

Statement of Basis – November 12, 2004

Premier Industries Inc. (Insulfoam and Premier Packaging)

Purpose of this Statement of Basis

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

November 12, 2004 Administrative Amendment

On October 26, 2004 an Administrative Amendment request was received to change the Responsible Individual from the company president, Michael Wall, to the Vice President and CFO, James R. Johnson. Mr. Johnson meets the requirements to be the Responsible Individual in WAC 173-401-200-29(a).

Source Description

Premier Industries Inc, doing business as Premier Packaging and Insulfoam, processes expanded polystyrene (EPS) foam products. The two production lines share the common facility. Premier Packaging is a custom shape molder. It produces packaging material used for computers, electronics, and food shipping. Insulfoam is a block molder. Insulfoam's products are used in the construction and building materials industry for insulation and specialty applications such as columns and decorative facades.

Pollutants Emitted to Air

The primary pollutant emitted by Premier Industries is pentane, a VOC and a WA State toxic air contaminant. Secondary pollutants are oxides of nitrogen and carbon monoxide emitted from the boilers, water heaters and comfort heating.

Title V Operating Permit Application Requirement

The Premier Industries Inc. is required to have an operating permit because they emit more than 100 tons per year of pentane.

Responsible Individual

Premier Packaging and Insulfoam share the one facility. The parent company is Premier Industries Inc. The responsible individual common to both Premier Packaging and Insulfoam is Michael R. Wall, President and CEO of Premier Industries.

The day-to-day contacts of these subsidiaries are Michael Hays, General Manager of Premier Packaging, and Paul Egly, General Manager of Insulfoam.

Process Overview and Specific Production Steps

Insulfoam Process:

1. Raw Material Receiving – The raw material for the process is an EPS resin in the form of small beads which is sand like appearance. The EPS resin is shipped to the facility in lined 1000-pound Gaylord boxes. The EPS resin arrives already pre-impregnated with the blowing agent (pentane). Three different EPS resins are used. The high pentane resin contains pentane at 6.5% by weight. Mid-pentane resin contains 4.5% pentane by weight, while low-pentane resin contains 3.5 % pentane by weight.
2. Pre-expansion – The EPS beads are either vacuum fed or augured into a pre-expander where with the aid of steam, and mechanical agitation are pre-expanded into BB size particles called prepuff. The steam and pressure cause the blowing agent (pentane) to expand inside the bead and exert pressure outward. This process is responsible for the expansion of the bead. A portion of the initial pentane content of the bead is lost during pre-expansion. The prepuff is dried in a fluid bed drier.
3. Prepuff Aging – Prepuff is vacuum fed to the Bag Farm for prepuff aging and stabilization from 4-24 hours. The prepuff is stored in 3000 pound bags suspended from the ceiling of an enclosed room. This allows the temperature to equalize and the prepuff to achieve the proper conditions for molding. During the prepuff aging, a portion of the initial pentane content of the beads is given off. The VOC emissions from the bag farm are captured and exhausted out of the building.
4. Molding – Stabilized prepuff is vacuum fed back to the mold or press where, with the aid of steam and vacuum, the prepuff is fused into a foam billet or block. During the molding cycle a portion of the initial pentane content of the beads is given off. The VOC emissions from the mold are captured and exhausted out of the building.

5. Block Shipping – A portion of the foam billets are shipped as blocks or in the original molded form. A portion of the initial pentane content remains in the finished product as a residual concentration.
6. Cutting – Other blocks are permitted to stabilize from 24-96 hours and are then cut to size and shape with an electric hot wire.
7. Cut Product Shipping – Cut product is packaged, and loaded on a truck for delivery to the customer.

Premier Packaging Process

1. Raw Material Receiving, Pre-expansion and Prepuff Aging comes from the same line as the Insulfoam process.
2. Molding – Stabilized prepuff is vacuum fed to one of several presses which is fit with a mold plate custom designed to produce a specific part. With the aid of steam the prepuff is fused into a molded part. During the molding cycle a portion of the initial pentane content of the bead is emitted.
3. Packaging and Shipping – The molded products are packaged and shrink wrapped for shipping. The product is either shipped directly or stored in the warehouse for shipping at a later date.

Activities in Common

There are two boilers used to provide steam to both Insulfoam and Premier Packaging. The first is a 2.5 million btu/hr (MMBtu/hr) Cleaver Brooks boiler installed in 1976. The second is a larger 8.4 MMBtu/hr Cleaver Brooks boiler installed in 1989. Both boilers primarily run on natural gas but have the capability to run on distillate fuel oils. Neither boiler is subject to Federal New Source Performance Standards (NSPS) due to size.

Review of Premier Industries' Permit Application

The Puget Sound Clean Air Agency received the original air operating permit application on March 11, 1999. The Puget Sound Clean Air Agency acknowledged that the application was complete in a April 2, 1999 letter to Premier Industries.

Compliance History

Compliance History: Premier Industries, dba Western Insulfoam Corporation/ Premier Packaging (PZ)

During the past seven years, the Puget Sound Clean Air Agency conducted eight compliance inspections of Premier Industries Inc., Kent Plant, 19041 80th Avenue, S., Kent 98032. Inspection dates were: February 26, 2001; April 06, 2000; September 15, 1999; June 30, 1999; November 17, 1998; February 18, 1998; June 27, 1997; and March 02, 1994.

The Puget Sound Clean Air Agency has taken the following enforcement actions to include the original requirement established and related correspondence against Premier Industries, Inc. during the last seven years:

July 20, 1995: The Agency approved Notice of Construction No.6010, Synthetic Minor Cap, limit for pentane: less than 99 tons per 12 consecutive months.

June 07, 1997: A Compliance Status Report (CSR) was issued to Premier Industries, requesting VOC/ pentane usage per Notice of Construction No. 6010, Limit 1, for the monthly periods April, 1996 to May1997. Premier Industries submitted emissions data June 10, 1997.

July 09, 1997: The Agency sent Premier Industries a letter suggesting they should review the synthetic minor cap limit; and if necessary, apply for an operating permit application.

February 18,1998: A Compliance Status Report was issued to Premier Industries, requesting VOC/ pentane usage per Notice of Construction No. 6010, Limit 1. Quarterly reports were requested starting April 15, 1998.

November 23, 1998: A Compliance Status Report was issued requesting documentation for the resin and pentane used for each month from May 1996 through June, 1998 per Notice of Construction No. 6010, Synthetic Minor Cap, Limit 1. The information was received and reviewed by the Agency.

February 04, 1999: Notice of Violation No. 37493 was issued for failure to comply with Order of Approval No. 6010, Limit1 dated July 20, 1995 by exceeding the synthetic minor cap limit of VOC pentane to 99 tons during any 12 consecutive months after the date of the Order. Premier Industries was in violation during the 31-month periods of May 31, 1996 through December 31, 1998. Premier Industries also violated Condition No.3, failure to report all periods that exceeded the synthetic minor cap. Premier Industries conducted an operation that is subject to the requirements of chapter 173-401 of the Washington Administrative Code (WAC) without complying with the provisions of that chapter by failing to apply for an Operation Permit required by WAC 173-401-500. On May 5, 1999 Premier

Industries was issued Notice and Order of Civil Penalty No. 8987 for \$232,652. Premier Industries and the Agency entered into an Assurance of Discontinuance resolving the civil penalty and suspending \$182,652, if Premier Industries:

1. Pay \$50,000 of the unsuspended portion of Civil Penalty No.8987;
2. Install a low pentane mold within six months of the Notice of Construction approval by Puget Sound clean Air Agency: and,
3. Have no unexcused violations of Limit 1 or Condition No.3, Order of Approval No. 6010 for a minimum of two years. Premier Industries submitted an Operating Permit Application. On April 02, 1999, a completeness determination was issued by the Agency. On January 17, 2001, Notice of Construction No. 7953 was approved for the low pentane block mold. The Assurance of Discontinuance expired on December 21, 2001.

Each year, the Puget Sound Clean Air Agency has received the required emission statements.

There are currently no outstanding enforcement issues.

Emission Inventory

See Attachment A.

Explanation of Applicable Requirements

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

Applicable Requirements

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

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

The first column is used as an identifier for the requirement, and the fourth (Requirement Paraphrase) column paraphrases the requirement. The first and fourth columns are for information only and are not enforceable conditions of this permit. The actual enforceable requirement is embodied in the requirement cited in the second and third columns.

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

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

Those requirements are explained in detail below.

Recently amended Puget Sound Clean Air Agency Regulations

The Puget Sound Clean Air Agency Board of Directors has recently amended several sections of its regulations. These amended sections are listed as State/Puget Sound Clean Air Agency Enforceable Requirements in the operating permit. The versions of the regulations that are in the SIP are listed as Federally Enforceable Requirements. The amended versions will be (or in some cases have been) forwarded to EPA as SIP amendments. Upon approval of the SIP changes, the revised versions of the regulations will be federally enforceable and the old version will no longer apply.

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

Requirement I.A.2

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

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

- 1) Initial compliance. The Puget Sound Clean Air Agency has not observed visible emissions from the boilers, building exhausts, or any other emission points during any inspection.
- 2) Margin of compliance. The monitoring method is designed so that the Premier Industries Inc. will take corrective action before a violation occurs. The emission units are unlikely to generate visible emissions except under the most unusual circumstances. In addition, the Puget Sound Clean Air Agency has inspected this facility at least seven times annually since June 1997 and has not identified opacity issues with the stationary equipment. Because we have never observed any visible emissions for the facility, the margin of compliance with the 20% opacity standard has been high. Therefore, the Puget Sound Clean Air Agency has determined that monthly monitoring is adequate under most operating scenarios. However, operating on residual fuels is an alternate scenario seldom used. For the reasons that equipment settings are different, and employee training opportunities is infrequent, the margin of compliance is smaller. Therefore requiring daily opacity inspections when operating with residual oils is justified. Recording of visible emissions is not necessarily a deviation of the opacity requirements. However, failure to take timely corrective action, as defined by the monitoring method, is a deviation of the specific permit term. Taking corrective action does not relieve Premier Industries Inc. from the obligation to comply with the opacity requirement itself.
- 3) Variability of process and emissions. Annual emissions from the facility are generally proportionate to demand for Premier Industries' products. Since the foam slabs used primarily for building insulation and the molded shapes used by other companies to ship their products are created in response to long term national economic forces the variability is small.

- 4) Environmental impacts of problems. Observed opacity is generally related to emissions of particulate matter or finely divided liquid droplets. The stationary emission units at Premier Industries Inc. typically do not generate visible emissions.
- 5) Technical considerations. Catastrophic failure of a boiler, or a building's heating unit is a likely cause of an opacity standard deviation at Premier Industries Inc. However, these units are fired in accordance with an acceptable O&M Plan, thereby minimizing the probability of an opacity standard violation.

Requirement I.A.3

Both Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040 (6) are equivalent requirements (SO₂ emissions not to exceed 1000 ppm), except for the second paragraph of the WAC 173-400-040(6) which is not in the Puget Sound Clean Air Agency regulation. That paragraph, which is not federally enforceable, allows for exceptions to this requirement if the source can demonstrate that there is no feasible method of reducing the SO₂ concentrations to 1000 ppm. Since the Puget Sound Clean Air Agency rules do not allow the exception, the second paragraph does not apply to the Premier Industries Inc.

The only activities at Premier Industries with SO₂ emissions that have the potential to exceed this standard are combustion sources under emission activity No. 2. These boilers are presently only capable of burning natural gas and distillate or very low sulfur oil. Premier Industries, Inc. is incapable of violating the SO₂ limit while burning these fuels and complying with the other requirements in the permit. The following calculations show that it is mathematically impossible for a unit to emit 1,000 ppm sulfur dioxide while burning natural gas or very low sulfur oil. Therefore, no additional monitoring for this limitation is required. Other fuel oil supply records are addressed under EA 2.1.

Natural gas:

Natural gas means a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Washington Utilities and Transportation Commission. Natural gas may also be referred to as "pipeline quality natural gas." Premier Industries, Inc. receives the same natural gas as all of the other natural gas consumers, private and industrial, in the Northwest. According to Section 1.4-3 of AP-42, natural gas contains approximately 2000 grains of sulfur per million cubic feet, which is equivalent to approximately 3.4 parts of sulfur per million cubic feet of natural gas, as shown in the following calculation:

$$\frac{2,000 \text{ gr } S}{1,000,000 \text{ ft}^3 \text{ nat. gas}} \times \frac{1 \text{ lb}}{7000 \text{ gr}} \times \frac{385 \frac{\text{ft}^3}{\text{mole } S}}{32 \frac{\text{lb}}{\text{mole } S}} = 3.44 \times 10^{-6} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \equiv 3.44 \text{ ppm } S$$

According to *Perry's Chemical Engineer's Handbook*, each cubic foot of natural gas requires approximately 10 cubic feet of air for combustion, yielding approximately 11 cubic feet of combustion exhaust gases, consisting mostly of nitrogen, water vapor, and carbon dioxide. The sulfur in the natural gas will almost all be converted to sulfur dioxide, with each cubic foot of sulfur producing the same volume of sulfur dioxide. Since each cubic foot of natural gas contains 3.44×10^{-6} cubic foot of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44 \times 10^{-6} \frac{ft^3 S}{ft^3 nat. gas} \times \frac{1 ft^3 SO_2}{1 ft^3 S} \times \frac{1 ft^3 nat. gas}{11 ft^3 stack exhaust} = 3.13 \times 10^{-7} \frac{ft^3 SO_2}{ft^3 stack exhaust}$$

This is equivalent to 0.31 ppm_{dv} SO₂. Note that this estimated value is less than one-tenth of one percent of the 1,000 ppm SO₂ standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO₂ limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6).

Oil, "very low sulfur" and "distillate":

"Very low sulfur oil" is defined in New Source Performance Standards (for example, 40 CFR 60, Subpart Db) as "an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/million Btu) heat input."

"Distillate oil" is defined in NSPS Subpart Db as "fuel oils that contain 0.05% weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2¹, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils, which has been incorporated by reference into 40 CFR 60.17."

We can use the conversion factors given in 40 CFR 60 Appendix A, Reference Method 19 to estimate the SO₂ concentration in the main stack in ppm if the boilers were burning 0.5% sulfur oil and emitting 0.5 lb/MMBtu SO₂.

According to Table 19.1, burning a million Btu of oil produces 9,190 dry standard cubic feet of stack gas. One part per million SO₂ is equivalent to 1.66×10^{-7} ppm_{dv}.

$$0.5 lb SO_2 / MMBtu \times \frac{1 MMBtu}{9,190 dscf} \times \frac{1 ppdv}{1.660 \times 10^{-7}} = 327.7 ppm SO_2$$

¹ ASTM D396-78 requires that No. 2 fuel oil containing greater than 0.05% sulfur be dyed with Solvent Red 164 at the concentration spectrally equivalent to at least 3.9 pounds of the solid dye Standard Red 26 per 1,000 barrels in accordance with the mandates of the US EPA and IRS.

Therefore, it is reasonable to assume that the boilers will not emit SO₂ in excess of 1,000 ppm_{dv} if the boilers burn only natural gas or very low sulfur oil.

The only activities at Premier Industries with SO₂ emissions that have the potential to exceed this standard are combustion sources under Emission Activity No. 2.

Requirement I.A.4, I.A.5, and EA 1.5

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

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

The Puget Sound Clean Air Agency has determined that the monitoring should be monthly for the same reasons listed for Requirements I.A.2, since particulate emissions from these units are directly related to opacity emissions.

Requirement I.A.6

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

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

The facility is currently in compliance with these requirements. The emissions most likely to be environmentally detrimental, or cause a nuisance, is the pentane given off in the bead expansion and molding of the packaging/insulation product. The majority of the pentane is released inside of the building and is released to the environment through building ventilation. Pentane has an LEL of 1.4% or 14,000 ppm. For safety reasons Premier Industries is required to keep the concentration of pentane in the plant below one-quarter of the LEL or 3500 ppm. According to *Odor Detection and Threshold Limit Values (federal) for Various Chemicals* - [by John E. Amoore and Earl Hautala, *Journal of Applied Toxicology*, Volume 3, No. 6 (1983)], pentane has an Odor Threshold of 400 ppm and has an odor similar to gasoline. Assuming that pentane is emitted at the maximum allowable safety concentration, only nine dilutions are necessary before the pentane emission is below the odor threshold. The current building exhaust provides this dilution prior to the emission leaving the property boundary. The rate of emission is relatively constant on a per-shift basis and is relatively constant for each day of facility operation. Emission rate varies with production which varies slowly depending on national economic forces that change over long periods of time. Monthly facility-wide inspections will insure that the Premier Industries Inc. can respond to any externally caused changes that may increase emissions.

Requirement I.A.7, I.A.8 and I.A.9

The federally enforceable version of Puget Sound Clean Air Agency Regulation I, Section 9.15 (IA.7) requires that "best available control technology" be employed by Premier Industries Inc to minimize fugitive dust emissions. The non-federally enforceable version of Puget Sound Clean Air Agency Regulation I, Section 9.15 (IA.8) requires that "reasonable precautions" be employed by Premier Industries Inc to minimize fugitive dust emissions. WAC 173-400-040(3) addresses fugitive dust emissions for some activities, and WAC 173-400-040(8) requires reasonable precautions or reasonably available control technology (RACT) to control fugitive emissions (IA.9). All of these requirements are generally interpreted to mean that equipment has to be operated and maintained so that fugitive emissions are minimized, and when that doesn't happen, corrective action must be taken.

The Puget Sound Clean Air Agency Board of Directors revised Section 9.15 on March 11, 1999 and it became effective April 17, 1999. The amended version has been forwarded to EPA as a SIP amendment. Upon approval of the SIP changes, the revised version of Regulation I, Section 9.15 will be federally enforceable and the old version will no longer apply. The revised rule requires the use of reasonable precautions for fugitive dust and lists some examples of reasonable precautions.

Recording of fugitive dust emissions is not necessarily a violation of the requirement, since the requirement does not prohibit fugitive dust emissions, but prohibits fugitive dust emissions when the required level of precautions is not employed.

The monitoring method is based on rapid complaint response, and on monthly facility-wide inspections of the entire Premier Industries Inc. site. The source will take corrective action if any problems are observed. The monitoring method is consistent with Puget Sound Clean Air Agency's "*Agency Policy on Fugitive Dust Controls, March 1995*," which specifies reasonable precautions that must be taken to prevent fugitive dust emissions, but does not necessarily define BACT for all processes. The Puget Sound Clean Air Agency has determined that the monitoring should be done at the specified frequencies for the reasons listed below.

- 1) Initial compliance. No complaints have been received and no Notices of Violation (NOVs) issued by the Puget Sound Clean Air Agency as a result of fugitive emissions. Therefore, the Puget Sound Clean Air Agency concludes that the Premier Industries Inc. is generally in compliance with the fugitive emission requirements.
- 2) Margin of compliance. The monitoring method is designed so that the source will take corrective action before a violation occurs. The complaint response plan acts as a backup to the facility wide inspections.
- 3) Variability of process and emissions. There are no changes that are likely to occur from outside influences that may suddenly increase fugitive emissions leaving the facility. The most significant variable affecting emissions would be the degree to which Premier Industries Inc. follows its O&M Plan regarding fugitive dust.
- 4) Environmental impacts of problems. The most likely fugitive impact off of the site would be from a truck returning used EPS foam for recycling. If a piece of recycled EPS foam were to fall off of a truck, and later be run over by another vehicle, it could break down into individual beads of expanded EPS foam that have a large surface area compared to their weight. These beads can be carried off by the wind until captured by grass, bushes or dead air areas near buildings. While these beads are irrespirable, they can be unsightly. Because this material is unique in the area to Premier Industries, any material that escapes can easily be traced back to the facility. So in addition to the monthly monitoring of the site the complaint response process will allow the facility to recover any accumulations offsite.

- 5) Technical considerations. Other than recyclable EPS foam, Premier Industries Inc. does not handle or process materials that are likely to cause fugitive dust emissions. The raw unexpanded pentane beads arrive in sealed carboys that are opened in the warehouse. All of Premier Industries driveways and parking lots are paved.

Requirement I.A.10

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

Requirement I.A.11

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

that similar wording was not vague and gave sufficient notice of the prohibited conduct.

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

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

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

Requirement I.A.12

Puget Sound Clean Air Agency Regulation I, Section 9.10(a) specifies that HCl emissions shall not exceed 100 ppm (dry), corrected to 7% O₂ for combustion sources. Since Premier Industries currently burns only pipeline-grade natural gas and distillate fuels, and the expandable bead contains no chlorine, the facility is incapable of violating this standard while complying with the other requirements in the permit. Therefore, the permit does not contain additional monitoring requirements.

Requirement I.A.16

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

Section I. B. (Emission Unit Applicable Requirements)

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

Emission Activity #1 (EA-1): Expanded Polystyrene (EPS) Operations

This emission activity covers the expansion of raw pentane containing beads into EPS foam which is shaped into blocks for insulation and custom molded into shipping container shock absorbers for a variety of products. As an example the EPS foam used for shipping Apple's I Mac computer systems is made in this plant.

Requirement EA 1.1 through EA 1.4

Puget Sound Clean Air Agency – Order of Approval No. 7953 Condition No. 3 required that Premier Industries gradually decrease the use of high pentane beads over a six year period. The Insulfoam block molder was determined to be Best Available Control Technology (BACT) when approved in 2001 compared to control using capture and destruction systems. While capture of pentane emissions could only control a small portion of the total emissions during primary expansion of the raw bead, lowering the pentane content of the expandable beads would effect all emissions of pentane from the receiving dock to the shipping dock. The ability of the block molder to place a partial vacuum on the expandable beads as they were steam heated allowed this use of lower pentane content in the raw materials going into the molder. However, the state of the art for these new beads in 2001 limited their use to products requiring only small amounts of tensile strength. As higher strength beads with low pentane content, now in manufacturers labs, become commercially available, Premier Industries has committed in these federally enforceable conditions to use them by the time frames in requirements EA 1.1 through EA 1.4. The monitoring method is a paraphrase of condition No. 4 in the Order of Approval requiring that records be maintained on the pentane content of the beads going into the block molder.

Emission Activity #2 (EA-2): Boiler Operations

This emission activity covers the two boilers rated at 2.5 and 8.5 MMBtu/hr that currently burn natural gas, with distillate oil backup. The smaller boiler was permitted in 1976 for the use of PS200 Light Oil as the backup fuel for natural gas. In the intervening years PS200, also known as Diesel No. 3, became difficult to get and currently is not sold in the

Puget Sound region as a fuel oil. Today Premier Industries purchases and stores No. 2 Diesel off-road fuel containing 0.5 % Sulfur by weight.

Requirement EA 2.1

Since Premier Industries, Inc. is not permitted to combust used oils. Thus, the monitoring/recordkeeping identified in Section II.A.(2)(b) of this permit will satisfy the compliance needs to prove used oil is not burned. Additionally, the fuel supplies certifications identified in Section II.A.(2)(b) will also provide ample margin of compliance with general sulfur requirements identified in this citation. The approved distillate fuel sulfur content is 0.5% (by weight) and this citation includes a 2.00% sulfur limitation.

Monitoring, Maintenance and Recordkeeping Procedures

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

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

The permit requires Premier Industries Inc. to conduct monthly facility-wide inspections. These inspections are to include checking for prohibited activities under Section III of the permit and activities that require additional approval under Section IV of the permit, as well as checking for any “nuisance” odor bearing contaminants. The Puget Sound Clean Air Agency determined the frequency of these inspections after considering the potential for emissions, Premier Industries Inc. in-house training practices and similar factors. If problems are identified, Premier Industries Inc. has the responsibility to not only correct the specific problem, but also to adjust the work practices and training to prevent future problems.

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

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

Basis for Prohibited Activities

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

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

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

Activities Requiring Additional Approval

Some of the requirements Premier Industries Inc. identified in the operating permit application are included in Section IV as activities that require additional approval. For new source review, the permit language has been simplified. Chapter 173-460 WAC and Puget Sound Clean Air Agency Regulation I, Article 6 New Source Review Programs require approval to construct, install, establish, or modify an air contaminant source. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language. WAC 173-400-110 applies statewide, yet defers to local authority programs which provide the same, equivalent function. Since Puget Sound Clean Air Agency has had a New Source Review Program under Regulation I, Article 6 for many years, the regulatory program used to review activities for this purpose is Regulation I, Article 6 and not the statewide version administered by the Washington Department of Ecology.

Standard Terms and Conditions

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

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

any other time within six months of submitting the report.

If Premier Industries Inc. does not detect any deviations to report for a six-month period, then Premier Industries Inc. shall report that there were no deviations during the six-month period.

Basis for Insignificant Emission Units

This section contains criteria for identifying insignificant emission units or activities for the purposes of the Operating Permit program. Designation of an emission unit or activity as insignificant does not exempt the unit or activity from any generally applicable requirements. An emission unit or activity is insignificant based on one or more of the following approaches:

- a. Actual emissions of all regulated air pollutants from a unit or activity are less than the emission thresholds established in WAC 173-401-530(4)
- b. The emission unit or activity is listed in WAC 173-401-532 as categorically exempt
- c. The emission unit or activity is listed in WAC 173-401-533 and is considered insignificant if its size or production rate based on maximum rated capacity is below the specified level.
- d. The emission unit or activity generates only fugitive emissions (as defined in WAC 173-400-030(31)), which are subject to no applicable requirement other than generally applicable requirements of the state implementation plan.

[WAC 173-401-530(1)]

Premier Industries Inc. does not have to certify that these emission units are in compliance with the generally applicable requirements listed in Section I.A of this permit. [WAC 173-401-530(2)(d)].

Premier Industries Inc's application listed the EPS Cutting Lines and the Electric-Computerized Shape Cutter as insignificant emission units because there were "no quantifiable emissions associated with this equipment." These devices use electricity to heat wires that melt the foam placed in their paths. These wires are not hot enough to burn or combust the foam so emissions from the melting of the plastic resin is insignificant. However, the Categorically Exempt Insignificant Emission unit under WAC 173-401-532(28) for plastic molding and shaping specifically excludes polystyrene products. Therefore the EPS Cutting Lines and the Electric Computerized Shape Cutter are listed instead with the tables in Section I and are not insignificant emission units.

Public Comments and Responses

The only response during the public comment period was from the source. They realized that if they accelerated compliance with the schedule for reducing the use of high pentane containing beads that they would get into trouble if the technology for the increased use of low pentane beads did not keep up.

The original Order of Approval of January 2001 stated in the third condition:

“Where high, mid, and low pentane containing expandable beads are defined as 6.5%, 4.5% and 3.5% pentane by weight in the bead, Premier Industries Inc shall limit high and mid level bead use on a calendar year basis under the following schedule:

- a) During calendar year 2001 no greater than 40% of foam output shall use high pentane beads and no greater than 30% of foam output shall use mid pentane beads, and;
- b) By January 1, 2003 use of high pentane beads shall not exceed 30% of foam output, and;
- c) By February 1, 2005 use of high pentane beads shall not exceed 20% of foam output, and;
- d) By February 1, 2007 use of high pentane beads shall not exceed 5% of foam output.”

Which would have resulted in the data contained in the following table:

Previous NOC 7953 Conditions		Year	2002	2003	2004	2005	2006	2007
Insulfoam Limits	High		40%	30%	30%	20%	20%	5%
Insulfoam Limits	Mid		30%	30%	30%	30%	30%	30%
Resulting Insulfoam Usage	Low		30%	40%	40%	50%	50%	65%
Total Insulfoam Annual Emissions (tons)			198	186	186	173	173	153

Since the original Order of Approval was written Premier Industries was able to reduce much more of their production away from high pentane containing beads due to improvements in mid-pentane bead technology. However, there has not yet been a corresponding rapid improvement in the low pentane bead technology. This shifted more production into mid-pentane containing beads with a corresponding decrease in emissions. However, the resulting % production using mid-pentane beads exceeds the 30% imposed in the original order. To avoid violating the terms of the original order Premier Industries would be forced back to using a higher pentane bead. To avoid penalizing Premier Industries for exceeding the schedule for reducing the use of high

pentane bead and to insure that emissions do not exceed the amounts possible under the original schedule, the permit conditions were modified to maintain the high-pentane bead limits and to add max allowable annual emission limits in tons equal to what they would be if the original conditions were in effect:

Effects of Modification to NOC 7953 Conditions							
	Year	2002	2003	2004	2005	2006	2007
Insulfoam Limits	High	40%	30%	30%	20%	20%	5%
Total Insulfoam Annual Emissions (tons)		198	186	186	173	173	153

This gives Premier Industries the flexibility in the early years to do better than the requirements of the above table by using less than scheduled maximum percentages of high pentane bead. To meet the annual emission limits of the table Premier Industries will still have to increase the usage of low pentane containing bead to 65% or more of production by 2007.

A new Order of Approval was issued on June 10, 2002 with the third permit condition altered as follows:

3. Where high pentane containing expandable beads are defined as 6.5% pentane by weight in the bead, Premier Industries Inc. shall limit high pentane bead use, on a calendar year basis, at Premier Insulfoam under the following schedule:

(a) During calendar year 2002 Use of high pentane beads shall not exceed 40% of foam output, and annual calendar year emission of pentane from Premier Insulfoam production shall not exceed 198 tons, and;

(b) During calendar years 2003 and 2004 use of high pentane beads shall not exceed 30% of foam output, and annual calendar year emission of pentane from Premier Insulfoam production shall not exceed 186 tons, and;

(c) During calendar years 2005 and 2006 use of high pentane beads shall not exceed 20% of foam output, and annual calendar year emission of pentane from Premier Insulfoam production shall not exceed 173 tons, and;

(d) During and after calendar year 2007 use of high pentane beads shall not exceed 5% of foam output, and annual calendar year emission of pentane from Premier Insulfoam production shall not exceed 153 tons.

On June 6, 2002 the Title V operating permit was altered to reflect this change.