STATEMENT OF BASIS

Premier Refractories Inc.
Port St. Joe Manufacturing Plant
Facility ID No.: 0450001
Gulf County

Initial Title V Air Operation Permit
PROPOSED Permit No.: 0450001-002-AV

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This facility consists of Premier Refractories Inc.'s Port St. Joe Manufacturing Plant (PRI). PRI manufactures magnesia products [MgO, Mg(OH)2]. These magnesia products are manufactured using dolomitic lime, sulfuric acid, seawater, and granular triple superphosphate (GTSP) as raw materials. Dolomitic lime (typically calcium oxide and magnesium oxide) is stored, crushed, and hydrated with recycled process water. The hydrated lime is reacted with sulfuric acidified seawater and magnesium hydroxide seed resulting in a magnesium hydroxide precipitate which is washed, filtered, and stored as a sludge for future use.

The magnesium hydroxide sludge is calcined to produce MgO (Magox), or dried to produce powdered Mg(OH)2. Both products are stored, or processed further with grinding, pelletizing, etc. Products include Aquamag [Mg(OH)2 slurry], Aquamag SW (dried, powdered Aquamag), Magox (powdered MgO), Magox HB (dried hard-burned MgO pellets), and Enviroblend (MgO and GTSP).

In general emissions are controlled by baghouses, although the rotary periclase kiln (EU 008) and the magnesium oxide pelletizer (EU 011) use scrubbers.

The facility was constructed in the late 1950s, and the calciners, rotary kiln, and filter building have been continuously permitted since mid 1972. These activities precede the effective date of potentially applicable NSPS requirements (40 CFR 60, Subpart UUU - Calciners and Dryers) which would be applicable if reconstruction or modifications occurred. Activities which process raw materials into products through chemical or physical changes (calciners, rotary kiln, grinding, pelletizing) are subject to the Rule 62-296.320(4)(a), F.A.C. (Process Weight Table).

The facility also includes miscellaneous unregulated emissions units and insignificant activities.

Based on the initial Title V permit application received June 7, 1996, and additional information dated February 22, and March 12, 1999, this facility is not a major source of hazardous air pollutants (HAPs).

Emission units 002, 006, and 007 are regulated emission units consisting of natural gas fired multi-hearth furnaces (calciners 3, 1, and 2) constructed in 1959. These furnaces are utilized to dry magnesium hydroxide sludge or to calcine it to magnesium oxide. Each furnace has a maximum heat input of 43.8 MMBtu/hr, and a maximum wet sludge input of 11.6 TPH wet sludge (6.5 TPH dry basis). The natural gas sulfur content is less than 0.1% by weight.

These emission units are subject to Rule 62-296.320(4)(a), F.A.C. (process weight table) since they process wet sludge through a physical or chemical change. The existing furnaces precede the effective dates of applicable NSPS requirements (40 CFR 60, Subpart UUU, Calciners and

Dryers). No federally enforceable construction permits have been issued for these emission units.

Furnaces 1 & 2 share a common stack; the stack for furnace 3 requires reconstruction prior to any future operation. Furnaces 2 & 3 are in long term reserve shutdown; and, if placed back in operation will be tested for emissions within thirty days of startup.

Emissions are controlled by a separate baghouse for each furnace (Wheelabrator Corporation No. 608 Model 342, Series 115 Knocked Down Type, Six Compartment, Continuous Automatic DUSTUBE Dust Collector System). Emissions from furnaces 1 & 2 discharge through a vertical stack 6' in diameter and 70' high.

Particulate matter emissions are limited to 11.5 lbs/hr (equivalent to 50.2 TPY) per furnace consistent with Rule 62-296.320(4)(a), F.A.C. (process weight table). The permit allows a waiver of particulate matter compliance testing, incorporating an alternate compliance standard of 5% opacity in accordance with Rule 62-296.620(4), F.A.C.

The primary source classification code (SCC) for these emission units is 3-05-150-02 (calcining).

Compliance with the permitted emission limits will be demonstrated by conducting annual compliance tests for the 5% opacity limit. Additional EPA method 5 tests for particulate matter are required if the emission unit does not satisfactorily demonstrate compliance with the 5% opacity standard of if the Department has reason to believe the particulate matter limit is not being met. In addition, the permittee shall track fuel usage and fuel sulfur content, and shall maintain a record of baghouse pressure differentials.

Emission unit 008 is a regulated emission unit consisting of a natural gas fired rotary kiln constructed in 1959 utilized to burn or "periclase" magnesium oxide pellets to form a magnesium oxide crystal form known as periclase. The rotary kiln has a maximum heat input of 43.9 MMBtu/hr, and a maximum production rate of 5.5 TPH of hard burned pellets ("periclase"). The natural gas sulfur content is less than 0.1% by weight.

This emission unit is subject to Rule 62-296.320(4)(a), F.A.C. (process weight table), since it processes magnesium oxide pellets through a physical or chemical change. This emission unit has no specific emission limits associated with prior federally enforceable construction permits.

Emissions are controlled by a Peabody D-76402 venturi scrubber. Emissions discharge through a vertical stack 4.5' in diameter and 66' high.

Particulate matter emissions are limited to 10.4 lbs/hr (equivalent to 45.3 TPY) consistent with Rule 62-296.320(4)(a), F.A.C. (process weight table).

The primary source classification code (SCC) for this emission unit is 3-05-150-02 (calcining).

Compliance with the permitted emission limits will be demonstrated by conducting annual EPA method 5 tests for particulate matter. In addition, the permittee shall track fuel usage and fuel sulfur content, and shall maintain a record of scrubber pressure differentials and liquid flow.

Emission unit 010 is a previously unpermitted regulated activity consisting of the magnesium oxide grinding mill constructed in 1959. The grinding mill is a vertical mill located in the MgO grinding building. The grinding mill has a maximum throughput rate of 13.5 TPH of magnesium oxide.

Emissions are controlled by dust collector identified as "raymond mill baghouse". Emissions discharge through a horizontal, 18" by 24" stack (ID "raymond mill") that is 65' above the ground.

This activity is subject to Rule 62-296.320(4)(a), F.A.C. (process weight table), since it processes magnesium oxide through a physical or chemical change. Particulate matter emissions are limited to 18.1 lbs/hr (equivalent to 79.0 TPY) consistent with the process weight table. The permit allows a waiver of particulate matter compliance testing, incorporating an alternate compliance standard of 5% opacity in accordance with Rule 62-296.620(4), F.A.C.

The primary source classification code for this emission unit is 3-05-108-99.

Compliance with the permitted emission limits will be demonstrated by conducting annual compliance tests for the 5% opacity limit. Additional EPA method 5 tests for particulate matter are required if the emission unit does not satisfactorily demonstrate compliance with the 5% opacity standard or if the Department has reason to believe the particulate matter limit is not being met. In addition, the permittee shall maintain a record of baghouse pressure differentials.

Emission unit 011 is a previously unpermitted regulated activity which consists of two magnesium hydroxide pelletizing mixers. MgO and Mg(OH)2 sludge are added to the pelletizing mixers in approximately equal amounts. Excess water in the sludge hydrates the MgO into Mg(OH)2. The final product is agglomerized Mg(OH)2 pellets containing 40% moisture. Each mixer has a maximum material process rate of 3.6 TPH.

Emissions are controlled by two scrubbers, identified as scrubbers 1 and 2. Emissions discharge through two horizontal 10" diameter stacks 36' above the ground surface.

This activity is subject to Rule 62-296.320(4)(a), F.A.C. (process weight table) since the mixers process magnesium oxide and hydroxide through physical or chemical changes. Particulate matter emissions are limited to 6.4 lbs/hr (equivalent to 27.6 TPY) per mixer consistent with Rule 62-296.320(4)(a), F.A.C. (process weight table).

The primary source classification code for this emission unit is 3-05-999-99.

Compliance with the permitted emission limits will be demonstrated by conducting annual EPA method 5 tests for particulate matter. In addition, the permittee shall maintain a record of scrubber pressure differentials and liquid flow.

Also included in this permit are miscellaneous unregulated emission units and/or activities. This includes various activities not subject to the process weight table controlled by baghouses such as bin loading, product bagging; as well as fugitive emissions.

Additionally, various activities are identified as insignificant. In accordance with Rule 62-213.430(6)(b), F.A.C., these include activities with no specific applicable requirements, and which do not have the potential to emit 500 pounds per year or more of lead or lead compounds, 1000 pounds per year or more of any hazardous air pollutant, 2,500 pound per year or more of total hazardous air pollutants, or 5.0 tons per year or more of any other regulated air pollutant. These activities include emissions from various storage tanks, a lab fume hood, settling tanks and sludge handling, a maintenance shop, and a natural gas fired emergency generator.