

Statement of Basis for the Air Operating Permit—Final

Lehigh Northwest Cement Company

Bellingham, Washington

July 7, 2017



Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION
LEHIGH NORTHWEST CEMENT COMPANY – BELLINGHAM
DISTRIBUTION TERMINAL
741 Marine Drive, Bellingham, WA 98225

SIC: 3241
NAICS: 327310
EPA AFS: 53-073-01007

NWCAA ID: 1007-V-W

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1 INTRODUCTION

Lehigh Northwest Cement Company (Lehigh) owns and operates a portland cement manufacturing facility located at 741 Marine Drive in Bellingham, Washington. A site location map is provided in Figure 1. The facility grinds clinker, gypsum, limestone, and fly ash to make various grades of portland cement. The facility was originally registered by the NWCAA on 07/31/1970 as Tilbury Cement. On 02/01/2002 the facility changed its name to Lehigh Northwest Company.

Construction of the facility started in 1911. The first cement was produced by two small kilns in May 1913. A third small kiln was added in 1925. In 1948 all three kilns were shut down and replaced with one large kiln measuring 11ft diameter by 416 ft long. Kaiser Cement bought the plant in 1958 and added a second kiln identical to the first. Rated capacity for both kilns was 350,000 short tons of clinker per year. One new finish mill was added in 1953 and another one in 1959 to grind the capacity of the additional kiln. No other equipment was added to the plant for clinker or cement production. Both kilns operated until 1987 when the plant went into bankruptcy and was sold at auction. Tilbury Cement, which changed its name to Lehigh Cement in 2002, bought the plant and shut down the kilns, but kept the finish mills operating. Since 1987 the finish mills have operated between 15 and 65% rated capacity. The plant receives clinker from Lehigh Cement in Canada.

Lehigh is classified as an “area source” by the EPA, because it does not meet the criteria of a “major source”. The major source criteria are having the potential to emit 100 tons per year or more of any criteria pollutant, or the potential to emit 10 tons per year or more of any listed hazardous air pollutant or 25 or more tons of any combination of hazardous air pollutants. In total, the emissions from the Lehigh facility in 2010 were estimated to be 9.04 tons of particulate matter and 0.09 tons of hazardous air pollutants. Details about potential to emit are included in Section 2.3 below.

Lehigh is required under Title 40 Part 63, Sections 63.1(c)(2) and 63.1340(d) to apply for and obtain a Title V air operating permit. Lehigh received a letter from the NWCAA requiring a Title V Air Permit on February 9, 2011. Lehigh is designated a portland cement manufacturing facility which is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63 Subpart LLL and is required to submit a Title V Air Operating Permit application within one year of the effective date of the regulation. The facility became subject to the regulation on September 9, 2010.

The first operating permit for Lehigh, AOP #022, was issued on July 12, 2012. Lehigh submitted an application for permit renewal on July 14, 2016.

1.1 Changes Made During the first Renewal

The following changes have been made to the Lehigh AOP during the first renewal:

- Regulatory citations in the permit were revised to reflect new or modified regulations and updated revision/promulgation dates.

- Formatting throughout the entire permit has been updated to current NWCAA standards.
- Contact names and information for Lehigh and the NWCAA were updated as appropriate. In addition, the Permit Information page reflects the updated permit number and dates for the permit renewal. Note that the renewal application is due a year in advance of the permit expiration date.
- AOP Section 2 (Standard Terms and Conditions) has been replaced with the latest NWCAA standard version, containing any new or modified regulations and updated reference dates.
- AOP Section 3 (Standard Terms and Conditions for NSPS and NESHAP) has been replaced with the latest NWCAA standard version of applicable requirements, containing any new or modified regulations and updated reference dates.
- The provisions of OAC 1251, issued by NWCAA on 9/9/16, have been added in Section 5 of the AOP.
- The Statement of Basis content and layout were revised to standardize the documents issued for Lehigh. Factual information was revised to correct for current operation and some text has been rephrased to add clarification.
- The facility responsible official (RO) has been changed between the proposed version and the final version of the AOP. Since the replacement of the RO is considered to be an administrative modification that does not require a public notice, NWCAA made the change to the new RO pursuant to WAC 173-401-720 and include it in the final version of the AOP.

2 FACILITY DESCRIPTION

2.1 General Facility Description

The Lehigh facility is located at 741 Marine Drive in Bellingham, Washington (Figure 2-1). The facility has a nominal production capacity of 324,000 metric tons of Portland cement per year. The plant operates by blending clinker, gypsum, and limestone and grinding the material to the required specification. Fly ash is also added after the grinding operation.

Clinker is imported from offsite cement kilns. The kiln at the site was shut down in 1987 and clinker is no longer produced at the site. The clinker is delivered by truck and is stockpiled in an enclosed clinker shed. The clinker is delivered to an underground conveyor in the shed via a front end loader. A blower and baghouse provide a slight negative pressure in the shed to reduce fugitive emissions from the clinker unloading and loading. Gypsum and limestone are similarly delivered, stored and loaded onto conveyor systems.

The raw materials are delivered by conveyor to the front-end of two finish mills (Finish Mill #3 and Finish Mill #4). The mills turn and use steel balls of various sizes to crush and grind the raw materials. Dust emissions from the two finish mills are controlled by dust collection systems. Each mill has two sections, the primary mill and the secondary mill.

After grinding, fly ash may be added to the Portland cement depending on the type of cement that is being produced. The ground cement/fly ash mixture is conveyed via enclosed conveyor to air separators. Finish Mill #3 uses a mechanical style separator which consists of a rotating arm to separate the fine material from the coarse material. Finish Mill #4 uses an air separator to separate the fine and coarse material. The fine material is conveyed via enclosed conveyor to the storage silos, while the coarse material is conveyed via enclosed conveyor to the front end of the finish mills for further grinding.

Finish Mill #3 uses the same dust collector to control emissions from the mill and the mechanical separator. Finish Mill #4 uses a dust collector to control emissions from the mill and a separate dust collector (Fuller dust collector) to control emissions from the air separator.

The finished product is stored in silos until it is loaded in trucks or rail cars. All storage, conveyor, and loading operations are controlled by dust collectors.

A site map showing the layout of the Lehigh facility is provided in Figure 2-2. A process flow diagram of the operations at the facility is provided in Figure 2-3.

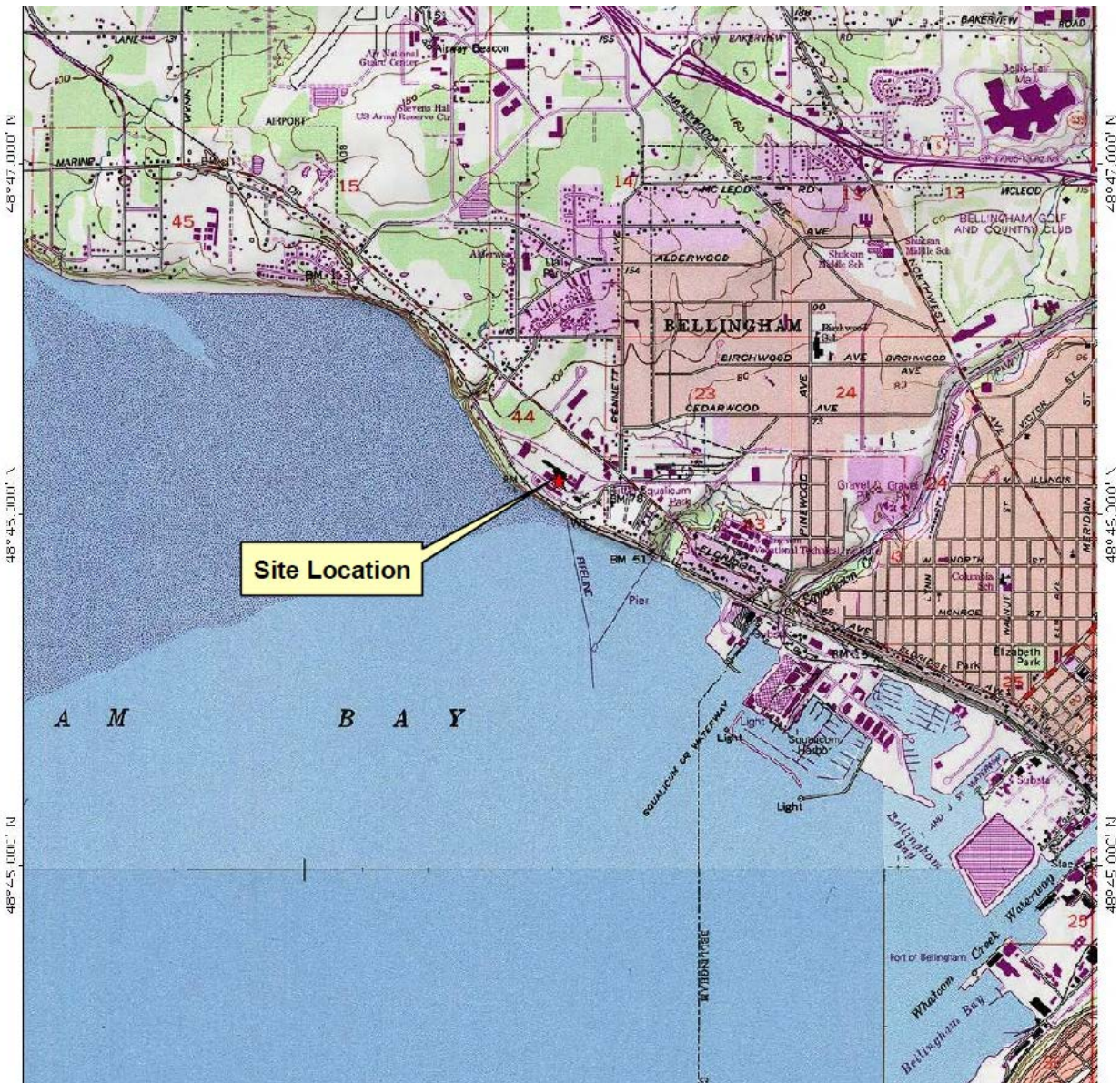


Figure 2-1 Lehigh Cement Plant Location

2.2 Emission Unit Description

The Lehigh facility has four emissions points:

Emissions Point #1: Emissions Point #1 consists of the Fuller Air Separator Baghouse, which was constructed in 1996 under OAC #587. Estimated Particulate Matter (PM) emissions in 2010 were 6.24 tons.

Emissions Point #2: Emissions Point #2 consists of the Finish Mill #3 Baghouse. This baghouse controls emissions from both Finish Mill #3 and the mechanical separator which were constructed in 1953. Estimated PM emissions in 2010 were 0.01 tons.

Emissions Point #3: Emissions Point #3 consists of the Finish Mill #4 Baghouse. This baghouse controls emission from Finish Mill #4 (not including the air separator) which was constructed in 1958. Estimated PM emissions in 2010 were 1.3 tons.

Emissions Point #4: Emissions Point #4 consists of storage area and conveyance system baghouses and dust collectors. This emission point includes the following systems:

- Two baghouses on the clinker conveyor system and clinker storage shed (one is currently inactive).
- One baghouse (#4 mill separator) for air slides and bucket elevator
- Two baghouses for cement silos. OAC 1251 has been issued to replace these two baghouses, but they have not been replaced yet as of the writing of this document.
- One baghouse/Dust collector for truck loading area
- One baghouse for fly ash silo (silo 25)
- One baghouse transfer pump
- One dust collector for rail car loading
- One baghouse for the eight fly ash silos #0001
- One dust collector for the buff tank #0002
- One dust collector on the finish mill fly ash tank
- One dust collector for the rail unloading

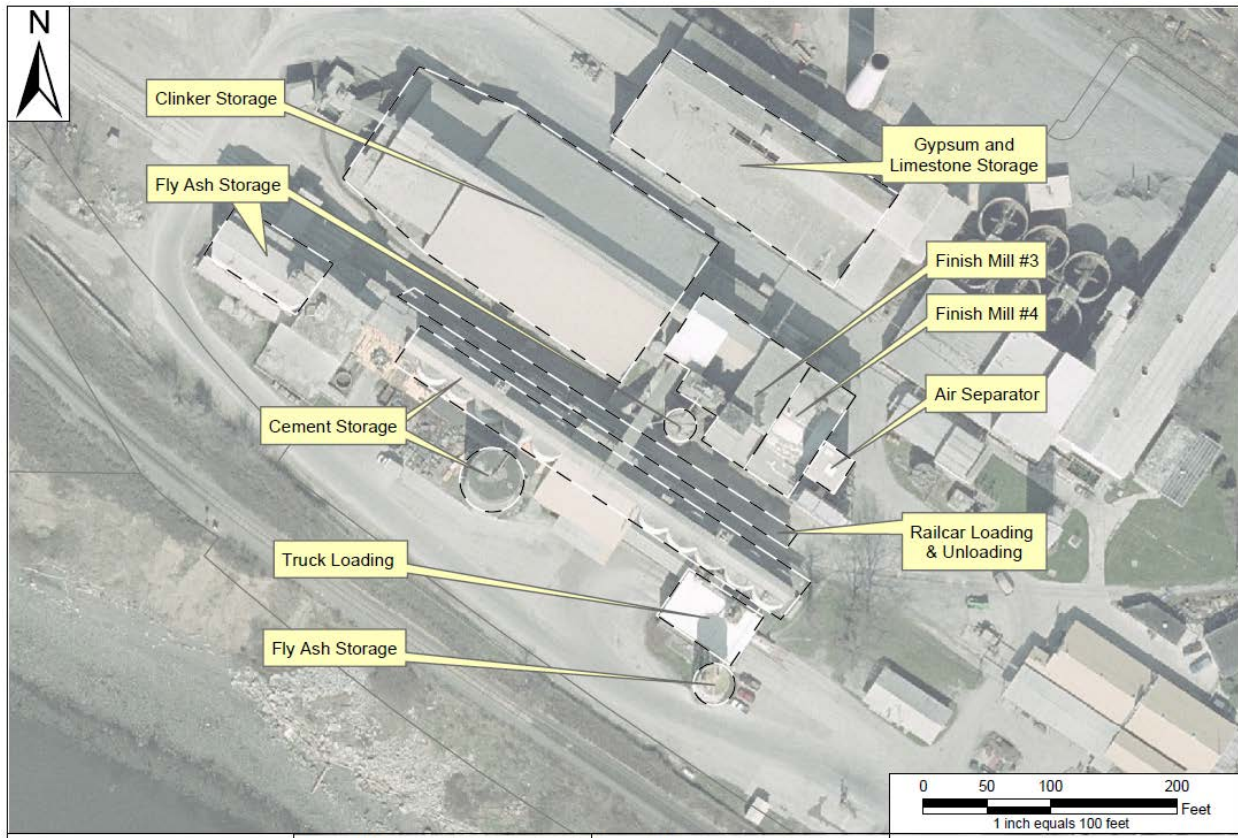


Figure 2-2 Lehigh Cement Plant Overhead View

A detailed emissions inventory as submitted by Lehigh is shown in Table 2-2.

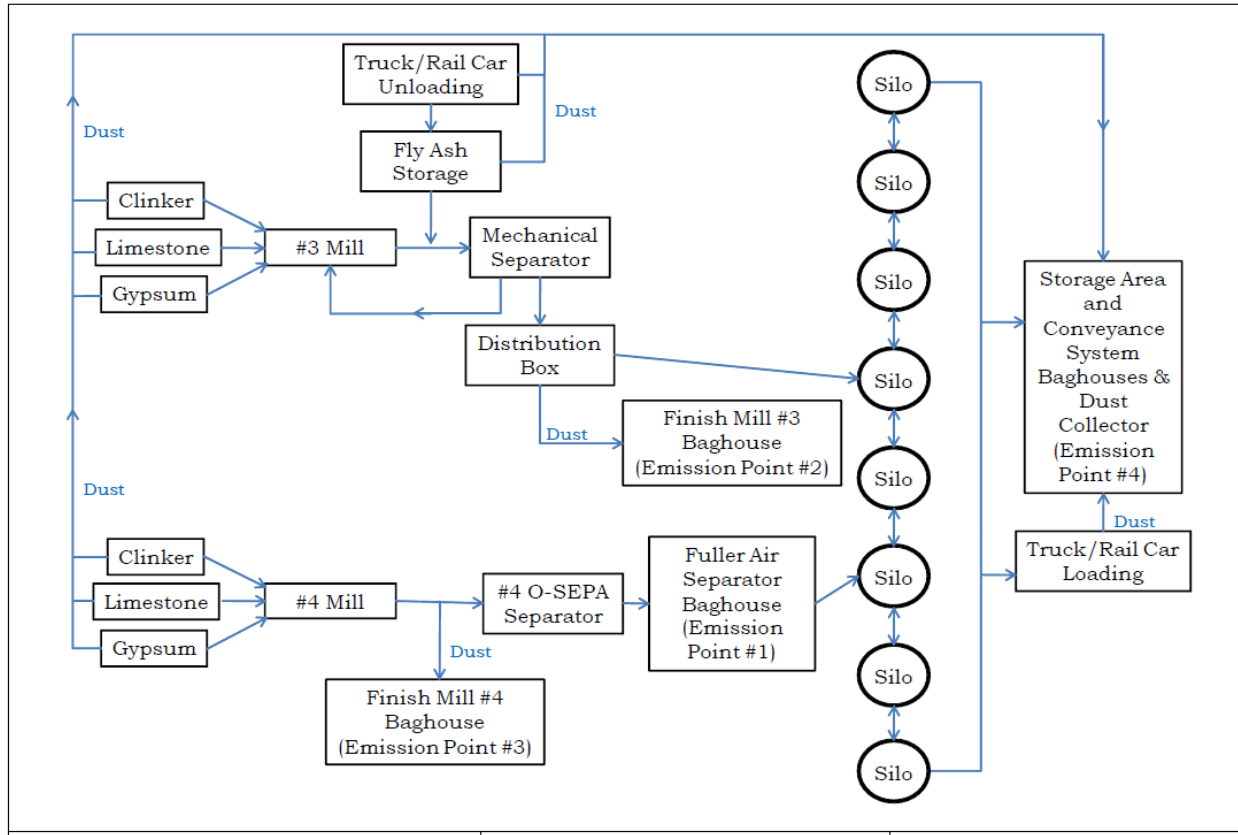


Figure 2-3 Lehigh Cement Process Diagram

Table 2-1 Significant Emission Units at Lehigh

Emission Point	Process Description	Control Device
1	Finish Mill #4 Fuller Air Separator	Baghouse
2	Finish Mill #3	Baghouse
3	Finish Mill #4	Baghouse
4	Storage Area and Conveyance System	
	<ul style="list-style-type: none"> Clinker conveyor system and storage 	Baghouse
	<ul style="list-style-type: none"> # 4 Mill Separator 	Baghouse
	<ul style="list-style-type: none"> Silo #1-5 	Baghouse
	<ul style="list-style-type: none"> Silo #6-10 	Baghouse
	<ul style="list-style-type: none"> Truck loading area 	Baghouse/ Dust Collector
	<ul style="list-style-type: none"> Silo 25 	Baghouse
	<ul style="list-style-type: none"> Transfer Pump 	Baghouse
	<ul style="list-style-type: none"> Railcar Loading 	Dust Collector
	<ul style="list-style-type: none"> Fly ash silos 11-18 #0001 	Baghouse

Emission Point	Process Description	Control Device
	• Buff Tank #0002	Dust Collector
	• Finish Mill Fly Ash Tank	Dust Collector
	• Railcar Unloading	Dust Collector

2.3 Emissions Inventory and Potential to Emit

Table 2-2 below shows recent emissions history of the facility as identified in the annual emissions inventory submitted to NWCAA, in tons per year.

Table 2-2 Lehigh Emissions Inventory, tons per year

	2010	2011	2012	2013	2014	2015
TSP	9.04	10	9.1	9.6	10.2	6.3
PM ₁₀	9.04	10	9.1	9.6	10.2	5.4
PM _{2.5}	9.04	10	9.1	9.6	10.2	1.9
SO ₂	0	0	0	0	0	0
NO _x	0	0	0	0	0	0
VOC	0	0	0	0	0	0
CO	0	0	0	0	0	0

In accordance with the EPA Q&A Manual for the Portland cement NESHAP (as cited in the February 9, 2011 letter to Lehigh from NWCAA) an assumption of 1% Hazardous Air Pollutants can be used for Portland cement facilities. This would give an estimated HAP emission from 2014 (the year with the highest reported PM emissions) of 0.1 tons. This is below the major source threshold of ≥ 10 tons of a single HAP or ≥ 25 tons combined HAP.

2015 emissions were calculated by Lehigh using a TSP emission factor from baghouses equal to 0.01 gr/acfm. Emissions were then calculated using the baghouse fan capacity and the hours of operation. Using emission factors from AP 42, Vol. I, 5th Ed., Appendix B.2, Table B.2.2, Category 4, (9/90), PM₁₀ was calculated to be 85% of TSP and PM_{2.5} was calculated to be 30% of TSP.

The 2015 production was reported by Lehigh to be 78,201 tons of cement. The production capacity for the Lehigh plant is 324,000 tons per year. Potential emissions for TSP are then calculated to be $(324,000/78,201) \times 6.3 = 26$ tpy. Eighty five percent, or 22.1 tons per year, of TSP is PM₁₀. Fifteen percent, or 3.9 tons per year, of TSP is PM_{2.5}.

Lehigh doesn't operate any combustion devices beyond those used for comfort heating or hot water, and doesn't operate any significant VOC sources. The actual emissions of SO₂, NO_x, VOC, and CO are less than one ton per year. Hence, the potential emissions are also well below major source thresholds.

2.4 Compliance History

Violations are resolved through a combination of penalty assessments and corrective action taken by the source. In most cases a summary of corrective action taken by the source was submitted to the NWCAA as a written response to the violation. Additional information about each violation can be obtained upon request to the NWCAA. One NOV is in the database.

Notice of Violation #3410 Issued April 30, 2004: The facility was issued this NOV for failure to report an upset condition which resulted in an exceedance of an air quality standard. Opacity from the air slide baghouse was observed at 30%, exceeding the 20% opacity standard. Air slide baghouse breakthrough occurred on March 23, 2004. The air slide continued to operate during this period which ended on March 27, 2004, when two bags were replaced. Violation was of Section 340.11 and 342.1 of NWCAA Regulation.

2.5 Compliance Reports

The Lehigh AOP requires semiannual and annual reports to be submitted to the NWCAA as part of the facility's ongoing compliance demonstration. Semiannual reports provide for the certification by the responsible corporate official of the truth, accuracy, and completeness of reports submitted during the previous six-month period. With the annual compliance certification the responsible corporate official also certifies compliance with all applicable requirements in the AOP term by term, noting the method with which compliance is determined, and whether the facility was fully or intermittently in compliance with each term.

2.6 NWCAA Regulatory Orders

No regulatory orders have been issued for Lehigh.

2.7 NWCAA Orders of Approval to Construct

Lehigh has two Orders of Approval to Construct (OACs):

OAC 587a: OAC 587a was issued on December 8, 2011, to modify the original OAC 587, which was issued on April 25, 1996. The original OAC was issued for construction and operation of a 200,000 ton per year air separator, to be located at the exit of the finish mill. The main purpose of the modification was to remove a requirement that stated that the air separator and fabric filter were subject to Subpart OOO of 40 CFR 60. Subpart OOO applies to nonmetallic mineral processing plants, which includes rock crushers, but not Portland cement plants.

OAC 931: OAC 931 was issued on December 12, 2005, for replacement of two dust collectors with new pulse-jet fabric filtration dust collectors. Dust Collector #0001 is used to control particulate emissions when unloading flyash from rail cars. Collector #0002 is used to control particulate emissions when loading trucks with fly ash or cement.

OAC 1251: OAC 1251 was issued on September 9, 2016, for replacement of two dust collectors on the storage silos with two new ones. There are two rows of five

silos at the facility, and each row of five silos has a dust collector to control the cement dust that is created by the silos emptying and refilling during operation. The old dust collectors were installed in 1959 and there was no permit for the existing baghouses. As of the time of permit issuance, the new baghouses have not been installed yet.

3 BASIS OF REGULATION APPLICABILITY

3.1 New Source Performance Standards (NSPS)

Subpart F of 40 CFR 60 applies to the Finish Mill #4 because it is an affected facility that was modified after August 17, 1971 through installation of the Fuller Air Separator and the Separator's baghouse. The only emission limit from the NSPS that applies to the Finish Mill is an opacity limit of 10%. However, 40 CFR 60.62(c) references requirements from 40 CFR 63.1350 (Subpart LLL), which are included in the AOP.

Whenever a NSPS applies to a facility, specific parts of Subpart A (General Provisions) to 40 CFR 60 apply. Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)

Lehigh is subject to 40 CFR Part 63 Subpart LLL- National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry. The final regulation, issued on June 14, 1999, amended on September 9, 2010, again on July 27, 2015, and most recently on July 25, 2016, covers new and existing Portland cement plants, whether they are major or area sources. Hazardous air pollutants are released during most operations of most of the equipment at a Portland cement plant, including kilns, clinker coolers, raw mills, raw material dryers, storage bins, open clinker piles, and bagging and bulk loading facilities. Because the Lehigh facility does not have kilns or clinker coolers, and because it is an *area* rather than a *major* source, only limited requirements apply to the facility.

Whenever a NESHAP applies to a facility, specific parts of Subpart A (General Provisions) to 40 CFR 63 apply. Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements. Relevant portions of Subpart A are included in the AOP.

3.3 Compliance Assurance Monitoring (CAM)

The requirements of Compliance Assurance Monitoring are contained in 40 CFR 64. They apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit provided the unit satisfies all criteria as delineated in 40 CFR 64.2(a)(1)-(3). In particular, 40 CFR 64.2(a) stipulates that "...the requirements of this part shall apply to a pollutant-specific emissions unit at a major source..." Lehigh is an area, not a major, source. Therefore, Lehigh is not subject to the CAM rule.

3.4 Chemical Accident Prevention Provisions

The goal of 40 CFR 68 and the risk management program it requires is to prevent accidental releases of substances that can cause serious harm to the public and the

environment from short-term exposures and to mitigate the severity of releases that do occur. If a tank, drum, container, pipe, or other process at a facility contains any of the extremely hazardous toxic and flammable substances listed in Table 1 to 40 CFR 68.130 in an amount above the “threshold quantity” specified for that substance, the facility operator is required to develop and implement a risk management program.

Lehigh does not have any of the substances in the threshold quantities listed in Table 1 to 40 CFR 68.130 and therefore it is not subject to the requirements of 40 CFR 98.

3.5 New Source Review (NSR)

3.5.1 Basic Information

New Source Review requires stationary sources of air pollution to acquire permits before they begin construction. NSR is also referred to as construction permitting or preconstruction permitting.

There are three types of NSR permits. A source may have to acquire one or more of these permits:

- Prevention of Significant Deterioration (PSD) permits, which are required for new major sources or a major source making a major modification in an attainment¹ area;
- Nonattainment NSR permits, which are required for new major sources or major sources making a major modification in a nonattainment area; and
- Minor source permits, which are required for sources that emit pollutants below the major source threshold but above the minor source threshold. It is generally the case that a major new or modified source will also require minor NSR permitting that covers a different subset of pollutants.

3.5.2 What are Permits?

Permits are legal documents that the source must follow. Permits specify what emission limits must not be exceeded and how the source is to demonstrate compliance with the set limits. Permits may contain conditions to ensure that the source is built according to the permit application upon which the permitting agency relies for air impact analysis. For example, the permit may specify a stack height that was used by the permitting agency to determine compliance with air pollutant limits. Some limits in the permit may be specified at the request of the source to keep them from being subject to other requirements. For example, the source may take limits in a minor NSR permit to keep the source out of PSD. To assure that sources follow permit requirements, permits also contain monitoring, recordkeeping, and reporting (MR&R) requirements.

¹ An attainment area means a geographic area designated by EPA at 40 CFR 81 as having attained the National Ambient Air Quality Standard for a given criteria pollutant (Reference: WAC 173-400-030 (9)).

3.5.3 Who Issues the Permits?

In Washington State most NSR permits are issued by the Washington State Department of Ecology (“Ecology”) or local air pollution control agencies. The EPA issues the permit in some cases. Ecology and local air pollution control agencies have their own permit programs that are approved by EPA in the State Implementation Plan (SIP). In general, in the NWCAA jurisdiction, which encompasses Island, Skagit, and Whatcom Counties, Ecology issues major NSR permits (PSD permits) and NWCAA issues minor NSR permits (Orders of Approval to Construct, or OACs).

3.5.4 Prevention of Significant Deterioration (PSD)

Before a major source can be constructed or modified in an area that meets all the health-based ambient air requirements (i.e. in an attainment area), the owner or operator must demonstrate that the project will not cause or contribute to violations of any ambient air quality standard or air quality increment. Also, the owner or operator must demonstrate that the project will not cause significant deterioration in nearby Class I Areas (parks and wilderness areas).

Lehigh qualifies as a major source and is, therefore, an applicable source under the PSD program (40 CFR 52.21) since the facility is located in an attainment area. However, emissions of NO_x, CO, SO₂, PM, and PM₁₀ are well below PSD thresholds and therefore Lehigh is not subject to the PSD program.

3.5.5 Minor NSR

New or modified sources of air pollution are required to obtain a permit from the NWCAA before beginning construction. Permits are referred to as Orders of Approval to Construct (OACs) and contain a wide range of local, state, and federal requirements to minimize air pollution impacts on the environment. The type of activity, the size of the operation, and the kinds of pollutants emitted determine permit conditions.

3.6 Greenhouse Gas (GHG) Regulation

3.6.1 40 CFR 98, Federal Mandatory Greenhouse Gas Emission Inventory Regulation

The requirements for the mandatory greenhouse gas reporting are contained in 40 CFR 98. In order for a facility to be subject to 40 CFR 98, it must meet the requirements of either 1, 2, or 3 below:

1. A facility that contains any source category that is listed in Table A–3 of 40 CFR 98 Subpart A.
2. A facility that contains any source category that is listed in Table A–4 of 40 CFR 98 Subpart A that emits 25,000 metric tons CO₂e or more per year in combined emissions from stationary fuel combustion units.
3. A facility that has stationary fuel combustion units with an aggregate maximum rated heat input of 30 MMBtu/hr or greater, and the facility emits

25,000 metric tons CO₂e or more per year in combined emissions from all stationary fuel combustion sources.

Lehigh does not contain any source category that is listed in tables A-3 or A-4 to subpart A to 40 CFR 98², and has no fuel combustion sources with an aggregate maximum rated heat input of 30 MMBtu/hr.

As a result, Lehigh is not subject to the requirements of 40 CFR 98.

It should be noted that 40 CFR 98 falls outside the scope of the state and federal air operating permit rules, so this air operating permit could not contain any terms or conditions directly enforcing that regulation even if it did apply.

3.6.2 WAC Chapter 173-441, Reporting of Emissions of Greenhouse Gases

Chapter 173-441 WAC, "Reporting of Emissions of Greenhouse Gases", is a mandatory greenhouse gas (GHG) reporting rule for:

- Suppliers that supply applicable fuels sold in Washington State of which the complete combustion or oxidation would result in at least 10,000 metric tons of carbon dioxide annually; or
- Any listed facility that emits at least 10,000 metric tons of CO₂-equivalents (CO₂e) of greenhouse gases annually in the state.

Chapter 173-441 WAC was adopted by Ecology on December 1, 2010 and became effective on January 1, 2011. Lehigh is not required to report under Chapter 173-441 WAC because the facility does not emit 10,000 metric tons or more of CO₂e of greenhouse gases per year.

Chapter 173-441 WAC is patterned after 40 CFR 98, described above in Section 3.6.1, using most of the same definitions and calculating methods and formulas as in 40 CFR 98. The applicability threshold is set at 10,000 metric tons CO₂e, rather than 25,000 metric tons. Any facility that is subject to Chapter 173-441 WAC is required to report greenhouse gas emissions into the federal e-GGRT online reporting system, whether that facility is subject to the federal regulation or not.

3.6.3 WAC Chapter 173-442, Clean Air Rule

This rule establishes GHG emissions standards starting in 2017 for certain stationary sources, petroleum product producers and importers and natural gas distributors.

The rule applies if the three year average for GHG beginning in 2012 is more than 100,000 metric tons CO₂e per year. Lehigh does not have any combustion emission units, and does not emit GHG to the levels needed for WAC 172-442 applicability. Therefore, WAC 173-442 does not apply to Lehigh.

² Subpart H of 40 CFR 98 does not apply to Lehigh, because Lehigh does not have any of the applicable equipment, including kilns, inline kiln/raw mills, or alkali bypasses.

4 GENERAL PERMIT ASSUMPTIONS

4.1 Permit Content

The permit contains (1) standard terms; (2) generally applicable conditions for the type of facility permitted; and (3) specifically applicable conditions. Applicable requirements that were satisfied by a single past action on the part of the source are not included in the permit but are discussed in the Statement of Basis. Regulations that require action by a regulatory agency, but not of the regulated source, are not included as permit conditions.

4.1.1 OAC Conditions

The AOP also contains conditions from applicable OAC (in this case, OAC 587a, OAC 931, and OAC 1251 as discussed in Section 2.7). Not all conditions from the OAC are included in the AOP. There are OAC conditions that contain no substantive requirements, and therefore such conditions are not included in the AOP. For example, Condition 1 of OAC 587a stipulates that “The project shall be constructed and operated in accordance with the information submitted in the Notice of Construction and Application for Approval.” This condition does not impose any ongoing requirement on the source, and as a result, this condition has not been included in the AOP.

4.2 One Time Requirements

- Pursuant to 40 CFR 63.9(b)(2), initial notification that facility is subject to 40 CFR 63 Subpart LLL. The air operating permit application submitted on September 8, 2011 fulfills that requirement.

4.3 Federal Enforceability

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act or under any of its applicable requirements such as NESHAP. Local and state regulations may become federally enforceable by formal approval and incorporation into the State Implementation Plan (SIP) or through other delegation mechanisms. Federally enforceable requirements are enforceable by the EPA and citizens of the United States. All applicable requirements in the permit including Standard Terms and Conditions, Generally Applicable Requirements, and Specifically Applicable Requirements are federally enforceable unless identified in the permit as enforceable only by the state and labeled as “state only”.

Chapter 173-401 WAC is not federally enforceable although the requirements of this regulation are based on federal requirements for the air operating permit program. Upon issuance of the permit, the terms based on Chapter 173-401 WAC will become federally enforceable for the source.

Most rules and requirements are followed by a date in parentheses. Two different versions (identified by the date) of the same regulatory citation may apply to the source if federal approval/delegation lags behind changes made to the Washington Administrative Code (WAC) or the NWCAA Regulation. The date associated with a WAC regulation denotes the “State Effective Date” of the regulation. For SIP-

approved WAC regulations (identified by the absence of the “state only” designation), the date represents the “State Effective Date” of the regulation version that was SIP-approved. For NWCAA regulations, the date represents the most recent Board of Directors adoption date, which is identified as the “Passed” or “Amended” date in the NWCAA Regulation. For SIP-approved NWCAA regulations (also identified by the absence of the “state only” designation), the parenthetical date represents the “Passed” or “Amended” date of the regulation version that was SIP-approved. The date associated with an OAC permit represents the latest revision date of that order. For a federal rule, the date is the rule’s most recent promulgation date.

4.4 Gap-Filling

Some regulations or statutes do not specify compliance determination or monitoring methods. Chapter 173-401-615 WAC requires the permit to feature monitoring, recordkeeping and reporting adequate to demonstrate compliance with applicable requirements. In these cases, a site specific compliance monitoring method was developed based on the characteristics of the permitted facility, the nature of the underlying requirement, the requirements of Chapter 173-401-615 WAC, and EPA guidance. The process of developing and implementing these requirements is called “gap filling”. The following describes the derivation of site specific compliance monitoring in the Lehigh operating permit.

As an example of gap-filling, consider permit term 4.1 that references WAC 173-401-615(3) (10/17/02). The WAC rule states that submittal of reports must be at least once every six months. In order to make the requirement less ambiguous permit term 4.1 was gap-filled to require reports to cover regular intervals and be submitted over specified date windows.

As another example of gap-filling, consider permit terms 4.3-4.12. These permit terms have to do with general nuisance, odor, and fugitive dust emissions, referencing applicable sections of WAC 173-400 and the NWCAA Regulation. For example, WAC 173-400-040(4), which describes fugitive dust emissions, states that the source “shall take reasonable precautions to prevent the release of air contaminants from the operation.” Since this regulatory requirement did not specify monitoring, recordkeeping or reporting adequate to demonstrate compliance, gap-filling was employed. In this case, a requirement was added to the permit that a written air contaminant complaint response plan must be developed and maintained at the site with a procedure for responding to complaints.

Another example of gap-filling for an opacity requirement is described in Section 5.7.2 of this SOB.

4.5 Future Requirements

Applicable requirements promulgated with future effective compliance dates may be included as applicable requirements in the permit. Some requirements that are not applicable until triggered by an action, such as the requirement to file an application prior to constructing a new source, are addressed within the standard

terms and conditions section of the permit.

There are presently no pending applications to construct or modify Lehigh in such a way as to trigger New Source Review. Lehigh has certified in the permit renewal application that the facility will meet any future applicable requirements on a timely basis.

4.6 Compliance Options

Lehigh did not request emissions trading provisions or specify more than one operating scenario in the air operating permit application; therefore, the permit does not address these options as allowed under WAC 173-401-650. This permit does not condense overlapping applicable requirements (streamlining) nor does it provide any alternative emission limitations.

5 PERMIT ELEMENTS AND BASIS FOR TERMS AND CONDITIONS

5.1 Permit Organization

The Lehigh AOP is divided into the following sections:

Permit Information

Attest

Table of Contents

Section 1 Emission Unit Identification

Section 2 Standard Terms and Conditions

Section 3 Standard Terms and Conditions for NSPS and NESHAP

Section 4 Generally Applicable Requirements

Section 5 Specifically Applicable Requirements

Section 6 Inapplicable Requirements

5.2 Permit Information and Attest

5.2.1 Permit Information

The Permit Information page identifies the source and provides general information relevant to the permit such as the facility address, the responsible corporate official, the permit issuance date and the permit expiration date, and the agency personnel responsible for permit preparation, review, and issuance.

5.2.2 Attest

The Attest page provides authorization for the source to operate under the terms and conditions contained in the permit.

5.3 Section 1 Emission Unit Identification

The Emission Unit Identification section lists emission units, rated capacities, and air pollution control methods at the Lehigh.

5.4 Section 2 Standard Terms and Conditions

The Standard Terms and Conditions section of the AOP (Section 2) specifies administrative requirements or prohibitions with no ongoing compliance monitoring requirements. The legal authority for the Standard Terms and Conditions is provided in the citations in Section 2 of the AOP. The description of the regulation in each of these conditions (with the exception of those labeled "Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02") is sometimes a paraphrase of the actual regulatory requirement. Where there is a difference between the actual requirement and the paraphrased description, the cited regulatory requirement takes precedence. In an effort to make the section more

readable, the terms and conditions have been grouped by function. In some cases, similar requirements at the state and local authority level have been grouped together.

Several permit conditions in Section 2 of the AOP are labeled “Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02”. These conditions are a clarification of the regulatory requirements, as the NWCAA interprets those requirements. “Directly enforceable” conditions are legal requirements with which the permittee must comply and are directly enforceable through the permit per NWCAA’s gap-filling authority.

A number of requirements that would not be applicable until triggered have also been included in Section 2 of the AOP. An example of one such requirement is the requirement for a source to submit an application for new source review.

5.5 Section 3 Standard Terms and Conditions for NSPS and NESHAP

Section 3 of the AOP includes the standard terms and conditions that are contained in Subpart A of 40 CFR 60 (NSPS) as well as Subpart A of 40 CFR 63 (NESHAP). Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

5.6 Introduction to Sections 4 and 5: Generally and Specifically Applicable Requirements

Requirements that limit emissions and broadly apply to all sources within the jurisdiction of the NWCAA are identified in Section 4 - Generally Applicable Requirements. Requirements that limit emissions and apply specifically to emission units at Lehigh are identified in Section 5 - Specifically Applicable Requirements. The first column contains the term number followed by the pollutant type. The second column identifies the regulatory citation. The third column provides a brief description of the applicable requirements for informational purposes and is not itself enforceable. The fourth column identifies monitoring, recordkeeping and reporting requirements in accordance with WAC 173-401-605(1), -615(1) & (2). Test methods associated with an applicable requirement or in accordance with WAC 173-401-615(1)(a) are included in this column.

Many generally applicable requirements do not specify test and/or monitoring methods within the text of the regulation or statute. Since WAC 173-401-615 requires that the permit require monitoring and recordkeeping adequate to demonstrate compliance with requirements, legally enforceable site-specific monitoring methods were established (“gap-filled”) based on the characteristics of the facility, the nature of the underlying requirement, the requirements of WAC 173-401-615, and EPA guidance on monitoring.

The following discussion of permit terms provides some information on how the facility demonstrates compliance with these terms.

5.7 Section 4 Generally Applicable Requirements

5.7.1 Fugitive Emission Standards

Lehigh conducts activities that typically generate fugitive emissions such as storage or transport of solid materials. Permit conditions require the facility to respond to and correct nuisance emissions as soon as possible. If emissions cannot be corrected within four hours, Lehigh must stop all activities contributing to the problem until repairs can be made. Lehigh will provide assurance of compliance with these requirements in the annual compliance certification and by maintaining a log of nuisance complaints and associated repairs and mitigation actions.

5.7.2 Opacity Standard

The generally applicable opacity requirement limits any source at the facility to 20% opacity according to Ecology Method 9A. Lehigh shall visually inspect particulate emission points monthly for visible emissions while the subject emission unit is in operation. If any visible emissions are detected, Lehigh has to follow one of three options: To take immediate action so that visible emissions are eliminated, to shut down the unit until repairs eliminate visible emissions, or to take visible emissions readings daily, until visible emissions are eliminated. It should be noted that compliance with the MR&R of this permit term does not relieve Lehigh from the responsibility to maintain continuous compliance with all applicable opacity standards nor from the resulting liabilities for failure to comply.

Results of monthly inspections, any periods of visible emissions monitored by Lehigh personnel, any related equipment or operational failure, the identification of the affected emissions unit and location, the dates of occurrence and the action taken to resolve the problem(s) shall be logged. A report shall be provided to the NWCAA every six months that summarizes the findings of visible emissions inspections conducted during the previous six months.

The MR&R requirement for this permit term is an example of gap-filling that has been used in the AOP to clarify monitoring and reporting requirements whenever the underlying requirement (Federal, State, or local) either does not contain any clear MR&R, or when there is a need to streamline MR&R for the sake of clarity and remove ambiguity.

5.7.3 Particulate Matter Standards

The process emission points that emit particulate matter at Lehigh are controlled by baghouses. Under normal operating conditions, there should be little to no visible emissions from baghouses because such control devices have a highly efficient rate of particulate removal. For this reason, the MR&R condition for opacity was expanded to include AOP terms 4.13-4.16.

5.8 Section 5 Specifically Applicable Requirements

This section lists applicable requirements that apply uniquely to a process unit or to a specific category of process unit. Typically, these requirements originate from an Order of Approval to Construct issued by NWCAA or from a federal regulation.

5.9 Section 6 Inapplicable Requirements

Washington Administrative Code 173-401-640(2) allows a determination regarding the applicability of requirements with which the source must comply. Section 6 of the permit lists requirements deemed inapplicable based on the applicability of the cited regulation. It is stated in the AOP that the permit shield applies to the specific, listed inapplicable requirements.

6 INSIGNIFICANT EMISSION UNITS

Categorically exempt insignificant emissions units listed in WAC 173-401-532 are present at Lehigh. These categorically exempt emissions units normally have extremely low emissions and are considered insignificant by regulation and not of sufficient importance to list in the permit. Other emission units or activities generate only fugitive emissions for which there are no specifically applicable requirements. These activities are categorized as insignificant by Chapter 173-401-530(1)(d) WAC. Categorically insignificant and fugitive emission units and activities are listed below.

Table 6-1 Insignificant Emission Units

Insignificant emission units	Basis for designation
Lubricating oils storage tanks	WAC 173-401-532(3)
Storage tanks, reservoirs and pumping and handling equipment of any size, limited to soaps, lubricants, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter.	WAC 173-401-532(4)
Storage of solid material, dust free handling	WAC 173-401-532(6)
Vents from room, buildings and enclosures that contain permitted emission units or activities from which local ventilation, controls and separate exhaust are provided.	WAC 173-401-532(9)
Internal combustion engines for propelling or powering a vehicle.	WAC 173-401-532(10)
Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing, industrial, or commercial process	WAC 173-401-532(11)
Plant upkeep including routine housekeeping, preparation for and painting of structures or equipment, retarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots.	WAC 173-401-532(33)
Cleaning and sweeping of streets and paved surfaces.	WAC 173-401-532(35)
Portable drums and totes.	WAC 173-401-532(42)
General vehicle maintenance including vehicle exhaust from repair facilities.	WAC 173-401-532(45)
Comfort air conditioning or air cooling systems, not used to remove air contaminants from specific equipment.	WAC 173-401-532(46)
Natural and forced air vents and stacks for bathroom/toilet facilities.	WAC 173-401-532(48)
Office activities.	WAC 173-401-532(49)
Fuel and exhaust emissions from vehicles in parking lots.	WAC 173-401-532(54)
Structural changes not having air contaminant emissions.	WAC 173-401-532(67)
Sample gathering, preparation and management.	WAC 173-401-532(73)
Batteries and battery charging.	WAC 173-401-532(77)
Solid waste (as defined in the Washington Administrative Code) containers.	WAC 173-401-532(79)
Totally enclosed conveyors.	WAC 173-401-532(86)

Insignificant emission units	Basis for designation
Air compressors, pneumatically operated equipment, systems and hand tools.	WAC 173-401-532(88)
Non-PCB oil filled circuit breakers, oil filled transformers and other equipment that is analogous to, but not considered to be, a tank.	WAC 173-401-532(118)

7 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions applicable to this document is included here.

An "applicable requirement" is a provision, standard, condition, or requirement in any of the listed regulations or statutes as it applies to an emission unit or facility at a stationary source.

"Ecology" means the Washington State Department of Ecology.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant.

A "permit" means for the purposes of the air operating permit program an air operating permit issued pursuant to Title V of the 1990 Federal Clean Air Act.

"State" means for the purposes of the air operating permit program NWCAA or the Washington State Department of Ecology.

The following is a list of acronyms and abbreviations used in the Air Operating Permit and/or Statement of Basis:

ASIL	Acceptable source impact level
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CAM	Compliance Assurance Monitoring (40 CFR 64)
CEM	Continuous emission monitor
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
dsfc	Dry standard cubic foot
EPA	The United States Environmental Protection Agency
FCAA	Federal Clean Air Act
gr	grains (there are 7,000 grains in one pound)
ISO	International Organization for Standardization
MMBtu	Million British thermal units (units of energy)
MMBtu/hr	Million British thermal units per hour (units of power)

MR&R	Monitoring, recordkeeping and reporting requirements
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOC	Notice of Construction
NO _x	Oxides of nitrogen
NSR	New Source Review
NWCAA	Northwest Clean Air Agency
O ₂	Oxygen
OAC	Order of Approval to Construct
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in diameter
ppmdv	parts per million on a dry, volumetric basis
PSD	Prevention of Significant Deterioration (federally required program for pre-construction review of sources)
QA/QC	Quality assurance/quality control
RCW	Revised Code of Washington
scf	standard cubic feet
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
STP	Standard Temperature and Pressure: 20° C (68° F) and 760 mm Hg (29.92 in. Hg) per NWCAA Regulation (e.g. applies to fuel sulfur limit) 288 K (15° C, 59° F) and 101.3 kPa (1 atmosphere) per ISO (e.g. applies to natural gas volume measurement)
VE	Visible emissions
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

8 PUBLIC DOCKET

Copies of the Lehigh Air Operating Permit, permit application, and any technical support documents are available online at www.nwcleanairwa.gov or at the following location:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202