on several factors, including, but not limited to, the unit's purpose (whether emergency or non-emergency), model year, displacement in liters/cylinder (L/cyl), and location. Some of this information are provided in Table A of the permit.

The Department added Condition 33 to gap-fill the operating and excess emissions and permit deviation reporting requirements.

The NSPS GAPCP requirements provided in 40 CFR 60.4211(a), as reflected in Condition 29, satisfies the state GAPCP requirement under 18 AAC 50.346(b)(5). MR&R requirements are provided in Conditions 32 through 33. Provisions for importing or installing stationary CI ICE in previous model years required under 40 CFR 60.4208 are provided in Condition 34.

The provisions of NSPS Subpart IIII listed in Conditions 28 through 34 are current as amended through December 4, 2020. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Condition 35, 40 CFR 61 Subpart A

Legal Basis: The Department has incorporated by reference the 40 CFR 61, Subpart A requirements, for specific industrial activities, as listed in 18 AAC 50.040(b) & (j)(1). Most sources subject to a 40 CFR 61 requirement are subject to 40 CFR 61, Subpart A. EU ID 1 is subject to 40 CFR 61 Subpart E and therefore subject to the provisions of 40 CFR 61, Subpart A.

In September 2021, the Department agreed with SLR Consulting that EU ID 1 is not subject to the beryllium standard under 40 CFR 61 Subpart C because the wastewater sludge does not include any beryllium-containing waste generated by a foundry, extraction plant, ceramic plant, propellant plant, or machine shop which is subject to Subpart C.

Condition 36, Asbestos NESHAP

Legal Basis: The requirements of 40 CFR 61 are applicable requirements for Title V permitting purposes, as stated in item 4 of the "applicable requirement" definition under 40 CFR 71.2. The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 CFR 61, Subpart M and associated general provisions under Subpart A, as adopted by reference under 18 AAC 50.040(b)(1) and (2)(F). The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation. ADEC received delegation for 40 CFR 61.145 and 61.154 of Subpart M (Asbestos), along with other sections and appendices which are referenced in 40 CFR 61.145, as 61.145 applies to sources required to obtain an operating permit under

Alaska's regulations. ADEC has not received delegation for Subpart M for sources not required to obtain an operating permit under Alaska's regulations.

Factual Basis: Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

Conditions 37 and 38, 40 CFR 61, Subpart E, NESHAP for Mercury (Hg)

Legal Basis: The provisions of 40 CFR 61, Subpart E apply to stationary sources which process Hg ore to recover Hg, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. EU ID 1 incinerates wastewater treatment plant sludge.

Factual Basis: The stationary source incinerates wastewater treatment plant sludge and is therefore subject to the requirements of 40 CFR 61, Subpart E. The Permittee is required to comply with the Hg standard for EU ID 1:

The Permittee is required to comply with the stack sampling recordkeeping requirements of 40 CFR 61.53(d); the sludge sampling and charging rate determination requirements of 40 CFR 61.54(e) and (g); and the monitoring of emissions and operations requirements of Method 105 of 40 CFR 60, Appendix B or the procedures specified in 40 CFR 61.53(d)(2) and (4) and the results of monitoring shall be reported and retained according to 40 CFR 61.53(d)(5) and (6) or 40 CFR 61.54(f) and (g).

Condition 39 through 49, 40 CFR 62, Subpart LLL – Federal Plan for SSI Units

Legal Basis: The provisions of 40 CFR 62, Subpart LLL apply to sewage sludge incineration (SSI) units constructed on or before October 14, 2010 that are not covered by an approved and effective state plan. EU ID 1 is subject to these requirements because it was constructed before October 14, 2010 and Alaska does not have a state plan for SSI units. The Department intends to adopt 40 CFR 62 Subpart LLL by reference as part of a future regulations package.

Factual Basis: The conditions are from 40 CFR 62, Subpart LLL requirements. These conditions are required to determine if the Permittee operates EU ID 1 according to the control plan submitted to the EPA and the Department.

Condition 39 requires the Permittee to operate equipment as designed and maintain a copy of the final control plan on site to facilitate verification that operators follow the control plan and operate within established parameters. Condition 40 contains operator training and qualifications to allow compliance officers ascertain if the operators have the requisite qualification. Condition 41 contains the applicable emission limits and standards from 40 CFR 62, Subpart LLL. Condition 42 contains operating limits established during source testing for specific operating parameters. Source tests are used to re-establish the operating parameters required to demonstrate compliance with the established operating limits. Conditions 43 and 44 contain requirements for demonstrating continuous compliance with operating limits and with emission limits and standards.

Conditions 45 through 47 include requirements for inspections of the control equipment, procedures for source testing, and calibration and maintenance of parameter monitoring

systems. Conditions 48 and 49 include recordkeeping and reporting requirements of 40 CFR 62, Subpart LLL.

Condition 50, 40 CFR 63 Subpart A Requirements

Legal Basis: Most sources subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements are subject to NESHAP Subpart A. This stationary source is subject to 40 CFR 63 Subpart ZZZZ and therefore is subject to the general provisions of Subpart A as specified in the provisions for the applicability of NESHAP Subpart A in Table 8 to NESHAP Subpart ZZZZ.

Factual Basis: Subpart A contains the general requirements applicable to all affected sources subject to NESHAP. In general, the intent of NESHAP is to regulate specific categories of stationary sources that emit or have the potential to emit one or more hazardous air pollutants.

Condition 51, NESHAP Subpart ZZZZ Requirements

Legal Basis: The Department has incorporated by reference the NESHAP requirements for specific industrial activities, as listed in 18 AAC 50.040(c). NESHAP Subpart ZZZZ applies to owners and operators of any existing, new, or reconstructed stationary reciprocating internal combustion engines (RICE), whose construction commenced before June 12, 2006, located at major and area sources of HAP emissions, excluding stationary RICE units being tested at a stationary RICE test cell/stand. The Asplund Facility is an area source that owns and operates RICE unit EU ID 2, subject to NESHAP Subpart ZZZZ.

Factual Basis: This condition incorporates the current (as amended through December 4, 2020) NESHAP Subpart ZZZZ requirements applicable to EU ID 2. In accordance with 40 CFR 63.6590(a)(2)(iii), EU ID 2 is a new stationary RICE because it is located at an area source of HAP constructed after June 12, 2006. Per 40 CFR 63.6590(c), a new stationary RICE located at an area source must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ. The requirements of NSPS Subpart IIII for EU ID 2 have been added to the permit under Conditions 28 through 34.

The provisions of NESHAP Subpart ZZZZ listed in Condition 51 are current as amended through February 27, 2014. Should EPA promulgate revisions to this subpart, the Permittee shall be subject to the revised final provisions as promulgated and not the superseded provisions summarized in these conditions.

Conditions 52 through 54, Protection of Stratospheric Ozone, 40 CFR 82

Legal Basis: The requirements of 40 CFR 82 are applicable requirements for Title V permitting purposes, as stated in item 12 of the "applicable requirement" definition under 40 CFR 71.2.

Condition 52 requires compliance with the applicable requirements in 40 CFR 82, as adopted by reference under 18 AAC 50.040(d). The requirements apply if the Permittee engages in the recycling or disposal of certain refrigerants. The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants in 40 CFR 82, Subpart F.

Conditions 53 and 54 also require compliance with the applicable requirement adopted under 18 AAC 50.040(d). Condition 53 prohibitions apply to all stationary sources that use substitutes for ozone-depleting compounds. Condition 54 prohibitions apply to all stationary sources that use halon for extinguishing fires and inert gas to reduce explosion risk. These conditions prohibit the Permittee from causing or allowing violations of these requirements.

Factual Basis: These conditions incorporate applicable 40 CFR 82 requirements. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to require compliance with this federal regulation.

Condition 55, NESHAP Applicability Determinations

Legal Basis: This condition requires the Permittee to determine rule applicability of NESHAP and requires recordkeeping for those determinations if required by the source classification.

Factual Basis: The Permittee has conducted an analysis of the stationary source and determined that it is not a major HAP stationary source based on emissions. This condition requires the Permittee to notify the Department and EPA if the stationary source becomes an affected source subject to a standard promulgated by EPA under 40 CFR 63 and to keep records of applicability determinations and make those records available to the Department.

Conditions 56 through 58, Standard Terms and Conditions

Legal Basis: These are standard conditions required for all operating permits under 18 AAC 50.345(a) and (e)-(g). As stated in 18 AAC 50.326(j)(3), the standard permit conditions of 18 AAC 50.345 replace the provisions of 40 CFR 71.6(a)(5) through (7).

Factual Basis: These are standard conditions that apply to all permits.

Condition 59, Administration Fees

Legal Basis: This condition requires compliance with the applicable fee requirements in 18 AAC 50.400-403. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 CFR 71.9 is not applicable.

Factual Basis: Paying administration fees is required as part of obtaining and holding a permit with the Department or as a fee for a Department action. The regulations in 18 AAC 50.400-403 specify the amount, payment period, and the frequency of fees applicable to a permit action.

Conditions 60 and 61, Emission Fees

Legal Basis: These conditions require compliance with the applicable fee requirements in 18 AAC 50.410-420. The regulations specify the time period for the assessable emissions and the methods the Permittee may use to calculate assessable emissions. As stated in 18 AAC 50.326(j)(1), the provisions of 18 AAC 50.400 through 50.430 are applicable and 40 CFR 71.9 is not applicable.

Factual Basis: The Department used the language in SPC I, adopted by reference under 18 AAC 50.346(b), for the permit. SPC I requires the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date. The assessable emissions are the lesser of the

stationary source's potential or projected emissions of each air pollutant at 10 tons per year or greater (AS 46.14.250(h)(1)).

SPC I also allows the Permittee to recalculate the stationary source's assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1), assessable emissions are based on each air pollutant. Therefore, fees shall be paid on any pollutant emitted whether or not the permit contains any limitation for that pollutant.

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emissions must be based on actual emissions for the previous calendar year. Since each current year's assessable emissions are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match.

Condition 62, Good Air Pollution Control Practice

Legal Basis: This condition requires compliance with the requirements in 18 AAC 50.346(b)(5) and applies to all emissions units, **except** those subject to an emission standard in 40 CFR 60, 61, or 63, those subject to continuous emission or parametric monitoring requirements, and insignificant emissions units.

Factual Basis: The condition requires the Permittee to comply with good air pollution control practices for all units.

The Department adopted this condition under 18 AAC 50.346(b) as SPC VI pursuant to AS 46.14.010(e). Records kept in accordance with Condition 62.2 for units subject to GAPCP need to be maintained for 5 years in accordance with Condition 79 even if a unit is no longer subject to this condition.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that an adequate maintenance schedule is not maintained.

Condition 63, Dilution

Legal Basis: This condition reiterates 18 AAC 50.045(a), which prohibits the Permittee from using dilution as an emission control strategy. 18 AAC 50.045 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 CFR 71.2.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

Condition 64, Reasonable Precautions to Prevent Fugitive Dust

Legal Basis: This condition reiterates 18 AAC 50.045(d), which requires a person to use reasonable precautions when handling, storing or transporting bulk materials or engaging in an industrial activity. 18 AAC 50.045 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 CFR 71.2.

This requirement applies because the Permittee has an emission unit or activity listed under Table 7 of 18 AAC 50.346(c).

Factual Basis: The Department used the language in SPC X for the permit. The condition requires the Permittee to take reasonable action to prevent particulate matter from being emitted into the ambient air in accordance with 18 AAC 50.045(d).

Condition 65, Stack Injection

Legal Basis: This condition reiterates 18 AAC 50.055(g), which prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e., disposing of material by injecting it into a stack). 18 AAC 50.055 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 CFR 71.2.

Stack injection requirements apply to stacks of emissions units at a stationary source constructed or modified after November 1, 1982.

Factual Basis: No specific monitoring for this condition is practical. Compliance is verified by inspections, because the unit or stack would need to be modified to accommodate stack injection.

Condition 66, Air Pollution Prohibited

Legal Basis: This condition requires compliance with 18 AAC 50.110. 18 AAC 50.110 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 CFR 71.2. The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. The Department also included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).

Factual Basis: The Department used the language in SPC II for the permit. This condition spells out how to monitor, record, and report prohibited air pollution. While the other permit conditions and emissions limitations should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and must submit copies of these records upon request of the Department.

Condition 67, Technology-Based Emission Standard

Legal Basis: The Permittee is required to take reasonable steps to minimize emissions if unavoidable emergency, malfunction, or non-routine repair activities cause an exceedance of

any technology-based emission standard in this permit. This condition requires compliance with the requirement in 18 AAC 50.235. Technology-Based Emission Standard requirements apply because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Factual Basis: The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with Conditions 83. Excess emission reporting under Condition 83 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under Condition 83.

Condition 68, Open Burning

Legal Basis: The condition requires the Permittee to comply with the regulatory requirements in 18 AAC 50.065 when conducting open burning at the stationary source. 18 AAC 50.065 is included in the SIP approved by EPA and, therefore, is an applicable requirement, per 40 CFR 71.2. The state open burning regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The Permittee may conduct open burning by following the provisions of 18 AAC 50.065 and by following the Department guidelines posted at the website http://dec.alaska.gov/air/air-permit/open-burn-info. Condition 68.1 requires the Permittee to keep records to demonstrate compliance with the standards for conducting open burning.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Compliance is demonstrated through annual certification required under Condition 85.

Condition 69, Requested Source Tests

Legal Basis: The Permittee is required to conduct source tests as requested by the Department. This requirement is under 18 AAC 50.220(a) and 50.345(k), which are included in the SIP approved by EPA.

Factual Basis: This condition applies because this is a standard condition to be included in all operating permits, as specified in 18 AAC 50.345(a). Compliance is demonstrated through the submission of the required source test plan and report.

Conditions 70 through 72, Operating Conditions, Reference Test Methods, Excess Air Requirements

Legal Basis: Conditions 70 and 72 require compliance with the applicable requirements in 18 AAC 50.220(b) and (c)(3), which are included in the SIP approved by EPA. Condition 71 specifies source test methods, as required by 40 CFR 71.6(a)(3)(i) and 71.6(c)(1). These requirements apply because the Permittee is required by the permit to conduct source tests or a source test may be requested by the Department. The Permittee is required to conduct source tests in the manner set out in Conditions 70 through 72.

Factual Basis: These conditions supplement the specific monitoring requirements stated elsewhere in this permit.

Condition 73, Test Exemption

Legal Basis: This condition incorporates the source test exemption in 18 AAC 50.345(a) regarding visible emissions observations. 18 AAC 50.345(a) is included in the SIP approved by EPA.

Factual Basis: As provided in 18 AAC 50.345(a), the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 74 through 77, Test Deadline Extension, Test Plans, Notifications and Reports

Legal Basis: Conditions 75 through 77 require compliance with the applicable requirements in 18 AAC 50.345(m) through (o), which are included in the SIP approved by EPA. Condition 74 contains the requirement in 18 AAC 50.345(l). The requirements in 18 AAC 50.345(l) through (o) constitute standard conditions that must be included in each operating permit, as specified in 18 AAC 50.345(a). These requirements apply because the Permittee is required to conduct source tests as set out by this permit or as requested by the Department.

Factual Basis: These standard conditions supplement specific monitoring requirements stated elsewhere in this permit.

Condition 78, Particulate Matter Calculations

Legal Basis: This condition requires the Permittee to reduce particulate matter data in accordance with 18 AAC 50.220(f), which is included in the SIP approved by EPA. It applies when the Permittee tests for compliance with the particulate matter standards in 18 AAC 50.050 or 50.055.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 79, Recordkeeping Requirements

Legal Basis: This condition requires the Permittee to keep records in accordance with 40 CFR 71.6(a)(3)(ii), which the Department adopted by reference under 18 AAC 50.040(j)(4). It also incorporates the general NSPS recordkeeping requirement under 40 CFR 60.7(f), which the Department adopted by reference under 18 AAC 50.040(a)(1).

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide evidence of compliance with this requirement.

40 CFR 60.7(f) requires records retention for at least two years of the measurements required to be maintained by this Part while 40 CFR 71.6(a)(3)(ii) requires at least five years of records retention. The five-year records retention requirement in Condition 79 satisfies both 40 CFR 60.7(f) and 40 CFR 71.6(a)(3)(ii).

Condition 80, Certification

Legal Basis: All operating permits must contain a requirement to certify permit applications, reports, affirmations, or compliance certification, per 18 AAC 50.345(j). The requirement is a part of the SIP approved by EPA.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. The requirement in 18 AAC 50.345(j) is a standard condition that must be included in each operating permit, as specified in 18 AAC 50.345(a). 18 AAC 50.345(j) allows the excess emissions reports to be certified with the operating report. However, the Department reminds the Permittee that excess emissions reports must be submitted according to the applicable deadline given in Condition 83 and must not be withheld from the Department until the deadline for submittal of an operating report. This condition supplements the reporting requirements of this permit. The certification statement through electronic signature and options for submittal provide paperless options for reporting without compelling Permittees to any specific means of submission.

Condition 81, Submittals

Legal Basis: This condition applies because the Permittee is required to send reports to the Department and supplements the standard reporting and notification requirements of this permit.

Factual Basis: The Department used the language in SPC XVII, adopted by reference under 18 AAC 50.346(b)(10), for the permit condition. This condition lists the Department's appropriate address for reports and written notices. This condition states that the Department requires one certified copy of submitted reports (except as otherwise required by the Department or other conditions of the permit) and provides an allowance for either electronic or hard copy document submittals. The condition also directs the Permittee to refer to the submission instructions on the Department's Standard Permit Conditions webpage for additional information regarding document submittals (e.g., the appropriate Department address).

Condition 82, Information Requests

Legal Basis: All operating permits must include a condition that requires the Permittee to furnish certain information upon request, per 18 AAC 50.345(i). The requirement is part of the SIP approved by EPA.

Factual Basis: The requirement in 18 AAC 50.345(i) is a standard condition that must be included in each operating permit, as specified in 18 AAC 50.345(a). This condition requires the Permittee to submit information requested by the Department.

Condition 83, Excess Emission and Permit Deviation Reports

Legal Basis: This condition requires the Permittee to comply with the requirements in 18 AAC 50.235(a)(2) and 18 AAC 50.240(c). Also, the Permittee is required to notify the Department when emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two state regulations related to excess emissions: the technology-based emission standard regulation and the excess emission regulation.

Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The Department used the language in SPC III, adopted by reference under 18 AAC 50.346(b)(2), for the permit condition. The Department used the notification form in SPC IV adopted by reference under 18 AAC 50.346(b)(3), for the notification requirements (see Section 12) for the notification requirements.

Condition 84, Operating Reports

Legal Basis: The condition specifies reporting requirements as required by 40 CFR 71.6(a)(3)(iii)(A) which the Department has adopted by reference under 18 AAC 50.040(j)(4).

Factual Basis: The Department used the language in SPC VII, adopted by reference under 18 AAC 50.346(b)(6), for the permit condition. The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements identified elsewhere in the permit.

The condition specifies that for the transition periods between an expiring permit and a renewal permit, the Permittee shall ensure that there is date-to-date continuity between the expired permit and the renewal permit such that the Permittee reports against the permit terms and conditions of the permit that was in effect during those partial date periods of the transition. No format is specified. The Permittee may provide one report accounting for each permit term or condition and the effective permit at that time. Alternatively, the Permittee may choose to provide two reports: one accounting for reporting elements of permit terms and conditions from the end date of the previous operating report until the date of expiration of the old permit, and a second operating report accounting for reporting elements of terms and conditions in effect from the effective date of the renewal permit until the end of the reporting period.

Condition 85, Annual Compliance Certification

Legal Basis: This condition requires compliance with the requirements in 40 CFR 71.6(c)(5), which the Department adopted by reference under 18 AAC 50.040(j).

Factual Basis: This condition specifies the periodic compliance certification requirements and specifies a due date for the annual compliance certification.

Condition 85.2 provides clarification of transition periods between an expiring permit and a renewal permit to ensure that the Permittee certifies compliance with the permit terms and conditions of the permit that was in effect during those partial date periods involved in the transition. No format is specified. The Permittee may provide one report certifying compliance with each permit term or condition for each of the effective permits during the certification period or may choose to provide two reports: one certifying compliance with permit terms and conditions from January 1 until the date of expiration of the old permit, and a second report certifying compliance with terms and conditions in effect from the effective date of the renewal permit until December 31.

The Permittee is required to submit to the Department an annual compliance certification report. The Permittee may submit the required report electronically at their discretion.

Condition 86, NSPS and NESHAP Reports

Legal Basis: The Permittee is required to provide the Department a copy of each report submitted to EPA as required for emissions units subject to NSPS or NESHAP federal regulations under 18 AAC 50.326(j)(4). Appendix A to 40 CFR 70 documents that EPA fully approved the Alaska operating permit program effective November 30, 2001.

Factual Basis: The condition supplements the specific reporting requirements in 40 CFR 60, 40 CFR 61, and 40 CFR 63. The reports themselves provide monitoring for compliance with this condition.

Condition 87, Permit Applications and Submittals

Legal Basis: 40 CFR 71.10(d)(1), adopted by reference by the Department under 18 AAC 50.040(j)(7), requires submission of a copy of each permit application to EPA.

Factual Basis: The Department used the language in SPC XIV, adopted by reference under 18 AAC 50.346(b)(7), for the permit condition. The condition directs the applicant to send a copy of each application for modification or renewal of this permit to the EPA. The information may be submitted in electronic format, if practicable. This condition shifts the burden of compliance with 40 CFR 71.10(d)(1) from the Department to the Permittee as allowed under 40 CFR 71.10(d)(1).

Conditions 88 through 90, Permit Changes and Revisions Requirements

Legal Basis: The Permittee is obligated to notify the Department of certain off-permit source changes and operational changes under18 AAC 50.326(j)(4). 40 CFR 71.6(a)(8), (12), and (13), incorporated by reference under 18 AAC 50.040(j), require that these provisions be included in operating permits.

Factual Basis: 40 CFR 71.6(a)(12) and (13), as reflected in Conditions 89 and 90, respectively, specify changes that may be made without a permit revision, and 40 CFR 71.6(a)(8) (Condition 88) states permit revisions are not required for some emissions trading and similar programs.

Condition 91, Permit Renewal

Legal Basis: The Permittee must submit a timely and complete operating permit renewal application if the Permittee intends to continue source operations in accordance with the operating permit program. The obligations for a timely and complete operating permit application are in 40 CFR 71.5(a) through (c), adopted by reference in 18 AAC 50.040(j)(3), and 18 AAC 50.326(c).

Factual Basis: In accordance with AS 46.14.230(a), this operating permit is issued for a fixed term of five years after the date of issuance, unless a shorter term is requested by the permit applicant. The Permittee is required to submit an application for permit renewal by the specific dates applicable to the stationary source as listed in this condition. As stated in 40 CFR 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 40 CFR 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 CFR 71.5(c) and remits payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 CFR 71.7(b) states that if a source submits a timely and complete application for permit issuance (including

renewal), the source's failure to have a permit is not a violation until the permitting authority takes final action on the permit application.

Therefore, as long as an application has been submitted within the timeframe specified under 40 CFR 71.5(a)(1)(iii) and is complete before the expiration date of the existing permit, then the expiration of the existing permit is extended and the Permittee has the right to operate under that permit until the effective date of the new permit. However, this protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit by the deadline specified in writing by the Department any additional information needed to process the application.

Conditions 92 through 97, General Compliance Requirements and Schedule

Legal Basis: These conditions require compliance with the applicable requirements in 18 AAC 50.345(b) through (d) and (h) and 40 CFR 71.6(c)(3). As stated in 18 AAC 50.345(a), the requirements in 18 AAC 50.345(b) through (d) and (h) are standard conditions that must be included in all operating permits issued by the Department.

Factual Basis: These are standard conditions for compliance required for all operating permits.

Conditions 98 and 99, Permit Shield

Legal Basis: These conditions require compliance with the requirements in 40 CFR 71.6(f), which the Department has adopted by reference under 18 AAC 50.040(j)(4). These requirements apply because the Permittee has requested that the Department shield the stationary source from specific non-applicable requirements listed under this condition.

Factual Basis: Table E of Operating Permit No. AQ0245TVP05 shows the permit shield that the Department granted to the Permittee. The following table shows the requests that were denied and the reasons that they were denied. The Department based the determinations on the permit application, past operating permit, Title I permits, and inspection reports. Should any of the shielded requirements become applicable during the permit term, the Permittee is required to take necessary steps to comply with all applicable requirements in a timely manner.

Table H - Permit Shields Denied

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 60 Subpart Dc	Each of the gas-fired boilers (EUs 4 & 5) are rated at less than 10 MMBtu/hr. [40 CFR 60.40c(a)]	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 63 Subpart JJJJJJ	EUs 4 & 5 are not subject to this subpart because they are gas-fired boilers. [40 CFR 63.11195(e)]	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart JJJJ	The requirements of 40 CFR 60 Subpart JJJJ do not apply to EU 2 because the unit is not a spark ignition engine.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60.4209(a)	EU 2 meets the standards applicable to non-emergency engines.	This is not a potentially applicable requirement and therefore a permit shield is not relevant.

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 60.4209(b)	EU 2 is not equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204.	This is not a potentially applicable requirement and therefore a permit shield is not relevant.
40 CFR 1039.101	The requirements of 40 CFR 1039.101 do not apply to EU 2 because it commenced construction before 2014.	This is not a potentially applicable requirement and therefore a permit shield is not relevant.
40 CFR 1039.102	EU 2 is rated greater than 560 kW and was constructed in 2009.	This is not a potentially applicable requirement and therefore a permit shield is not relevant.
40 CFR 1039.107	EU 2 does not combust a volatile liquid fuel.	This is not a potentially applicable requirement and therefore a permit shield is not relevant.
40 CFR 60 Subparts Cb and Eb	EU 1 is rated less than 250 tpd and is not a large MWC as defined under Subpart Cb. The incinerator commenced construction prior to September 20, 1994, the applicability date for Subpart Eb.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subparts Ce and Ec	The incinerator does not combust hospital, medical, or infectious waste.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart E	The incinerator does not have a charging rate of more than 45 metric tons per day (50 tons/day).	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subparts Ea, AAAA, and BBBB	The incinerator is not a MWC.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart CCCC	This rule applies to new commercial and industrial solid waste incineration units for which construction commenced after November 30, 1999 or for which modification or reconstruction commenced on or after June 1, 2001. The incinerator at this stationary source was constructed in 1986 and has not been modified or reconstructed since it was installed.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart DDDD	This rule applies to Administrators of an air quality program with one or more existing commercial and industrial solid waste incineration units for which construction commenced on or before November 30, 1999	These are not potentially applicable requirements and therefore a permit shield is not relevant.

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 60 Subpart EEEE	This rule applies to other solid waste incineration (OSWI) units or air curtain incinerators for which construction commenced on or after December 9, 2004 or reconstruction commended on or after June 16, 2006. The incinerator at this stationary source was constructed in 1986 and has not been modified or reconstructed since it was constructed.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart FFFF	This rule applies to Administrators of an air quality program with one or more existing other solid waste incineration units for which construction commenced on or before December 9, 2004.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart LLLL	This rule applies to new sewage sludge incineration units for which construction commenced after October 14, 2010 or for which modification commenced after September 21, 2011. The incinerator at this stationary source was constructed in 1986 and has not been modified or reconstructed since it was installed.	These are not potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 60 Subpart MMMM	This rule applies to Administrators of an air quality program with one or more SSI units for which construction commenced on or before October 14, 2010. The requirements of Subpart MMMM do not apply to EU ID 1 because ADEC does not have an approved plan. Instead, the federal plan requirements of 40 CFR 62, Subpart LLL apply to EU ID 1 until the EPA approves a state plan that regulates the SSI unit (EU ID 1) and that state plan becomes effective.	These are not a potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 62, Subpart FFF, Federal Plan Requirements for Large Municipal Waste Combustors	Incinerator at the stationary source is not a Large MWC.	These are not a potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 62, Subpart HHH, Federal Plan Requirements for Hospital/Medical/Infectious Waste Incinerators	The incinerator does not combust hospital, medical, or infectious waste.	These are not a potentially applicable requirements and therefore a permit shield is not relevant.

Shield Requested for:	Reason for Shield Request:	Reason for Denial
40 CFR 62, Subpart III, Federal Plan Requirements for Commercial and Industrial Solid Waste Incineration Units	The incinerator does not combust commercial and industrial solid waste	These are not a potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 62, Subpart JJJ, Federal Plan Requirements for Small Municipal Waste Combustion Units	The incinerator does not combust at least 35 tons per day of municipal solid waste or refuse-derived fuel.	These are not a potentially applicable requirements and therefore a permit shield is not relevant.
40 CFR 62.16000(b)(1), (b)(2), (b)(4), 62.16015(b), 62.16025(f)(1), (f)(2), 62.16030(g)(1), & (h)(2)(ii)	A continuous automated sampling system or continuous emissions monitoring system is not used to demonstrate compliance with the emissions limits and standards in Table 3 of 40 CFR 62 Subpart LLL.	The referenced continuous automated sampling systems and continuous emissions monitoring systems are not required, they are optional for demonstrating compliance. Therefore, permit shields are not necessary.
40 CFR 63, Subpart EEE	The incinerator at this stationary source does not combust hazardous waste material. Therefore, the requirements of Subpart EEE do not apply	These are not a potentially applicable requirements and therefore a permit shield is not relevant.