STATEMENT OF BASIS FOR MUTUAL MATERIALS COMPANY
CHAPTER 401 AIR OPERATING PERMIT
AOP-7 RENEWAL #4

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LIST OF ABBREVIATIONS

BACT	Best available control technology
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon monoxide
dba	Doing business as
dscf	Dry standard cubic foot
ECOLOGY	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
FCAA	Federal Clean Air Act
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous air pollutant as designated under Title III of FCAA
IEU	Insignificant Emission Units
MMBTU	Millions of British thermal units
MRRR	Monitoring, recordkeeping, & reporting requirements
NAA	Nonattainment area
NOC	Notice of Construction
NOx	Oxides of nitrogen
O2	Oxygen
O&M	Operation & maintenance
Pb	Lead
PM	Particulate matter
PM-10	Particulate matter, 10 microns or less in size
PM-2.5	Particulate matter, 2.5 microns or less in size
PSD	Prevention of Significant Deterioration
PSEU	Pollutant-Specific Emissions Unit
RACT	Reasonably available control technology
RCW	Revised Code of Washington
RM	EPA reference method from 40 CFR Part 60, Appendix A
SCAPCA	Spokane County Air Pollution Control Authority (on June 3, 2007, SCAPCA was renamed to SRCAA)
SRCAA	Spokane Regional Clean Air Agency (prior to June 3, 2007, agency was named SCAPCA)
scf	Standard cubic foot
SO2	Sulfur dioxide
SOx	Oxides of sulfur
VOC	Volatile organic compounds
WAC	Washington Administrative Code

DEFINITIONS OF WORDS AND PHRASES

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations.

Administrator	The administrator of the United States Environmental Protection Agency or her/his designee [WAC 173-401-200(13), 8/10/11]
Chapter 401 Permit	Any permit or group of permits covering a source, subject to the permitting requirements of Chapter 173-401 WAC, that is issued, renewed, amended, or revised pursuant to Chapter 173-401 WAC [WAC 173-401-200(5), 2/12/25]
Emission Limitation	A requirement established under the FCAA or Chapter 70A.15 (formerly 70.94) RCW which limits the quantity, rate or concentration of emissions of air contaminants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction and any design, equipment work practice, or operational standard promulgated under the FCAA or Chapter 70A.15 RCW (formerly 70.94) [(SRCAA Regulation I, Section 2.14(A)(1), 6/1/23, which adopts by reference WAC 173-400-030(29) (2/12/25)]
Emissions Unit	Any part of a stationary source or source which emits or would have the potential to emit any pollutant subject to regulation under the Federal Clean Air Act, Chapter 70A.15 RCW (formerly 70.94), or 70A.388 RCW (formerly 70.98) [(SRCAA Regulation I, Section 2.14(A)(1), 6/1/23, which adopts by reference WAC 173-400-030(31), 2/12/25]
Federal Clean Air Act	Federal Clean Air Act. also known as Public Law 88-206, 77 Stat. 392. December 17, 1963, 42 U.S.C. 7401 et seq., as last amended by the Clean Air Act Amendments of 1990, P.L. 101-549, November 15, 1990 [WAC 173-401-200(14), 2/12/25]
Opacity	The degree to which an object seen through a plume is obscured, stated as a percentage [(SRCAA Regulation I, Section 2.14(A)(1), 6/1/23, which adopts by reference WAC 173-400-030(31), 2/12/25]
PM Standard	An emission limitation on the amount of particulate matter an emissions unit may emit, generally expressed in terms of grains per dry standard cubic foot, pounds per hour, or some other concentration or emission rate.
Visible Emissions Standard	An emission limitation on visible emissions expressed in percent opacity

SECTION 1 INTRODUCTION AND FACILITY DESCRIPTION

1.1 Introduction & Facility Description

Mutual Materials Company also identified herein as the permittee, Mutual, or "the facility", is a brick manufacturing plant which produces high fire ceramic bricks, fire brick, and small amounts of packaged clay at their facility, located at 10627 South State Route 27, Mica, WA.

The facility is classified as a Title V major source, as defined in Chapter 173-401 WAC, because the facility has a potential-to-emit (PTE) of more than 10 tons per year for Hydrogen Fluoride, a Hazardous Air Pollutant (HAP).

As a major source, Mutual is required to apply for an operating permit under SRCAA's Title V air operating permit program as established in Chapter 173-401 WAC. WAC 173-401-700(8) requires that at the time a draft permit is issued under the Title V program, a statement be provided setting forth the legal and factual basis for permit conditions including reference to the applicable statutory or regulatory provisions for the conditions. This document provides the legal and factual basis for the conditions in the AOP-7 renewal #4 and provides background information on the permit review.

1.2 Title V Applicability and PTE

Table 1 below describes the facility's PTE and Title V applicability.

Table 1 - Title V Applicability

Pollutant	Facility Annual PTE (TPY)[1]	Title V Threshold (TPY)	Title V (Yes/No)
NO_X	15.99	100	No
CO	50.66	100	No
VOC	1.08	100	No
SO_2	28.22	100	No
PM	62.44	100	No
PM_{10}	42.45	100	No
$PM_{2.5}$	9.93	100	No
Hydrogen Fluoride (HAP)	51.24	10	Yes

Total HAPs	51.84	25	Yes
CO_{2e}	15,683 (14,228 metric tons)	100,000[2]	No

[1] Facility-wide annual PTE based on emission rates provide in most recent annual emission inventory and most recent tunnel kiln performance test, performed in 2023.

[2] Per WAC 173-401-200 (19) & (35), greenhouse gas emissions from a stationary source emitting, or having the potential to emit, 100,000 tpy CO2 equivalent emissions (CO2e), are subject to regulation under Chapter 173-401 WAC if the source is otherwise required to have an operating permit.

1.3 Facility Background and History

The brick plant has been in operation since the early 1900's. At that time, 10 periodic kilns, installed at the time of the original plant construction, were the primary equipment used for curing bricks at the facility. In 1957 a tunnel kiln was installed at the facility; the tunnel kiln replaced the periodic kilns as the primary equipment for curing bricks, and the periodic kilns were used for curing chimney flue liners. Prior to 1990, the plant was owned and operated by Interpace Corporation. In May of 1990, Mutual Materials acquired ownership of the plant. In 2018, Mutual Material discontinued chimney flue liner production operations and stopped operating the periodic kilns. There has been no other change to the facility's equipment or operation since 2018. Figure 1 below provides an aerial view of the facility.

FIGURE 1 GOOGLE EARTH VIEW OF FACILITY

The plant has the capacity to produce 9.59 tons of brick per hour and 84,000 tons of brick per year. In general, the process involves:

- on-site mining of clay and transportation of clay from off-site mines;
- crushing, grinding, screening, and mixing of clay;
- forming, cutting, shaping, and drying of bricks; and
- firing of bricks.

Process equipment currently in operation at the plant is listed below:

- Swindell Dressler Tunnel Kiln – natural gas fired (27.5 MMBtu/hr)
- Hammermill & two conveyor belts
- Two Batch Dryers – natural gas fired (each 1.5 MMBTU/hr)
- Kiln Car Cleaning System
- Jaw Crusher
- Two pug mill mixers [note that the pug mills are not considered emission units, and are not listed in as an emission unit in Table 1 of AOP-7 Renewal #4]

The brick production process is described below:

Approximately 60% of the clay used at Mutual is mined in Mica at the mine near the plant, 30% of the clay is mined in Worley, ID, and the rest of the clay is mined in Fairfield, WA or Worley, ID. Clay is typically only mined during summer months. Mutual uses a total of 7 different clays to make different colored bricks; per test data submitted with Mutual Materials initial AOP application, the clay has an average fluoride content of ~0.0548% by weight. Sand and colorants are also added to the clay to give specific properties to the bricks. In addition, most of the bricks contain ~10% recycled brick, which is crushed by the hammermill in the clay storage area.

After the clay is mined, it goes to the clay storage area. From there, it goes to the feeder for mixing with recycled brick, additives, etc. The mixture then is conveyed to the hammermill for grinding. Prior to the hammermill, water is added to the clay mixture to increase the moisture content of the material. After the material has gone through the hammermill, it is sent to a screen and then to storage bins. Material from the storage bins is used in either the ceramic brick manufacturing or fire brick manufacturing processes.

Mutual operates two identical ceramic brick manufacturing lines. In the process, the material is conveyed from the storage bins to one of two pug mills. In the pug mill, water and color material is added to the clay to a moisture content of ~16%. The mixed material is then pushed through one of two vacuum chambers to remove excess air. The material then passes through one of two compression extruders, where it is pushed through a die to make the desired brick shape. The extruded bricks are then cut and loaded onto cars for firing.

For the fire brick operation, screened clay is sent to a dry press to form the bricks. The material has ~8.5-9% moisture content. The material is pressed into molds or dies to form the bricks. The formed fire bricks are then loaded onto cars for firing.

All of the bricks produced at Mutual are preheated in one of 5 tunnel dryers and then placed into in a natural gas fired 27.5 MMBtu/hr tunnel kiln for curing.

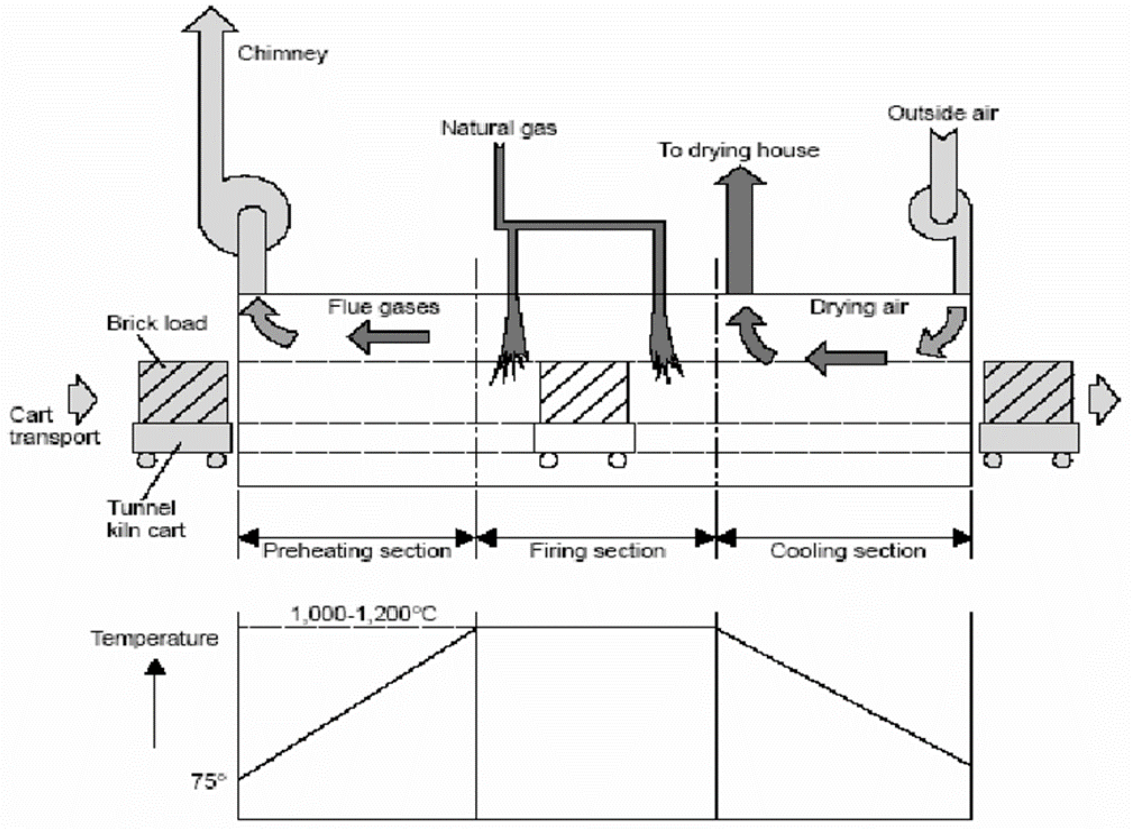
The tunnel kiln is 400 ft long, and is equipped with 55 natural gas fired high velocity burners, with per burner heat inputs ranging from 475,000 BTU/hr to 560,000 BTU/hr. The burner system is a “Step Fire” type system where the burners are set to operate at constant air/gas ratios of 5% or 15% excess air, depending on the specific burner location within the kiln. After initial set-up, the burner air/fuel ratio never changes – each burner is either on high fire (on) or low fire (off), operating at the same air/gas ratio. The burners constantly cycle on and off to circulate the heat throughout the carload in the kiln. As heat is needed in specific zones, the burners are cycling more often and staying on longer

The cars are pushed through the kiln with a hydraulic device. The tunnel kiln consists of three zones: preheating zone, firing zone, and cooling zone. In the preheating zone, the temperature slowly increases in order to evaporate moisture and prepare the bricks for the higher firing temperatures of the firing zone. The temperature in this zone increases from about 200°C to 730°C. In the firing zone, the bricks are slowly heated to the required firing temperature (~

2200° F). After firing, the materials are slowly cooled in the cooling zone to prevent thermal shock and cracking. The cooling zone temperature gradually decreases from 700°C to 400°C (~ 200° F). Waste heat, in the form of air pulled from the cooling zone entrance, is used to supply heat to the tunnel dryers. The residence time for cars in the zone is typically 30 to 36 hours.

A schematic of the tunnel kiln configuration/operation and temperature profile is given in Figure 2 below:

FIGURE 2 TUNNEL KILN SCHEMATIC



After leaving the tunnel kiln, after cooling, the bricks are wrapped and shipped. The cars used to hold the bricks are cleaned with high pressure air. Dust emissions from the car cleaning process are controlled with a Torit baghouse.

Occasionally, Mutual may produce specialty bricks, with specific pre-heating requirements. These bricks are pre-heated in the batch dryers prior to entering the tunnel kiln. The batch dryers had previously been used for preheating flue liners prior to firing in the periodic kilns. With the decommissioning of the periodic kilns, the batch dryers are now used only for preheating specialty bricks.

1.4 Emission Units Identification

Significant emissions units and activities at the facility are presented in Table 2 below:

TABLE 2 - Significant Emission Unit Identification

Source and Description	Control Equipment	Notes
Swindell Dressler Tunnel Kiln – natural gas fired (27.5 MMBtu/hr)	None	1957 install date; 40 CFR Part 63 Subpart JJJJJ applies; No NOC; one exhaust stack on kiln
Hammermill & two conveyor belts	Water applied to clay prior to entering hammermill	1997 install date; 40 CFR Part 60 Subpart OOO applies; NOC #845
Two Batch Dryers – natural gas fired (each 1.5 MMBTU/hr)	None	1957 install date; No NOC
Kiln Car Cleaning System	Baghouse (5,600 cfm)	1990 install date; No NOC
Jaw Crusher	Water spray bars or equivalent dust suppression system	2005 install date; 40 CFR Part 60 Subpart OOO applies; NOC #1495

* The heat input rating for this unit is below 5 MMBTU/hour, and as such could be classified as an insignificant emission unit per WAC 173-401-533(e). However, the potential for fluoride emissions from the dryer exceed the insignificant emission threshold given in WAC 173-401-530(4). Accordingly, the Batch Dryers are listed as significant emission units.

Insignificant emissions units and activities at the facility are presented in Table 3 below:

TABLE 3 – Insignificant Emission Units Identification

Source and Description	Basis / Justification for IEU Designation
Raw Material Grinding & Screening – other than grinding done in hammermill (Hammermill is considered a Significant Emission Unit)	WAC 173-401-530(1)(d)
Raw Material Storage	WAC 173-401-530(1)(d)
Mining, Stockpiling, and Hauling Note: On 04/11/75, an NOC was approved for the clay mining operation. However, no approval conditions were issued with the NOC approval, the emissions from these operations are fugitive, and only requirements are the generally applicable requirements.	WAC 173-401-530(1)(d)
Operation & Maintenance of Storage Yard	WAC 173-401-532(33) & (35)
Operation & Maintenance of Parking Lots	WAC 173-401-532(33) & (35)
Raw Material Batching	WAC 173-401-530(1)(d) & WAC 173-401-532(10)
Raw Material Pugging (two pug mills)	WAC 173-401-530(1)(d)
Product Extrusion	WAC 173-401-530(1)(d) & WAC 173-401-532(24)

Product Setting, Sorting, & Packaging	WAC 173-401-530(1)(d)
Tunnel Dryers – heat is provided by tunnel kiln, which is a significant emission unit	WAC 173-401-532(107)
Product Yarding, Loading, & Delivery	WAC 173-401-530(1)(d) & WAC 173-401-532(10)
Sample Board Making	WAC 173-401-530(1)(d) & WAC 173-401-532(73)
Maintenance & Repairs	WAC 173-401-530(1)(d) & WAC 173-401-532(74)
Vacuum System – other than Kiln Car Cleaning System, which is a significant emission unit	WAC 173-401-532(108)
Diesel Fueling Tank	WAC 173-401-533(2)(c)
Propane Fueling Tank	WAC 173-401-533(2)(d)
Space Heaters	WAC 173-401-533(2)(r)
Air Conditioners	WAC 173-401-532(46)
Painting, Housekeeping, Upkeep	WAC 173-401-532(33)
Storage and Use of Lubricating Oil	WAC 173-401-532(3)(4), & (42)
Vehicle Maintenance & Repair	WAC 173-401-532(7) & (45)
Welding	WAC 173-401-533(i)

1.5 Emissions History

Emissions from the facility include particulate matter emissions from mining, crushing, grinding, screening, and mixing of clay, hydrogen fluoride from the firing of bricks, and combustion emissions (primarily NOx and CO) from the burning of natural gas and propane in the tunnel kiln and batch dryers.

Annual criteria pollutant and hydrogen fluoride (HF) emissions from the facility for the last five calendar year are given Table 4 below.

TABLE 4 - Criteria Pollutant and HF emissions history (tons/yr)

Pollutant	Calendar year				
	2020	2021	2022	2023	2024
Particulate Matter (PM)	42.27	38.55	36.13	38.02	39.42
Particulate Matter (PM10)	24.56	21.28	19.10	20.80	18.84
Sulfur Dioxide (SO2)	14.71	12.20	10.52	11.82	13.02
Oxides of Nitrogen (NOx)	7.66	6.35	5.47	6.15	6.83
Carbon Monoxide (CO)	26.26	21.76	18.76	21.09	23.4
Volatile Organic Compounds (VOC)	0.53	0.44	0.38	0.42	0.47
Hydrogen Fluoride (HF)	8.10	6.71	5.78	6.50	7.21

1.6 Minor and major Source New Source Review Permitting History

SRCAA is the permitting authority for issuance of permits (Notice of Construction approvals) for new non-PSD major sources and modifications to non-major stationary sources within SRCAA's jurisdiction. SRCAA has issued the following Notice of Construction (NOC) approval orders to Mutual Materials:

- NOC (04/11/75) was approved for a clay mining operation near the site. No approval

conditions were issued with this NOC approval. As this NOC has no applicable requirements for inclusion in AOP-7, AOP-7 does not reference this NOC.

- NOC #845 was approved 09/10/97, for the installation of a hammermill and two associated conveyors at the clay storage area. The equipment is subject to the requirements of NSPS 40 CFR Part 60, Subpart OOO. An O&M plan for the hammermill was required in NOC #845. An initial O&M plan was approved by SRCAA on 10/27/98; the most recently revised O&M plan was approved by SRCAA on 8/25/04.

- NOC #1492 was issued on 9/22/10 for a jaw crusher at the robotic packaging operation. The jaw crusher was permanently taken out of service in Fall 2014. Per a 2/18/15 request from Mutual Materials, NOC #1492 was voided per a 2/23/15 SRCAA letter.
- NOC #1495 was issued on 9/22/10 for a jaw crusher at the palletized brick selection area. The equipment is subject to the requirements of NSPS 40 CFR Part 60, Subpart OOO.

The Washington State Department of Ecology is the permitting authority for issuance of PSD permits for new major sources or a major source making a major modification. No PSD permits have been issued for the Mutual Materials facility.

1.7 AOP Permit History

SRCAA has issued the following Air Operating Permits (AOP) to Mutual Materials:

- AOP-7 was issued to Mutual Materials on 03/05/99,
- AOP-7 Renewal #1 was issued on 3/1/04. Renewal #1 was revised on 12/17/04 to revise the hammermill operation plan, required in MRRR 5M of AOP-7 (Mutual Materials requested this revision in a letter dated August 25, 2004).
- AOP-7 Renewal #2 was issued on 2/13/09. Renewal #2 was revised on 8/23/11 to include the requirements of i) NOCs #1492 and #1495, and ii) the state greenhouse gas reporting requirements given in Chapter 173-441 WAC (12/1/10).
- AOP-7 Renewal #3 was issued on 9/11/15.
- The AOP-7 Renewal #4 application was submitted on 8/27/19 and was deemed complete on 9/12/19.

1.8 Compliance History

SRCAA has performed a compliance inspection at Mutual Materials either annually or biannually since 1996. The most recent inspection was performed on 4/17/25. During the past ten years, SRCAA has issued two Notices of Violation and one corrective action to Mutual Materials. The Notices of Violation and corrective action are described below:

- On June 15, 2010, SRCAA issued Notice of Violation #7835 for i) installation of an Austin Western jaw crusher prior to obtaining an approved NOC, and ii) missing records

for daily visible emissions readings & measurements of moisture content. In response to the NOV, Mutual Materials submitted an NOC application for the crusher (NOC #1492) on 7/6/10.

- In addition to issuing Notice of Violation #7835, a corrective action letter, also dated June 15, 2010, was sent to Mutual Materials to comply with SRCAA requirements regarding disturbance of asbestos containing material and for visible emissions observed from the Austin Western jaw crusher (subsequently permitted under NOC #1492).

- On August 4, 2010, SRCAA issued Notice of Violation #7836 for installation of an Armadillo jaw crusher at the palletized brick selection area prior to obtaining an approved NOC. In response to the NOV, Mutual Materials submitted an NOC application for the crusher (NOC #1495) on 8/13/10.

SECTION 2 APPLICABLE REQUIREMENTS

2.1 General State and Local Regulations

Chapter 173-400 WAC, General Regulations for Air Pollution Sources, and SRCAA Regulation I contain requirements that apply to air pollution sources. Several of these requirements are general in nature and apply to all air pollution sources, including the Mutual Materials facility. These requirements are given in AOP-7 Renewal #4, Section II.A - FACILITY-WIDE EMISSION LIMITATIONS, and apply to all emission sources at the facility.

2.2 New Source Review

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

There are two types of NSR permits. Based on the stationary source type and emissions, one or more of the following permits may be required:

- Prevention of Significant Deterioration (PSD) permits are required for new major sources or a major source making a major modification. These permits are issued by the Washington State Department of Ecology.
- Minor source permits are required for sources that emit pollutants below the major source threshold but above minor source permitting thresholds. New or modified sources of air pollution in Spokane County are required to obtain a permit from SRCAA before beginning construction. SRCAA minor source permits are referred to as a Notice of Construction (NOC).

No PSD permits have been issued to Mutual Materials to date. Two active minor source NSR permits have been issued by SRCAA to Mutual Materia; these are described in Section 1.6.

2.3 New Source Performance Standards (NSPS)

SRCAA has adopted NSPSs in effect on 1/1/23 by reference in SRCAA Regulation I, Section 2.16)(A); accordingly SRCAA has the authority to implement and enforce NSPS regulations. There is one NSPS that applies to the facility. 40 CFR 60 Subpart OOO - *Standards of Performance for Nonmetallic Mineral Processing Plants* applies to the Hammermill & associated conveyor belts and to the Jaw Crusher. The applicable requirements of the rule were included in the NOC #845 and #1495 approval orders and have been included in previous and current AOP-7 renewals.

2.4 National Emission Standards for Hazardous Air Pollutants (NESHAP)

SRCAA has adopted NESHAPS in effect on 1/1/23 by reference in SRCAA Regulation I, Section 2.18(A); accordingly, SRCAA has the authority to implement and enforce NESHAP regulations at Title V major sources. There is one NESHAP that applies to the facility. Since Mutual Material is a major source of hydrogen fluoride (a HAP), the requirements of 40 CFR 63, Subpart JJJJJ - *National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing* apply. This rule applies to the tunnel kiln at the facility.

The rule was first promulgated in 2003, and after subsequent legal challenges, the final and current form of version of the rule was issued as amended on November 19, 2020 (as published in 85 Federal Register # 73915); the final version of the rule is substantially the same rule issued in October 26, 2015, with inclusion of the amendments given in the November 19, 2020 rule issuance. Note that the requirements of 40 CFR 63, Subpart JJJJJ were not incorporated into the AOP-7 Renewal #3 (issued September 11, 2015), primarily due to the subsequent legal challenges after the rule was promulgated in 2015. The rule history is summarized in Appendix A.

Applicable requirements and compliance with rule: In the AOP-7 Renewal #4 review, SRCAA considers the rule to be effective, as published in 80 FR 65520, Oct. 26, 2015, and as amended at 85 FR 73915, Nov. 19, 2020. The rule applies to the tunnel kiln at the facility. The tunnel kiln maximum capacity is 9.59 tons/hr; per the definition in 40 Subpart JJJJJ, the kiln is considered an existing small tunnel kiln. The applicable requirement of Subpart JJJJJ for existing small tunnel kilns include the following:

- Emission limits for hydrogen chloride (HCl) in terms of HCL equivalents; numeric emission limits for Hg, particulate matter (PM), and non-Hg HAP metals.
- Initial testing to verify compliance with the HCle, Hg, PM, and non-Hg HAP metals emission limits. After initial testing, continuing compliance testing for compliance with the HCle, Hg, and PM emission limits is required every five years and/or prior to submitting each AOP renewal application. Note that periodic testing for the non-Hg HAP metals emission limit is not explicitly required in the rule, however periodic testing for non-Hg HAP metals emissions has been included in the AOP permit as a gapfilling measure.

- A no visible emission limit on the tunnel exhaust stack, with specific corrective actions to be taken in the event visible emissions are observed.
- Minimize dioxin/furan emissions through burner inspections and maintenance.
- Minimize HAP emissions during periods of startup by establishing a startup push rate for the kiln.
- Minimize HAP emissions during periods of shutdown by discontinuing pushing push loaded kiln cars into the kiln once the kiln exhaust temperature falls below kiln temperature profile.
- Maintain records on kiln production, burner inspections/maintenance, and start-up/shut-down events.

The applicable requirements of Subpart JJJJJ for the tunnel kiln have been placed in the AOP-7 #4 renewal.

On December 1-2, 2015 (before the finalization of the rule in 2020), Mutual Material performed preliminary testing on the tunnel kiln to determine what the kiln emission rates were and whether add-on controls were required to meet the rules emission limits. The results of the preliminary testing and comparison with the applicable Subpart JJJJJ emission limits are given in Table 5 below:

TABLE 5 - Tunnel kiln preliminary testing results

Test date	Tunnel kiln process rate (tons/hr)	Total HCle** emissions (lb/hr)	HCLe limit (lb/hr)	PM* emissions (lb/ton)	PM limit (lb/ton)	Hg emissions (lb/ton)	Hg limit (lb/ton)	Non-Hg metal HAP emissions (lb/hr)	Non-Hg metal HAP limit (lb/hr)
12/1-2/2015	7.4	6.08	57	0.1	0.37	1.80E-04	3.30E-04	1.04E-02	0.11

*40 CFR Part 63 Subpart JJJJJ PM emission limit is for filterable PM only
**HF, Cl2, and HCl emissions were measured during testing, and converted to HCl equivalents (HCle), per the methodology given in Subpart JJJJJ, to give a total HCle value.

The preliminary testing indicated the tunnel would meet the Subpart JJJJJ emission limits without add-on controls.

On January 31, 2023, Mutual Material performed the initial compliance testing on the tunnel as required per the current version of Subpart JJJJJ (as amended on November 19, 2020). The results of the testing and comparison with the applicable Subpart JJJJJ emission limits are given in Table 6 below.

TABLE 6 - Tunnel kiln initial compliance testing results

Test date	Tunnel kiln process rate (tons/hr)	HCle** emissions (lb/hr)	HCle emissions at 9.59 ton/hr process rate (lb/hr)	**HCLe limit (lb/hr)**	PM* emissions (lb/ton)	**PM limit (lb/ton)**	Hg emissions (lb/ton)	**Hg limit (lb/ton)**	Non-Hg metal HAP emissions (lb/hr)	non-Hg metal emissions at 9.59 tons/hr process rate (lb/hr)	**Non-Hg metal HAP limit (lb/hr)**
1/31/23	3.99	7.10	17.06	**57**	0.05	**0.37**	2.50E-04	**3.30E-04**	0.01	0.024	**0.11**

*40 CFR Part 63 Subpart JJJJJ PM emission limit is for filterable PM only
**HF, Cl2, and HCl emissions were measured during testing, and converted to HCl equivalents (HCle), per the methodology given in Subpart JJJJJ, to give a total HCle value.

Based on the initial testing results, the tunnel kiln meets the Subpart JJJJJ HCle, PM, Hg, and non-Hg metal HAP emission limits. Additionally, Subpart JJJJJ requires the kiln process rate to be maintained below the rate at which HCLe emissions would not exceed the hourly HCLe hourly non-Hg metal HAP emission limits (Subpart JJJJJ defines this rate as the *maximum potential HCLe emissions*) The kiln has a maximum processing rate of 9.59 tons/hr. At a 9.59 tons/hr processing rate, the Subpart JJJJJ HCLe and non-Hg metal HAP emission limits will not be exceeded. A 9.59 tons/hr processing rate limit has been placed in the AOP-7 Renewal #4 conditions. Additionally, consistent with the requirements of Subpart JJJJJ, testing of the kiln will be required prior to submitting the AOP-7 Renewal #5 application.

2.5 Compliance Assurance Monitoring (CAM) Applicability

40 CFR Part 64 (Compliance Assurance Monitoring) requires monitoring sufficient to provide a reasonable assurance of compliance with the applicable requirements (e.g., emissions limits) and to ensure operators pay the same level of attention to pollution control measures as to production activities. The rule applies to each pollutant-specific emissions unit (PSEU) at a facility that meet the following criteria:

- Is located at major source subject to Title V operating permits program [40 CFR 64.2(a)(1)]; and
- Is subject to an emission limitation and has a control device to meet that limit (e.g., electrostatic precipitators, scrubbers, fabric filters) [40 CFR 64.2(a)(2)]; and
- Has pre-controlled criteria pollutant emissions > major source size threshold (e.g., >100 tons/year uncontrolled emissions) [40 CFR 64.2(a)(3)].

None of the emission units at Mutual Materials are subject to CAM. Table 7 shows the CAM applicability review for the emission units at the facility.

TABLE 7 - CAM Applicability

Emission Unit Description	Pollutant emission limit?	APC Used to Control Pollutant?	Pre-Controlled PTE > 100 tpy?)	CAM Applies?
Swindell Dressler Tunnel Kiln – natural gas fired (27.5 MMBtu/hr)	0.37 lb PM/ton; 0.1 gr/dscf corrected to 7% oxygen; 1000 ppm SO2 on a dry basis corrected to 7% oxygen	None	No	No per 40 CFR 64.2(a) (2&3)
Hammermill & two conveyor belts	0.1 gr/dscf	None	No	No per 40 CFR 64.2(a) (2)
Two Batch Dryers – natural gas fired (each 1.5 MMBTU/hr)	0.1 gr/dscf corrected to 7% oxygen; 1000 ppm SO2 on a dry basis corrected to 7% oxygen	None	No	No per 40 CFR 64.2(a) (2&3)
Kiln Car Cleaning System	0.1 gr/dscf	Baghouse (5,600 cfm)	No	No per 40 CFR 64.2(a) (2&3)
Jaw Crusher	0.1 gr/dscf	None	No	No per 40 CFR 64.2(a) (2)

2.6 Greenhouse Gases (GHG) Regulations and Reporting (Federal and State)

Greenhouse gases are chemicals that contribute to climate change by trapping heat in the atmosphere. The greenhouse gases recognized by EPA and Ecology are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF6). "Hydrofluorocarbons" or "HFC" means a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, fluorine, and carbon.

Mutual is required to meet the following state and federal greenhouse gas emission requirements, as applicable.

2.6.1 State GHG Reporting requirements: Chapter 173-441 WAC

On December 1, 2010, Ecology promulgated a regulation, Chapter 173-441 WAC, for state reporting of greenhouse gas (GHG) emissions. Chapter 173-441 WAC establishes GHG reporting requirements that apply to owners and operators of certain facilities that directly emit GHG in Washington. In 2015, Ecology amended Chapter 173-441 WAC, in order to maintain consistency with EPA's greenhouse gas reporting program. The amendments included revising the global warming potentials in WAC 173-441-040, updating calculation and monitoring methods, and minor streamlining revisions to reporting requirements. In 2016, Ecology further amended Chapter 173-441 WAC, in order to have terminology consistent with Chapter 173-442 WAC – Clean Air Rule. Note that the Clean Air Rule was repealed effective 8/18/2023.

The current version of Chapter 173-441 WAC applies to any facility that emits 10,000 metric tons carbon dioxide equivalent (CO_2e) or more per calendar year in total GHG emissions. For an existing facility that began operation before January 1, 2012, GHG emissions must be reported to the Washington Department of Ecology for calendar year 2012 and each subsequent calendar year. The report is due by March 31st of each calendar year for GHG emissions in the previous calendar year if a person is also required to report GHG emission to EPA under 40 CFR Part 98. The report is due by October 31st of each calendar year for GHG emissions in the previous calendar year if a person is not required to report GHG emissions to EPA under 40 CFR Part 98.

Prior to discontinuing use of the periodic kilns in 2018, Mutual Material had annual CO_2e emissions in excess of 10,000 metric tons. With the periodic kilns no longer in service, the facility does not currently emit more than 10,000 metric tons per year of CO2e. The 2024 estimated CO_2e emissions for the facility was 9,045 metric tons. Accordingly, the reporting requirement of Chapter 173-441 WAC does not currently apply to Mutual Materials. As the facility has a CO_2e PTE in exceed of 10,000 metric tons, the reporting requirements of Chapter 173-441 WAC were added to AOP-7 Renewal #4 as Condition I.G.6 in the "Applicable When Triggered Requirements" section of the permit. These requirements will only apply if Mutual Material has annual CO_2e emissions $\geq$ to 10,000 metric tons.

2.6.2 Federal GHG reporting requirements - 40 CFR Part 98

On October 30, 2009, and as amended on July 12, 2010, September 22, 2010, November 30, 2010, December 1, 2010, December 17, 2010, December 27, 2010, and March 18, 2011, EPA promulgated regulations for mandatory federal GHG reporting in 40 CFR Part 98. In general, the regulations require that facilities that emit 25,000 metric tons of CO2e must report their GHG emissions to EPA. The federal GHG reporting requirements given in 40 CFR Part 98 are not considered "applicable requirements," as defined in 40 CFR 70.2, under the title V operating permit program. Therefore, inclusion of the federal GHG reporting requirements in 40 CFR Part 98 is for not required for the Title V permit.

2.6.3 Federal permitting requirements - 40 CFR Parts 51, 52, 70, & 71 "Tailoring Rule"

On May 13, 2010, EPA issued a final rule that "tailors" the applicability criteria given in 40 CFR Parts 51, 52, 70, and 71 that determine which stationary sources and modification projects

become subject to permitting requirements for GHG emissions under the PSD and Title V programs of the Clean Air Act. Per the 2010 version of the tailoring rule, on and after July 1, 2011, any existing or new source with the potential to emit more than 100,000 tpy CO2e needed a Title V permit. Additionally, for PSD, permitting requirements were triggered if the project was expected to increase GHG emissions by more than 75,000 tpy CO2e.

On June 23, 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146). The Court said that EPA may not treat greenhouse gases as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also said that PSD permits that are *otherwise required (based on emissions of other pollutants)* may continue to require limitations on greenhouse gases emissions based on the application of Best Available Control Technology (BACT).

On April 10, 2015, in accordance with the Supreme Court decision, the D.C. Circuit issued an amended judgment in Coalition for Responsible Regulation, Inc. v. EPA, Nos. 09-1322, 10-073, 10-1092 and 10-1167 (D.C. Cir. April 10, 2015), which, among other things, vacated the PSD and title V regulations under review in that case to the extent that they require a stationary source to obtain a PSD or title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. The D.C. Circuit also directed EPA to consider whether any further revisions to its regulations are appropriate in light of UARG, and if so, to undertake to make such revisions.

On April 30, 2015, in response to the court decision, EPA issued a direct final rule to narrowly amend the permit rescission provisions in the PSD regulations. This action allows the rescission of Clean Air Act PSD permits that issued by the EPA or delegated state and local permitting authorities on the sole basis of a source's GHG emissions.

On August 26, 2016, the EPA proposed a set of changes needed to bring EPA's air permitting regulations in line with Supreme Court and D.C. Circuit decisions on greenhouse gas permitting. This rulemaking proposes revisions to existing PSD and title V regulations to ensure that neither the PSD nor title V rules require a source to obtain a permit solely because the source emits or has the potential to emit GHGs above the applicable thresholds.

As part of the AOP 7 Renewal #4 application, Mutual Materials submitted information on their maximum GHG PTE from the facility, based on a maximum annual production of 84,000 tons of brick (cured in the tunnel kiln) and 3,000 tons of flue liners (cured in the periodic kilns). produced. However, as the periodic kilns have been taken out of service and the facility is no longer producing flue liners, the facility's GHG PTE was updated to account for the removal of the periodic kilns. The updated GHG PTE from the facility is However, this only an estimate and likely overestimates potential GHG emissions from the facility is ~ 14,228 metric tons CO2e per year based on 84,000 tons of brick per year (note that 84,000 tons per year is based on the permit limit of 9.59 tons/hr).

Based on PTE emission estimates given above, Mutual Material is not considered major for GHG under the tailoring rule. SRCAA is incorporating the applicable state GHG reporting requirements under Chapter 173-441 WAC into this Title V permit. In addition, the permit

incorporates the most recent version of Chapter 173-400 WAC, which contains the tailoring rule new source review thresholds on a state level. This version of Chapter 173-400 WAC adopted by reference the subparts of 40 CFR 52.21, into WAC 173-400-720 (last updated 12/19/2022), "Prevention of significant deterioration (PSD)," which includes the tailoring rule new source review thresholds. The permit requires that Mutual Materials meet the requirements given in the current version of Chapter 173-400 WAC for any new source review project that might occur (Condition I.G.1). This condition will ensure that Mutual Materials meets all applicable requirements pertaining to projects that causes an increase of GHG emissions.

2.7 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 substances listed in Table 1 of 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.

Per review of the AOP-7 Renewal #4 application, the facility 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 68.

SECTION 3 CHANGES IN AOP-7 RENEWAL #4

3.1 General Information

The following general changes were made to the AOP-7 Renewal #4:

- The responsible official and corporate inspection contacts were updated to reflect personnel and responsibility changes at Mutual.
- Dates were updated to reflect dates for the AOP-7 Renewal #4 issuance and expiration.
- The AOP formatting and language has been updated throughout the permit to current SRCAA standards.
- The Washington Clean Air Act, Chapter 70.94 RCW was recodified to Chapter 70A.15. All references to 70.94 were revised to 70A.15, and all references in the permit to specific sections of the Chapter were revised accordingly.
- The periodic kilns at the facility have not been operated since 2018. Mutual Material has taken the kilns out of service and plans to demolish the kilns. Accordingly, the periodic kilns have been removed as emission units in the AOP renewal.

3.2 Standard Terms and Conditions (Section I of the permit)

This section of the permit was updated with the SRCAA's most current version of standard applicable requirements, any new or modified regulations, and any updated reference dates, including the recently updated Chapter 173-400 WAC regulations.

The "STATE/LOCAL ONLY" excess emissions requirements in this section have been modified. Ecology promulgated and SRCAA has adopted two state-only regulations: WAC 173-400-108 and WAC 173-400-109. The background on these rule changes is given below:

On 5/22/15, Ecology received a SIP call from EPA regarding the Excess Emissions provisions given in WAC 173-400-107, specifically the treatment of excess emissions during periods of startup, shutdown, and malfunction (SSM). To address the SIP call, Ecology completed rulemaking with revised requirements given in WAC 173-400-081, titled "Emission limits during startup and shutdown" and a new section in WAC 173-400-082, titled "Alternative emission limit that exceeds an emission standard in the SIP" (filed on 8/16/18) that was submitted to EPA for inclusion into Washington's SIP. This action also removed WAC 173-400-107 from the SIP. These changes were approved by the EPA on 12/28/23 and became effective 1/29/24. Since the SIP Changes have been approved, WAC 173-400-107 no longer applies. The requirements of WAC 173-400-108 and WAC 173-400-109 have been added to AOP-7 Renewal #4.

The requirements of WAC 173-400-081 and WAC 173-400-082 are not specifically listed as applicable requirements in the renewal permit because neither section currently applies to Mutual Materials. Note that Ecology issued a request to EPA to remove portions of WAC 173-400-081 and WAC 173-400-082 from the SIP changes on 12/15/23, however no action on these changes have been made to date.

3.3 Emission Limitations and Monitoring, Recordkeeping, & Reporting Requirments (Section II of the permit)

The only change to this section is inclusion of requirements specific to the tunnel kiln at the facility. The tunnel kiln is subject to the applicable requirements 40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing. The rule was first promulgated in 2015, and after several legal challenges and review, the rule was finalized in 2020, substantially in its original form with minor changes to compliance deadline requirements, The applicable requirements of the rule were added to Section II.D - TUNNEL KILN EMISSION LIMITATIONS. The Monitoring, Recordkeeping, and Reporting Requirements (MRRR) were updated to ensure sufficient monitoring for the applicable requirements of 40 CFR 63 Subpart JJJJJ. See Section 2.4 for details regrding the applicable requirements of 40 CFR 63 Subpart JJJJJ for the tunnel kiln.

SECTION 4 GENERAL PERMIT REQUIREMENTS

4.1 Permit Organization

The AOP-7 Renewal #4 is divided into the following sections:

- Permit Cover Page

- Table of Contents
- List of Abbreviations and Definitions of Words and Phrases
- Permit issuance and Emissions Unit Identification
- Section I Standard Terms and Conditions
- Section II Emission Limitations and Monitoring, Reporting, & Recordkeeping Requirements
- Section III Permit Shield

4.2 Permit Content

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

The list of abbreviations and definitions of words and phrases identifies and defines abbreviations, words, and phrases that are commonly used throughout the permit.

The permit issuance and emission unit Identification section describes SRCAA authority for permit issuance, permittee authorization to operate under the permit, and permit enforceability. This section also identifies emission units emission units, equipment ratings, and air pollution control devices/methods present at Mutual Materials (see Table 1 in the permit).

Section I - Standard terms and conditions and Section II - Emission Limitations and Monitoring, Recordkeeping, & Reporting Requirements (MRRR) contain all applicable requirement for the Mutual Materials facility. Some applicable requirements have been met by a single past action by the source; these requirements are not included in the AOP and are discussed in Sections 5.2 and 5.3 below. Regulations that require action by a regulatory agency, but not of the regulated source, are not included as applicable permit conditions.

The permit shield section lists requirements that do not apply to the source, or to the emission units specified below.

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 NSPS or 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 are federally enforceable unless identified in the permit as enforceable only by the state and/or SRCAA; these requirements are labeled as "STATE/LOCAL ONLY" after the legal citation and are not enforceable by EPA or citizens under the FCAA".

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 SRCAA Regulations. The date associated with a WAC regulation denotes the “State Filing Date” of the regulation. For SIP-approved WAC regulations (identified by the absence of the “state only” designation), the date represents the “State Filing Date” of the regulation version that was SIP-approved. For SRCAA regulations, the date represents the most recent agency adoption date. For SIP-approved SRCAA regulations (also identified by the absence of the “state only” designation), the parenthetical date represents the adoption date of the regulation version that was SIP-approved. The date associated with an NOC approval order represents the latest revision date of that order. For a federal rule, the date is the rule’s most recent promulgation date.

Chapter 173-401 WAC is not federally enforceable in itself, however 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.

4.4 Standard Terms and Conditions (Section I of the permit)

This section of the permit contains standard terms and conditions that apply to all sources in SRCAA's Title V program. These conditions have been reviewed by EPA and include all terms required in Chapter 173-401 WAC as well as requirements from other air quality laws and regulations. This section is organized into the seven subsections listed below:

- I.A - Permit Administration
- I.B - Inspection and Entry
- I.C - Emergency Provisions
- I.D - General Monitoring, Recordkeeping, & Reporting
- I.E - Compliance Certification
- I.F - Truth and Accuracy of Statements and Documents & Treatment of Documents
- I.G - Applicable when Triggered Requirements

The Standard Terms and Conditions section specifies administrative, applicable when triggered, and/or other requirements that typically have no ongoing compliance monitoring requirements. The permittee must comply with the requirements listed below and certify compliance per the annual compliance certifications required by Condition I.E.1-Compliance Certification Submittals

The citations giving legal authority to the Standard Terms and Conditions are provided at the end of each permit condition. The description of the regulation in each of these conditions may be paraphrasing of the actual regulatory requirement. Where there is a difference between the actual requirement and the paraphrased description, the cited regulatory requirement takes precedence. For clarity and readability, the terms and conditions have been grouped by function.

4.5 Applicable When Triggered

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 NOC applications or NOC revision requests for Mutual. Mutual has certified in the permit renewal application that the facility will meet any future applicable requirements on a timely basis.

4.6 Operational Flexibility

Mutual Materials did not request emissions trading provisions or request operations flexibility (i.e. 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 or operating scenarios.

4.7 Gapfilling Overview

Title V of the Federal Clean Air Act is the basis for 40 CFR Part 70, which is the basis for the State of Washington air operating permit regulation, Chapter 173-401 WAC. Title V requires that all air pollution regulations applicable to the source be placed in the air operating permit for that source. Title V also requires that each applicable regulation be accompanied by a federally enforceable means of "reasonably assuring continuous compliance". 40 CFR Part 70 and WAC 173-401-615 all contain a "gap-filling" provision to address situations where no monitoring is present. 40 CFR Part 70.6(c)(1) and WAC 173- 401-630(1) contain authority to address situations where monitoring exists but is deemed to be insufficient. SRCAA relied upon these authorities to add monitoring where needed to the AOP permit conditions.

The majority of cases where monitoring needed to be added were older regulations, permits and SRCAA requirements that contained no monitoring. For example, SRCAA used its gap-filling authority to add monitoring for the NOC #845 visible emission standard for the hammermill and associated conveyors. The phrase "NOTE: This is a gapfilling MRRR" is included in the citation for in each AOP term where SRCAA added gap-filling to the monitoring requirements.

The type and frequency of monitoring added under the authorities in WAC 173-401-615 and WAC 173-401-630(1) were set based on the following factors:

1. Historical Compliance of similar equipment – SRCAA reviewed this and other facilities past compliance with the underlying requirement for similar equipment. This information helped inform the decision about monitoring frequency and stringency.
2. Margin of Compliance – The margin of compliance is a measure of whether the facility can easily achieve compliance with a requirement, or whether they operate close to an exceedance. SRCAA considered the facility's margin of compliance for each underlying requirement in setting monitoring for that requirement.
3. Variability of Process and Emissions – Processes that vary their production rates and/or emissions over time (e.g., batch loading of grain silos, VOC emissions from lumber drying kilns) require different monitoring from steady-state processes. SRCAA considered process and emission variability in setting monitoring.
4. Environmental Impact of a Problem – Exceedances of some permit requirements have greater environmental consequences than others. SRCAA considered the environmental impact of a problem in setting monitoring.

5. Clarity and Complexity – The requirements that apply to AOP facilities may be numerous, varied, and complex. SRCAA's goal is to write clear, concise permits the facilities can understand. To help achieve this goal, when possible, SRCAA aligned additional monitoring with monitoring that the facility is already performing. SRCAA reviewed the monitoring the facility is already performing to determine if it was adequate to stand-in as monitoring for the permit term, and only used it if deemed adequate.

The Table 8 table lists AOP MRRR conditions where SRCAA used its gap-filling monitoring authority.

TABLE 8 - AOP MRRR CONDITIONS WITH GAPFILLING PROVISIONS

AOP Condition	Description	Monitoring
1M.	Visible and PM emissions	Monitoring methods, periods, and corrective action procedures identified
2M.	General facility monitoring	Monitoring methods, periods, and corrective action procedures identified
3M.	Fuel used in fuel-fired equipment	Certifying only natural gas and propane (LPG) are used as fuel
8M.	Crusher spray nozzle inspection	Inspection frequency and corrective actions procedures
11M	Testing of non-Hg, HAP metals	Periodic performance testing

SECTION 5 EMISSION LIMITATIONS AND MONITORING, RECORDKEEPING, & REPORTING REQUIREMENTS (Section II of the permit)

This section contains emission limitations and emission related requirements including general requirements that apply facility-wide and requirements specific to individual, or groups of, emission units.

The section has been organized into five subsections. The first subsection lists limitations that apply facility-wide. The next three subsections list requirements and emissions limitations specific to individual emission units or classes of similar emission units. The first four subsections are formatted into tables as follows:

- The permit condition number is listed in the first column of the table;
- The basis for the applicable requirements is listed in the second column of the table;

- Applicable requirements are listed in the third column of the table;
- The averaging time and reference test method, used to determine compliance with the requirement, are listed in the fourth and fifth columns of the table, if applicable; and
- The MRRR reference for assuring compliance with the requirement is listed by the MRRR condition number in the sixth column of the table.

The last subsection provides the MRRR conditions for the emission limitations and requirements listed the tables in the first four subsections. Each subsection is described below:

5.1 Facility-Wide Requirements (Section II.A of the permit)

This section lists emission limitations that apply to all significant and insignificant emissions units at the facility. The MRRR conditions (described in Subsection II.E MONITORING, RECORDKEEPING, & REPORTING REQUIREMENTS) apply to all significant emission units at the facility as indicated in the MRRR reference column of Table 4 (Facility-wide Emission Limitations) of the permit. These emission units are listed in Table 2 of the permit.

Additionally, SRCAA has determined that MRRR is necessary for some of the insignificant emission units at Mutual Materials to assure compliance with the facility-wide emission limitations. These emission units are listed in Table 3 of the permit. SRCAA's determination was based on the following:

- SRCAA has documented a violation of any of the generally applicable requirement in the past from these emission units at the facility (i.e., fugitive emissions from unpaved roads exceeding SRCAA standards); and/or
- These emission units emit and/or have the potential to emit large quantities of particulate, particularly if not operated properly or monitored regularly, and operate continuously.

Insignificant emission units at the facility subject to MRRR are listed in Table 9 below.

TABLE 9 – Insignificant emission units subject to MRRR

EMISSION UNIT DESCRIPTION	BASIS/JUSTIFICATION FOR IEU DESIGNATION
Raw Material Grinding & Screening – other than grinding done in hammermill (Hammermill is considered a Significant Emission Unit)	WAC 173-401-530(1)(d)
Raw Material Storage	WAC 173-401-530(1)(d)
Mining, Stockpiling, and Hauling Note: On 04/11/75, an NOC was approved for the clay mining operation. However, no approval conditions were issued with the NOC approval, the emissions from these operations are fugitive, and only requirements are the generally applicable requirements.	WAC 173-401-530(1)(d)
Operation & Maintenance of Storage Yard	WAC 173-401-532(33) & (35)
Operation & Maintenance of Parking Lots	WAC 173-401-532(33) & (35)

The MRRR, given in II.E MONITORING, RECORDKEEPING, & REPORTING REQUIREMENTS, will also apply to these units, as indicated in the MRRR reference column of Table 4 of the permit.

5.2 Hammermill and Two Conveyor Belts Emission Limitations (Section II.B of permit)

The hammermill and two associated conveyor belts are approved under SRCAA NOC #845 and are subject to the requirements of 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. These emission units are located in the clay storage area of the facility. Table 10 below provides information on these emissions units.

TABLE 10 – Hammermill & conveyor belts information

Emission Unit Description	Control Equipment	Notes
Hammermill & two conveyor belts	Water applied to clay prior to entering hammermill	1997 install date; 40 CFR Part 60 Subpart OOO applies; NOC #845

Section II.B of the permit lists the requirements and emission limitations that apply to the hammermill and two associated conveyor belts located in the clay storage area. The emission limits are based on the applicable requirements of SRCAA NOC #845 Revision #1 and 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. Table 6 of the permit list the applicable requirements for the hammermill and two associated conveyor belts.

Applicable one-time requirements for the hammermill and two associated conveyor belts that have been met are not included in the AOP. These requirements and the basis for not including in the permit are given in Table 11 below:

TABLE 11 - One time requirements not included in permit

Citation	Description	Basis for not including in permit
NOC #845, Condition 1, 9/10/97 as revised on 7/23/02	Notification of start-up of the hammermill and conveyor belts.	This is a one-time condition that has been met.
NOC #845, Condition 4, 9/10/97 as revised on 7/23/02	Water fog nozzle inspection requirements	Per Condition 2 of NOC #845, SRCAA approved a hammermill operation plan, which allows Mutual to discontinue use of the water fog nozzles to control emissions from the hammermill, provided that sufficient water is added to the clay to control emissions from the hammermill and associated transfer points. Since the water fog nozzles are not required, the requirement to inspect the water fog nozzles is not applicable and therefore, is not included in the permit.
NOC #845, Condition 6, 9/10/97 as revised on 7/23/02	Initial testing requirements to demonstrate compliance with	Initial testing was conducted on 10/23/98. The test report was submitted to SRCAA on 10/28/98.

	the opacity requirements in 40 CFR 60, Subpart OOO.	This is a one-time requirement that has been met.
NOC #845, Condition 7a, 7c, 7d, & 7e., 9/10/97 as revised on 7/23/02	One-time notifications required under 40 CFR 60, Subpart OOO	Condition 7a: A letter was submitted to SRCAA on 9/22/98 with notification of the actual start-up. Condition 7c: A letter was submitted to SRCAA on 9/22/98 with notification of the anticipated date for opacity testing Condition 7d: There was no delay in conducting the opacity test, so this requirement is no longer applicable. Condition 7e: The opacity test report was submitted to SRCAA on 10/28/98. All of the one-time reporting requirements under 40 CFR 60, Subpart OOO have been met.
NOC #845, Condition 10, 9/10/97 as revised on 7/23/02	NOC approval becomes void if construction not commenced within 18 months.	Construction began within the allowable time.

5.3 Crusher Emission Limitations (Section II.C of permit).

The crusher is approved under SRCAA NOC #1495 and is subject to the requirements of 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The jaw crusher is located at the pelletized brick selection area. Table 12 below provides information on these emissions units.

TABLE 12 – Jaw crusher information

Emission Unit Description	Control Equipment	Notes
Jaw Crusher	Water spray bars or equivalent dust suppression system	2005 install date; 40 CFR Part 60 Subpart OOO applies; NOC #1495

Section II.C of the permit lists the requirements and emission limitations that apply to the crusher.. The emission limits are based on the applicable requirements of SRCAA NOC #1495 and 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. Table 8 of the permit lists the applicable requirements for the crusher.

Applicable one-time requirements for the crusher that have been met are not included in the AOP. These requirements and the basis for not including in the permit are given in Table 13 below:

TABLE 13 - One time requirements not included in permit

Citation	Description	Basis for not including in permit
NOC #1495, Condition 1, 9/22/10	Initial testing requirements to demonstrate compliance with the opacity requirements in 40 CFR 60, Subpart OOO.	Initial testing was conducted on 11/1/10. The test report was submitted to SRCAA on 11/8/10. The report shows that no visible dust was observed during the test at any crusher or transfer point. This is a one-time requirement that has been met.

5.4 Tunnel Kiln Emission Limitations (Section II.D of permit).

The tunnel kiln is subject to the applicable requirements of 40 CFR Part 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing. The text of 40 CFR Part 63 Subpart JJJJJ is given in Appendix A of AOP-7 Renewal 4. Table 14 below provides information on the tunnel kiln.

TABLE 14 – Tunnel kiln information

Emission Unit Description	Control Equipment	Notes
Swindell Dressler Tunnel Kiln – natural gas fired (27.5 MMBtu/hr)	None	1957 install date; 40 CFR Part 63 Subpart JJJJJ applies; No NOC

This subsection lists requirements and emission limitations that apply to the tunnel kiln. The emission limits are based on the applicable requirements of 40 CFR Part 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing. Table 10 of the permit provides the applicable requirements for the tunnel kiln.

5.5 Monitoring, Recordkeeping, & Reporting Requirements (MRRR) (Section II.E of the permit)

This subsection describes the MRRR for each requirement and emission limit listed Tables 4, 6, 8, and 10 of the permit. This section of the permit is formatted differently from the first four subsections. Each MRRR condition is described in detail with respect to the actions the permittee must take to ensure compliance with associated permit conditions. The MRRR are enforceable, however note that while a violation of a MRRR is a violation of the permit, it is not necessarily a violation of the underlying requirement. Note that if MRRR is not required for a permit condition, Mutual must certify compliance with the condition annually, which includes making a reasonable inquiry to determine if the permit condition was met during the reporting period.

SECTION 6 PERMIT SHIELD (SECTION III OF THE PERMIT)

This section of the permit lists regulations for which the facility has requested, in the current and/or in past AOP applications, a permit shield per Washington Administrative Code 173-401-640(2). WAC 173-401-640(2) allows a determination regarding the applicability of requirements with which the source must comply. The permit states that the permit shield applies to the specific, listed inapplicable requirements. The findings on which a shield is granted or denied is summarized in the permit. In their AOP-7 Renewal #4 application, Mutual Materials did not request any changes to current permit shield given in AOP-7 Renewal 3; accordingly, AOP-7 Renewal 4 will retain the current permit shield.

SECTION 7 INSIGNIFICANT EMISSION UNITS THAT DO NOT REQUIRE MRRR

Insignificant emission units (IEUs) include any activity or emission unit located at a major source which qualifies as insignificant under the criteria listed in WAC 173-401-530. Insignificant emission units are subject to the generally applicable requirements (i.e., facility-wide emission limitations). According to WAC 173-401-530, testing, monitoring, recordkeeping, and reporting are not required for insignificant emission units unless determined by the permitting authority to be necessary to assure compliance or unless it is otherwise required by a generally applicable requirement of the State Implementation Plan (SIP). Table 15 below lists insignificant emission units that SRCAA has determined MRRR is not required to assure compliance with the generally applicable requirements. SRCAA's determination was based on the following:

- SRCAA has not documented a violation of any of the generally applicable requirement in the past from the list of IEUs in Table 15 (i.e., the IEUs have had a consistent compliance history); and
- Most of the IEUs emit small quantities of pollutants and/or do not operate continuously.

TABLE 15 – Insignificant Emission Units That Do Not Require MRRR

EMISSION UNIT DESCRIPTION	BASIS/JUSTIFICATION FOR IEU DESIGNATION
Raw Material Batching	WAC 173-401-530(1)(d) & WAC 173-401-532(10)
Raw Material Pugging (two pug mills)	WAC 173-401-530(1)(d)
Product Extrusion	WAC 173-401-530(1)(d) & WAC 173-401-532(24)
Product Setting, Sorting, & Packaging	WAC 173-401-530(1)(d)
Tunnel Dryers – heat is provided by tunnel kiln, which is a significant emission unit	WAC 173-401-532(107)
Product Yarding, Loading, & Delivery	WAC 173-401-530(1)(d) & WAC 173-401-532(10)
Sample Board Making	WAC 173-401-530(1)(d) & WAC 173-401-532(73)
Maintenance & Repairs	WAC 173-401-530(1)(d) & WAC 173-401-532(74)
Vacuum System – other than Kiln Car Cleaning System, which is a significant emission unit	WAC 173-401-532(108)
Diesel Fueling Tank	WAC 173-401-533(2)(c)
Propane Fueling Tank	WAC 173-401-533(2)(d)
Space Heaters	WAC 173-401-533(2)(r)
Air Conditioners	WAC 173-401-532(46)
Painting, Housekeeping, Upkeep	WAC 173-401-532(33)

Storage and Use of Lubricating Oil	WAC 173-401-532(3)(4), & (42)
Vehicle Maintenance & Repair	WAC 173-401-532(7) & (45)
Welding	WAC 173-401-533(i)

PREPARER AND REVIEWER SIGNATURES AND DATES

PREPARED BY: _____
Joe R. Southwell

DATE: _____

This Statement of Basis and the Operating Permit to which it applies have been reviewed by:

_____ , P.E.
April Westby, P.E.

DATE: _____

_____
April Westby, Control Officer

DATE: _____

APPENDIX A 40 CFR 63 SUBPART JJJJJ HISTORY

40 CFR 63, Subpart JJJJJ - *National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing* applies to the tunnel kiln at the Mutual Materials facility. The rule was first promulgated in 2003, and after subsequent legal challenges, the rule was issued in its final form on November 19, 2020 (as published in 85 Federal Register # 73915). A summary of the rule history is given below:

- On May 16, 2003, EPA promulgated the "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," given in 40 CFR 63, Subpart JJJJJ. This rule applied to some brick and structural clay products manufacturing facilities that are major sources of HAPs. Section §63.8385 of the rule applied to a major source of HAP emissions which operates a tunnel kiln with a design capacity equal or greater than 10 tons per hour of fired product. In a letter dated April 24, 2003, Mutual submitted information indicating that they are not subject to Subpart JJJJJ. The letter contains calculations showing that the maximum output of the tunnel kiln is 9.59 tons per hour, which is below the 10 ton per hour threshold. Therefore, the version of Subpart JJJJJ promulgated on May 16, 2003 did not apply to Mutual material tunnel kiln.
- On March 13, 2007, the United States Court of Appeals, D.C. Circuit issued a court decision to vacate 40 CFR 63, Subpart JJJJJ, effective June 18, 2007. In its decision, the held that the methodology EPA used to establish the original MACT standards was unlawful. The Court further ordered EPA to issue a revised regulation.
- On November 20, 2014, EPA proposed a revised 40 CFR 63, Subpart JJJJ, which was intended to replace to the original rule that was vacated on June 18, 2007.
- The revised rule was published in the Federal Register on October 26, 2015, with a proposed effective date of December 28, 2015. Unlike the vacated rule, the revised rule included requirements for existing tunnel kilns with less than 10 tons per hour rated capacity, and would be applicable to the tunnel kiln at the Mutual Materials facility. However, the Brick Industry Association, the Tile Council of North America Inc., and Kohler Co. had petitioned for reconsideration in December 2015 for a variety of reasons, including contentions that EPA had failed to provide notice of and an opportunity to comment on certain provisions included in the final rule, such as the calculation of some of the minimum stringencies in the standard.
- On May 18, 2016, EPA responded to the reconsideration request for Subpart JJJJJ. EPA issued a Federal Register notice announcing that it was denying in part and granting in part petitions for reconsideration of the final Subpart JJJJJ as issued on October 26, 2015. EPA denied reconsideration on several of the points in the industry petitions, however, EPA agreed to reconsider the Clay MACT's stack temperature monitoring requirements. To the extent that EPA is granting the petitions for reconsideration with respect to certain issues, such grant is not final agency action, but only begins an agency process to consider whether the rule should be revised.

- On May 18, 2016, The Brick Industry Association challenged EPA's final Subpart JJJJJ rule. The challenge was lodged in the U.S. Court of Appeals for the District of Columbia Circuit after EPA announced on May 18, 2016 that it would not grant reconsideration of certain portions of the regulation.
- On October 10, 2016, the Blocking Regulatory Interference from Closing Kilns Act of 2016 (Brick Act) passed the House of Representatives but was not advanced in the U.S. Senate.
- On September 13, 2017, the House Energy and Commerce Subcommittee on Environment convened a hearing – entitled "Big Relief for Small Business: Legislation Reducing Regulatory Burdens on Small Manufacturers and Other Job Creators" – to take testimony on bills related to four specific EPA rules and programs. One of the bills was H.R. 1917, the Blocking Regulatory Interference from Closing Kilns (BRICK) Act, to prohibit EPA from requiring brick and structural clay manufacturers to comply with National Emission Standards for Hazardous Air Pollutants until judicial review of the rules is complete.
- On October 3, 2017, EPA filed a motion in the U.S. Court of Appeals for the District of Columbia Circuit asking the court to cancel upcoming oral argument in litigation challenging EPA's hazardous air pollutant emission standards for facilities that manufacture brick and structural clay products and clay ceramics (the Brick MACT rule) and to hold the litigation in abeyance while the agency determines whether the rule "should be revised in whole or in part". According to EPA's motion, the agency informed the petitioners on October 2, 2017, that it intends to review the rule and potentially revise it, and that "EPA anticipates that the prior positions taken by the Agency may not necessarily reflect EPA's ultimate conclusions." The industry petitioners – the Brick Industry Association, the Tile Council of North America and Kohler Co. – agreed to the relief requested by EPA.
- On October 26, 2017, The U.S. Court of Appeals for the District of Columbia Circuit denied EPA's motion to postpone oral argument and hold in abeyance litigation challenging the 2015 hazardous air pollutant emission standards for facilities that manufacture brick and structural clay products and clay ceramics (the Brick MACT rule). The court denied the motion without elaboration. On November 9, 2017, A three-judge panel of the U.S. Court of Appeals for the District of Columbia Circuit heard oral arguments in consolidated cases challenging EPA's 2015 hazardous air pollutant emission standards for facilities that manufacture brick and structural clay products and clay ceramics (the Brick MACT rule).
- On November 14, 2017, The Senate Environment and Public Works Subcommittee on Clean Air and Nuclear Safety held a hearing on Bill S. 839, the Blocking Regulatory Interference from Closing Kilns (BRICK) Act of 2017, to delay the compliance deadlines of EPA's 2015 Subpart JJJJJ standards until judicial review of the rules was complete.
- On December 7, 2017, The House Energy and Commerce Committee held a markup and advanced seven bills to the full House of Representatives for consideration. One of

the bills, The Blocking Regulatory Interference from Closing Kilns (BRICK) Act of 2017 (H.R. 1917) would extend deadlines for the Subpart JJJJJ emission standards until judicial review of the rules is completed.

- On March 7-8, 2018, The House of Representative approved H.R. 1917, the Blocking Regulatory Interference from Closing Kilns (BRICK) Act, which would prohibit EPA from requiring compliance with the Subpart JJJJJ standard until all judicial reviews of the regulations are complete.
- On June 14, 2018, EPA issued a memo to all regional air directors regarding MACT Compliance Extension Requests for Brick Manufacturing Facilities. The memo extended the compliance date in the 2015 version of the rule to be December 26, 2018, and proved guidance on addressing any compliance deadline requests submitted by August 28, 2018.
- On July 6, 2018, The U.S Court of Appeals for the District of Columbia Circuit issued a decision in the case challenging EPA's Brick and Clay MACT rule. The opinion, agreed with the environmental groups that EPA (1) failed to correctly analyze the health risks associated with acid gas pollutants; (2) did not properly explain the calculations behind five of the rule's MACT floors; and (3) impermissibly set alternative MACT floors for brick tunnel kilns. The court remanded the Brick and Clay MACT rule back to EPA for further consideration on all three issues.
- On September 18, 2018, The Senate Environment and Public Works Committee marked up and approved S. 2461, also known as the "Blocking Regulatory Interference from Closing Kilns Act of 2018," would extend the deadline for compliance for existing sources until two years after all judicial action has been made final or December 26, 2020, whichever is earlier. The bill applied to sources subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Brick and Structural Clay Products Manufacturing and the NESHAP for Clay Ceramics Manufacturing. *Note: This bill was introduced on September 18, 2018, in a previous session of Congress, but it did not receive a vote. Although this bill was not enacted, its provisions could have become law by being included in another bill, as a companion bill or omnibus bill*.
- On November 19, 2020, as published in 85 Federal Register # 73915, Subpart JJJJJ, the deadlines for compliance, deadlines for submitting notifications, and electronic reporting requirement, were per the provisions in Senate Bill S. 2461. *Note: There does not appear to be any record of Senate bill S. 2461 being passed as a stand-alone bill, however, based on the Federal Register publishing referenced above, it appears the bill had passed as part of a companion bill or an omnibus bill.*