



WASHINGTON STATE  
DEPARTMENT OF  
**E C O L O G Y**

Concise Explanatory Statement  
Adoption of Amendments,  
Chapter 173-434,  
Washington Administrative Code,  
Solid Waste Incinerators

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# 1) Identify the agency's reasons for adopting the rule

## 1)a) Section By Section Analysis

### WAC SECTIONS

- 173-434-010 Purpose.
- 173-434-020 Applicability.
- 173-434-030 Definitions.
- 173-434-050 New source review (NSR).
- 173-434-070 Prevention of significant deterioration (PSD).
- 173-434-090 Operation and maintenance plan.
- 173-434-100 Requirement for BACT.
- 173-434-110 Standards of performance.
- 173-434-120 Emission standards for hazardous air pollutants.
- 173-434-130 Emission standards.
- 173-434-160 Design and operation.
- 173-434-170 Monitoring and reporting.
- 173-434-190 Changes in operation.
- 173-434-200 Emission inventory.
- 173-434-210 Special studies.

### General

The rulings of the Pollution Control Hearings Board #02-020, Tacoma v. Ecology, stand. These rule amendments are not intended to alter that decision of the PCHB. If these amendments affect any of the subject matter of that case, they may be deemed to implement the case, not alter it.

### **WAC 173-434-010 Purpose.**

This section is not amended.

### **WAC 173-434-020 Applicability.**

The phrase "solid waste derived fuel" is deleted. This change is intended to have no net affect on the meaning of the rule. This section is the only place that the phrase "solid waste derived fuel" is used in the rule. The definition of solid waste is amended to include that phrase, so its deletion will have no effect on applicability.

The phrase "solid waste" is removed from the first sentence and added to each of the two subsections. This is intended to have no net affect on the meaning of the rule. Removing the phrase "solid waste" from the first sentence does not change the meaning of this section because the phrase is added to subsections (1) and (2), and because the definition of incineration facility already uses the phrase. This is intended to clarify that the 12 tons/day threshold applies to solid waste, not to all fuels. For example, cement kilns may burn hundreds of tons/day of fuel, but little if any of it qualifies as solid waste under the definition.

The word "was" is changed to "were". This change is intended to have no net affect on the meaning of the rule. This is a grammatical change.

A new subsection (2) is added to summarize the alternate compliance schemes. This explanation is intended as an overview of provisions in the amendments and not as the driving rule provision itself.

**WAC 173-434-030 Definitions.**

**WAC 173-434-030(1), definition of "incinerator facility."**

This change is intended to have no net affect on the meaning of the rule.

The words "principle or" are added in the phrase "whose activities are principle or ancillary to the incineration of solid waste." This makes explicit that activities may be either principle or ancillary to the incineration. This is a clarification to make express that which is already implicit, based on how this section is actually implemented. For example, the phrase "incinerator facility" in chapter 434 includes that which meets the definition of "combustor unit" in 40 CFR, part 60, subpart Eb.

The meaning of the word "ancillary" is elaborated. This is not a change, just an express statement of longstanding practice. "Ancillary" refers not only to the primary or subsidiary purpose of the facility, or unit at the facility, to incinerate solid waste, but also to particular activities and units within the facility that support, contribute to, or carry out the incineration of solid waste.

The rulings of the Pollution Control Hearings Board #02-020, Tacoma v. Ecology, stand. One ruling in that case was that "in WAC 173-434 the phrase 'incinerator facility' broadens the regulatory scope to include units whose burning of solid waste may be only 'ancillary' to its primary purpose."

**WAC 173-434-030(3), definition of "solid waste."**

WAC 173-434-030(3), first sentence. The phrase "solid waste derived fuel" is added to the laundry list of materials that constitute solid waste to expressly state that which is already the practice. This compliments the deletion of that phrase from the applicability section, so the deletion would have no effect. Note that refuse derived fuel, RDF, would be a type of solid waste derived fuel. This addition complements the deletion in the applicability section, WAC 173-434-020. This change is intended to have no net affect on the meaning of the rule.

WAC 173-434-030(3), first sentence. The wording in the first sentence is rearranged. This change is intended to have no net affect on the meaning of the rule.

WAC 173-434-030(3), second sentence. The word “liquid” no longer appears in this sentence. This does not, however, narrow the scope of the definition because liquids are specifically included in the federal rule definitions that are now referenced by the amendments.

WAC 173-434-030(3), second sentence. EPA subparts are referenced in the second sentence. The sentence restates that which is already true. Municipal solid waste (MSW in subparts Cb, Ea, Eb, AAAA, and BBBB) and commercial and industrial solid waste (CISW in subparts CCCC and DDDD), are already included in the broadly inclusive chapter 434 definition of "solid waste." Expressly stating this fact is intended to clarify the overlapping or coinciding applicability of the many regulations. An inclusion in chapter 434 would override an exclusion in an EPA subpart. An exclusion in chapter 434 would override an inclusion in an EPA subpart. The broad definition of solid waste in WAC 173-434 already includes the materials included in the definitions in the EPA subparts (except sludge and wood waste). The cross reference to the EPA subparts is intended as clarification, rather than a limitation to the definition. This change is expected to have no net affect on the meaning of the rule. See Appendix 2.

- The MSW definition of Cb, Ea, & Eb is the same. The MSW definition of AAAA & BBBB is the same but differs from the Cb/Ea/Eb definition in that it does not include (3) Motor vehicle maintenance materials limited to vehicle batteries and tires except in 60.50b(g) as a household, commercial/retail, and institutional waste. Subpart Eb includes as MSW "motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in §60.50b(g)," while subpart AAAA excludes from MSW "motor vehicles (including motor vehicle parts or vehicle fluff)." The definition of solid waste in WAC 173-434 has included, and will continue to include "abandoned vehicles or parts thereof," which covers "motor vehicle maintenance materials limited to batteries and tires," as well as "motor vehicles (including motor vehicle parts or vehicle fluff)."
- The Commercial and Industrial Waste (CIW) definition of subparts CCCC & DDDD differs from Cb/Ea/Eb and AAAA/BBBB, in that CCCC/DDDD includes sludge from waste water, whereas the 434 definition of solid waste specifically exempts sludge from waste water. The definition of solid waste in WAC 173-434 has excluded, and will continue to exclude sludge from waste water treatment. This is explicit in the "notwithstanding the above" wording of the definition of solid waste in chapter 434.
- The statement in 434 that the definition of solid waste "includes all materials that fit the definitions" of CISW in subparts CCCC and DDDD does not mean that materials not defined as CISW are excluded from the 434 definition of solid waste. I.e., lack of inclusion in one phrase does not mean exclusion from the whole paragraph. The cross reference to the EPA subparts is intended as clarification, rather than a limitation to the definition. Ecology simply intends to fold CCCC and DDDD facilities into this more stringent rule.
- Ecology added the exclusion of creosote treated wood as a solid waste, provided that such wood has not been in or adjacent to marine or brackish water. The federal definition of MSW in subparts Cb/Ea/Eb exclude demolition wastes (i.e., railroad ties and telephone poles), but isn't as broad as “creosote treated wood.”

Ecology does not need to attempt to resolve EPA's various definitional discrepancies. The differences between EPA's definitions are not important to 434 if it is understood that the definition of solid waste in 434 has included, and would continue to include all the materials (with the four exceptions). The 434 definition of solid waste would only be narrowed by the creosote treated wood and cement plant provisions.

WAC 173-434-030(3)(a). Certain creosote-treated wood is excluded from the definition of "solid waste." This would keep creosote-treated wood from being included in the amount of solid waste that would trigger applicability of chapter 434. To be so excluded however, the exempted wood must be "fresh," not salty. For example, marine pilings and drift wood are saturated with salt water, and as such are prime candidates to produce white plumes of condensed NaCl and generate HCl, dioxins, and furans. Note that this definition does not permit or forbid the burning of specific items; it merely colors the applicability of chapter 434.

WAC 173-434-030(3)(b). A narrow exception for specific items introduced into cement plant kilns is added to the definition of "solid waste." This exception at cement plants is in recognition of preserving the *de facto status quo*. The two cement plants in Washington are not currently permitted under chapter 434, and they question the applicability of 434 to the industry. This exception would allow cement plants to continue established operations without triggering applicability of chapter 434. Only if a cement plant expands the substances incinerated to that which meets the new definition of solid waste could the applicability of chapter 434 be triggered.

**WAC 173-434-030(4), definition of "transmissometer."**

The reference to the federal regulation is updated to the most current printed version of the Code of Federal Regulation.

**WAC 173-434-050, New Source Review (NSR).**

This section is deleted because it does not add to or change rules that already exist in other chapters. This makes it redundant. Deleting this section would not change any requirements. This change is intended to have no net affect on the meaning of the rule.

**WAC 173-434-050, Prevention of Significant Deterioration (PSD).**

This section is deleted because it does not add to or change rules that already exist in other chapters. This makes it redundant. Deleting this section would not change any requirements. This change is intended to have no net affect on the meaning of the rule.

**WAC 173-434-090, Operation and maintenance plan.**

This section is not changed. However, a facility that becomes subject to the requirements of the federal rule in 40 CFR. part 60, subpart Eb, would not be subject to this section.

**WAC 173-434-100, requirement for BACT.**

This section is deleted because it does not add to or change rules that already exist in other chapters. This makes it redundant. Deleting this section would not change any requirements. This change is intended to have no net effect on the meaning of the rule.

**WAC 173-434-110, Standards of performance.**

WAC 173-434-110(1). The old subsection (1) is deleted because it does not add to or change rules that already exist in other chapters. This makes it redundant. Deleting this subsection would not change any requirements. This change is intended to have no net effect on the meaning of the rule. WAC 173-400-115 continues to incorporate by reference federal standards of performance for new sources. Subpart Eb is incorporated by reference in its unaltered form in WAC 173-400-115. Any facility directly subject to Eb, as opposed to being made subject through these chapter 434 amendments, would be subject to the dates in Eb. Ecology does not intend the amendments to 434 to trump the direct applicability of Eb.

Emission Standards for Combustion and Incineration Units, WAC 173-400-050, remains in effect. WAC 173-400-050(4) corresponds to 40 CFR 60, subpart DDDD, existing CISWI. WAC 173-400-050(5) corresponds to 40 CFR 60, subpart BBBB, existing small MWCU. Both of these would stay in effect. Affected sources would be regulated by them and by 434, though we do not know of any such affected sources in the state.

WAC 173-434-110(1). Under the amendments, a facility may be subject to the requirements of 40 CFR, part 60, subpart Eb, in three ways;

1. by way of 40 CFR, part 60, subpart Eb, itself,
2. by way of WAC 173-400-115, which incorporates the federal new source performance standards, including subpart Eb, into the WAC by reference, and
3. by way of WAC 173-434-110, which incorporates subpart Eb into the WAC by reference, but extends the applicability criteria to coincide with those of chapter 434.

The first two ways already exist without the amendments. Any facility subject to Eb by either of these first two ways is inherently subject to Eb by the third way, because the applicability through WAC 173-400-115 and in subpart Eb itself are subsets of the extended applicability in 434. Subsection 110(2) is where the applicability criteria of subpart Eb are altered to coincide with the existing applicability criteria of chapter 434.

WAC 173-434-110(1)(a) and (b). The incorporation of subpart Eb by reference is bifurcated. This two-part splitting of the rule allows EPA to incorporate into the SIP all the rest of 434 except for those specified sections that they do not want in the SIP. The net effect is no different than had Eb been incorporated in total. This is simply an editorial trick to facilitate SIP incorporation.

WAC 173-434-110(2)(a). The threshold of 250 tons/day is adjusted downward to 12 tons/day throughout 40 CFR part 60, subpart Eb, including, sections 60.50b(a) & (b) (general applicability), 60.56b (air curtain incinerators), and 60.59b(a) & (b) (reporting & recordkeeping). This reduces the effective applicability threshold of subpart Eb in Washington from 250 tons/day down to 12 tons. Since the chapter 434 threshold has been, and remains, 12 tons/day, this does not alter the applicability criteria of chapter 434.



WAC 173-434-110(2)(b). The phrases "municipal solid waste," "municipal type solid waste," and "MSW" in subpart Eb are adjusted to include all materials that fit the definition of solid waste in chapter 434. This has the effect of extending the applicability of subpart Eb in Washington from just MSW to solid waste. This does not extend the reach of chapter 434 itself however, which broadly defines "solid waste," already covering that which is "MSW."

WAC 173-434-110(2)(c). The federal rule, 40 CFR, part 60, subpart Eb, excludes from its applicability a list of certain types of facilities. The incorporation in WAC 173-434-110 retains most of these exclusions. By not incorporating §60.50b(j), section 110 makes one type of facility prospectively subject to Eb. Since chapter 434 does not presently exclude this type of facility from its applicability, this does not alter the applicability criteria of chapter 434. This excludes one of the exclusions of subpart Eb, effectively extending the prospective applicability of Eb to (j) 30% municipal solid waste cofire. Such facilities, if any, that already exist, may continue to be exempt from WAC 173-434-110, and continue to be subject to chapter 434, until December 1 of 2003, the approximate date when these rule amendments are to be adopted. For example, facilities such as cement plants or the Tacoma Steam Plant are not intended to become subject to this amendment due to construction/reconstruction/modification before the rule is written. Note that although a facility may be subject to the rule as of December 1, the effective date of the rule is months later.

WAC 173-434-110(2)(d). The November 20, 1997, dates in subpart Eb, subsection 60.52b(c), are changed to November 20, 2005. An affected facility under subpart Eb that commenced modification up to November 20, 1997, must comply with an initial dioxin-furan standard of 30 ng/dscm. Such a facility must have complied with the 30 ng/dscm dioxin-furan standard for three years, after which it must have complied with a 13 ng/dscm standard. Facilities modified after November 20, 1997, must have complied with the 13 ng/dscm standard immediately. That provision allowed those sources in the process of modification time to develop strategies for complying with the 13 ng/dscm standard. The chapter 434 rule amendments use a date consistent with the step down scenario of subpart Eb. EPA allowed sources up to 23 months after the promulgation date of subpart Eb (December 19, 1995) to comply with the dioxin standard step down. Therefore, the date in this subsection should be about 23 months after the date chapter 434 amendments are to be promulgated, which would be about November 20, 2005. The facility affected by the chapter 434 amendments would use this time to install equipment and develop techniques to meet the stepped down standard. Note that any facility directly subject to subpart Eb, as opposed to being made subject through these chapter 434 amendments, would be subject to the dates in Eb.

WAC 173-434-110(3). Except for WAC 173-434-130(4)(c), all of WAC 173-434-090, -130, -160, -170, -190, and -200 shall not apply to an incinerator facility subject to this section.

WAC 173-434-110(3)(a). Any facility subject to subpart Eb by way of the altered applicability criteria in the incorporation of subpart Eb into section 110 by reference would be exempted from most of chapter 434. Note that any facility directly subject to subpart Eb, would necessarily be subject to these chapter 434 amendments, and likewise exempted from most of chapter 434.

WAC 173-434-110(3)(b). This "opt in" provision would allow a facility that is not or may not be subject to subpart Eb to subject itself to Eb in exchange for becoming relieved of most of chapter 434.

WAC 173-434-110(4). The effective date of this section shall be June 1, 2004. If this rule is adopted about December 1, 2003, this will give facilities about 5 months to meet the particular requirements of subpart Eb.

It is difficult to incorporate by reference a New Source Performance Standard (NSPS) for an existing facility because of the dates that are tied to startup, commencement of construction and commencement of operation that are applicable throughout 40 CFR 60, Subpart Eb & Subpart A. The amendments would not alter the meaning of "startup" or "commencement" in subpart Eb. As a result, an existing applicable facility would be subject to the rule immediately upon its effective date. Such a facility would be either in or out of compliance as of that date, not before. This would not impact the facilities that Ecology knows would be affected by the amendments. Nonetheless, so as not to ensnare other facilities that we are not aware of, the applicability date of the amendments is being delayed. Ecology has added a sentence delaying the effective date of the amendments to section 110 for about six months to allow affected facilities to either cease applicable behavior or to become compliant.

**WAC 173-434-120, Emission standards for hazardous air pollutants.**

This section is deleted because it does not add to or change rules that already exist in other chapters. This makes it redundant. Deleting this section would not change any requirements. This change is intended to have no net affect on the meaning of the rule.

**WAC 173-434-130 Emission standards.**

"When more than fifty percent of the heat input is fossil fuel, ecology or the authority may establish a higher sulfur dioxide limit provided that limit meets BACT requirements."  
EPA declared that it would delete this sentence from the SIP, so Ecology is deleting it from the state rule. See 40 CFR 52.2476.

**WAC 173-434-160 Design and operation.**

This section is lightly reordered and renumbered. These are structural, not substantive changes intended to make the rule look more like how it is applied by grouping related subject matter. This change is intended to have no net affect on the meaning of the rule.

**WAC 173-434-170(1)(b) Monitoring and reporting.**

Appendix F should have been included here all along, given the relevance of quality assurance/control.

**WAC 173-434-170(1)(b) Monitoring and reporting.**

The reference to the federal regulation is updated to the most current printed version of the Code of Federal Regulation.

**WAC 173-434-170(1)(c) Monitoring and reporting.**

Appendix F may be revised to include opacity monitors, at which time this subparagraph (c) could be unnecessary, and this opacity monitoring provision could be merged back into subparagraph (b).

**WAC 173-434-190 Changes in operation.**

This section is renumbered. These are structural, not substantive changes. This change is intended to have no net affect on the meaning of the rule.

**WAC 173-434-200 Emission inventory.**

The phrase "as requested by Ecology or the authority or as required by federal emissions reporting requirements" is added to the end of WAC 173-434-200 as follows.

"The owner or operator of any solid waste incinerator shall submit an inventory of emissions that complies with WAC 173-400-105. The inventory shall include but may not be limited to stack and fugitive emissions of particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, hydrogen chloride, and other contaminants as requested by Ecology or the authority or as required by federal emissions reporting requirements."

This is a clarification to make express that which is already implicit, based on how this section is actually implemented.

**WAC 173-434-210 Special studies.**

This section is not amended.

**1)b) What are some the effects of the amendments**

Ecology has amended WAC 173-434, Solid Waste Incinerator Facilities. The amendments tighten the controls over incineration of solid waste, including MSW (municipal solid waste), other than creosote-treated wood. The amendments prospectively tighten controls for incinerators from existing WAC 170-434 to those of the EPA's most stringent waste incinerator rules, 40 CFR 60 subpart Eb. The state rule would extend the applicability of the federal rule to a wider range of facilities. Invoking and extending subpart Eb should be construed as a tightening of chapter 434. The amendments would no longer include creosote-treated wood in the amount of solid waste that would trigger the applicability of WAC 170-434. The amendments would recognize the *de facto status quo* of incineration practices at cement plants.

**How do the amendments affect the applicability of chapter 434?**

The applicability of chapter 434 is slightly reduced by two narrow exceptions to the definition of "solid waste." The applicability of chapter 343 is probably not broadened by the cross references to certain EPA categories of waste that would be added to the chapter 434 definition of "solid waste".

- The burning of creosote-treated wood, such as railroad ties, would not count towards the twelve tons/day threshold that is an applicability criterion for chapter 434. This is

provided that the creosote-treated wood is not salty, as are marine pilings, bulkheads or creosote-treated wood washed up on beaches. This is also provided that the burning is subject of a permit issued after the amendments are adopted. Of course, a solid waste that contains creosote-treated wood is not excepted from the definition of “solid waste” simply by that content.

- Certain materials incinerated at a Portland cement plant kiln would not count towards the twelve tons/day threshold that is an applicability criterion for chapter 434. These materials are tires and nonhazardous waste oil.
- Certain categories of waste defined in EPA regulations are expressly included in the definition of "solid waste" in chapter 434. These are "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB, as well as "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD. Since "solid waste" in chapter 434 is already defined so broadly, this is not understood to expand the applicability of chapter 434.

## **How do the amendments affect the applicability of subpart Eb?**

Where WAC 173-434-110 incorporates subpart Eb by reference, it does so in such a way that some of the applicability criteria of subpart Eb are broadened to coincide with those of chapter 434.

1. The applicability dates in Eb would not be affected.
2. The size threshold would be lowered from 250 tons to 12 tons per day of MSW.
3. The definition of MSW in Eb would be broadened to include solid waste, as defined in chapter 434.
4. One of the exceptions to the applicability of Eb would have no effect.

1) The threshold dates in the applicability section of Eb would remain unaffected. (Note that, as described elsewhere, the dioxin step down date would be changed for facilities under the 250 ton/day threshold of Eb.)

2) Chapter 434 does not apply to facilities that incinerate less than 12 tons/day of solid waste. The threshold of Eb in Washington would thus be affectively lowered from 250 to 12 tons.

3) Chapter 434 applies to solid waste incinerators. Solid waste includes municipal solid waste, and more. Subpart Eb would be broadened to cover the combustion of more variations of waste. (Note that, as described elsewhere, excluding creosote-treated wood from the definition of solid waste in 434 would not alter the reach of Eb, since Eb itself excludes railroad ties and telephone poles.)

4) Several types of facilities are not subject to Eb by application of a list of exceptions in 40 CFR 60.50b. The amendments exclude one of the exclusions of Eb, extending the effective applicability of Eb to 60.50b(j) 30% MSW cofire (e.g., the TSP).

This applicability is not retroactive, applying only to facilities constructed, reconstructed, or modified after the approximate adoption date of these amendments. It is prospective.

### **What facilities do the amendments affect?**

1. Facilities for which "construction commenced after September 20, 1994, or for which modification or reconstruction commenced after June 19, 1996."
2. Facilities subject to the 1990 version of chapter 434.
3. Facilities burning creosote-treated wood.
4. Portland cement plants.
5. Facilities burning more than 12 tons/day of solid waste.

1) EPA provides three subparts in its rules for large MSW combustors, 40 CFR, part 60, subparts Cb, Ea, and Eb. The subpart Eb dates provide for facilities for which "construction commenced after September 20, 1994, or for which modification or reconstruction commenced after June 19, 1996." The applicability date thresholds in subpart Eb follow upon the expiration of the applicability dates of subparts Cb and Ea. Any facility that meets the subpart Eb dates may be subject to the portion of amended chapter 434 that refers to subpart Eb. Any other facility may be subject to the remainder of chapter 434. The dates do not exclude the Spokane waste to energy plant, and possibly the Tacoma Steam Plant.

2) Every facility subject to the 1990 version of chapter 434 would be affected.

3) Any facility incinerating of creosote-treated wood would be affected. Kimberly-Clark, Everett, is the principle, if not the only, facility affected by this provision.

4) There are two cement plants in Washington, both in Seattle. They are Ash Grove and LaFarge. Portland cement plants often incinerate solid waste as "replacement fuel."

5) There are two MSW combustors in Washington that are permitted to burn more than 12 tons per day of MSW and subject to chapter 434, the Tacoma Steam Plant and the Spokane waste to energy plant.

### **How do the amendments affect facilities?**

1. Tacoma Steam Plant
2. Kimberly-Clark
3. Spokane incinerator
4. Ash Grove and LaFarge cement plants

We know of only five facilities that the amendments may affect.

1) The TSP (Tacoma Steam Plant) has heretofore been operating as an electric utility steam generating unit under 40 CFR, part 60, subpart Da. In 2002, the Pollution Control Hearing

Board held the TSP to be subject to chapter 434. The inherent nature of the TSP combustion chambers renders it impossible for the TSP to burn MSW in compliance with the time and temperature requirements of WAC 173-434-160 while also meeting emission limits. The amendments do not change the existing permission of the TSP to burn a fuel mix containing up to 30% MSW. The amendments would tighten the allowable emission standards of facilities that opt into the subpart Eb compliance scheme. The TSP can not economically operate without burning solid waste. These amendments allow the TSP to operate, as a practical matter. The TSP may need permission to burn other forms of solid waste, such as roofing tear-off, to operate economically. Even if it does not come under subpart Eb by way of the amendments, the TSP has expressed its intention of "opting in" to subpart Eb so that it can avoid the operating constraints of chapter 434.

2) Ecology granted K-C a variance allowing it to burn more than 12 tons/day of railroad ties without becoming subject to WAC 173-434. These amendments would not affect the burning that K-C has been engaged in since about early 2000, but would render variances unnecessary. Without the creosote amendment, K-C would have to either burn less than 12 tons/day, obtain continued variances, or comply with 434.

The history of the Kimberly-Clark facility demonstrates that creosote-treated wood can be burned under rules other than chapter 434 without environmental detriment. This is documented in materials to be submitted to EPA in response to its requirement for a "relaxation analysis." These materials describe how state and federal laws provide environmental protections redundant to those of WAC 173-434. The memo also presents emission test data showing that burning creosote-treated wood did not significantly increase emissions. The SO<sub>2</sub> emissions were noted to be within the normal emission range for the boiler, which is subject to other more significant sources of variation. The SO<sub>2</sub> emissions were determined to be manageable below permitted emission limits of existing regulatory order number DE 98-AQI018. The information even indicates that the offsetting of other fuels by railroad ties reduces SO<sub>2</sub> emissions due to the higher energy content of the ties.

A facility subject to 434 due to the burning of creosote-treated wood would no longer be subject on that basis. Facilities that burn creosote-treated wood would not be drawn into the rule by that burning. Such facilities presently either restrain themselves from burning more than 12 tons/day, or they operate under a variance allowing more than 12 tons/day.

3) The Spokane waste to energy plant has heretofore been operating as an electric utility steam generating unit under 40 CFR 60 subpart Cb. Subpart Cb is a less stringent variation of Eb affecting older facilities. The Spokane incinerator is also subject to chapter 434. It may choose to opt in to regulation under subpart Eb requirements to avoid the substantive requirements of chapter 434. The amendments do not change the existing permission of Spokane to burn MSW. The amendments would tighten the allowable emission standards of facilities that opt into the subpart Eb compliance scheme.

4) There are two cement plants in the state. Although incineration of tires and waste oil has been permitted, compliance with chapter 434 has not been achieved. Thus, the *de facto status*

*quo* would be retained, but expansion would be subject to regulation under chapter 434. Use of raw materials such as ash, slag, and gypsum is not addressed by the amendments.

## **How do the amendments tighten emission limits?**

Under the subpart Eb compliance regime, one emission limit in 434 would remain the same, the rest would be tightened, and several would be added. The standards would be set by reference to subpart Eb.

1. Chapter 434 has a PM standard of 46 or 67 mg/dscm, depending on the amount of solid waste burned, while Eb has a standard of 24 mg/dscm.
2. Chapter 434 has three opacity standards. The 10% standard, as measured by transmissometer, is as in Eb, though Eb does not specify transmissometer. The 5% limit is an artifact of trying to account for visual observations made with EPA's method 9, but will be retained, not superceded by the subpart Eb incorporation. The 0% limit for other than the incinerator stack seems to be a fugitive dust standard.
3. Chapter 434 has no cadmium standard, while Eb has a cadmium standard of 0.020 mg/dscm.
4. Chapter 434 has no lead standard, while Eb has a lead standard of 20 mg/dscm.
5. Chapter 434 has no mercury standard, while Eb has a mercury standard of 0.080 mg/dscm or 15% of potential.
6. Chapter 434 has an SO<sub>2</sub> standard of 50 ppmv or 20% of potential, while Eb has a standard of 30 ppmv or 20% of uncontrolled.
7. Chapter 434 has an HCl standard of 50 ppmv or 20% of potential, while Eb has a standard of 25 ppmv or 5% of uncontrolled.
8. Chapter 434 has no dioxin standard, while Eb has a dioxin standard of 30 then 13 ng/dscm.
9. Chapter 434 has no NO<sub>x</sub> standard, while Eb has a NO<sub>x</sub> standard of 180 then 150 mg/dscm.
10. Chapter 434 has no CO standard, while Eb has a cadmium standard of 50, 100, or 150 ppm, depending on combustor type.

Table 1a: Comparison of emission limits		
	40 CFR, part 60, subpart Eb	WAC 173-434
PM	not applicable	67 mg/dscm (<250 ton/dy SW)
PM	24 mg/dscm (>250 ton MSW)	46 mg/dscm (>250 ton/dy SW)
opacity (6 min.)	10%	10% (transmissometer)
opacity	-	5% (visual)
opacity	-	0% (visual, other than incinerator stack)
cadmium	0.020 mg/dscm	no limit
lead	0.20 mg/dscm	no limit
mercury	0.080 mg/dscm or 15% of potential	no limit
SO2 (7% O2)	30 ppmv (daily) or 20% of potential (daily)	50 ppmv (1 hr) or 20% of uncontrolled
HCl (7% O2)	25 ppm or 5% of potential	50 ppm or 20% of uncontrolled
dioxin	30 then 13 ng/dscm	no limit
NOx	180 1 <sup>st</sup> yr then 150 ppm	no limit
CO	50, 100, or 150 ppm, depending on combustor type	no limit

Comparison of emission limits on cement plants is not as straightforward as the above. In lieu of chapter 434, the standards would be set by reference to the remaining most stringent limit on the emission, which may come from permits or local, state, and federal rules.

Table 1b: Comparison of emission limits		
	LaFarge	WAC 173-434
PM	0.05gr/dscf (no O2 correction) Regulation I Section 9.09	67 mg/dscm (<250 ton/dy SW)
PM	0.05gr/dscf (no O2 correction) Regulation I Section 9.09	46 mg/dscm (>250 ton/dy SW)
opacity (6 min.)	12 % Hourly Average NOC 5183 Condition #4	10% (transmissometer)
opacity		5% (visual)
opacity		0% (visual, other than incinerator stack)
cadmium		no limit
lead		no limit
mercury		no limit
SO2 (7% O2)	1000 ppm WAC 173-400	50 ppmv (1 hr) or 20% of uncontrolled
HCl (7% O2)	100 ppm @ 7% O2 1-hour average Regulation I Section 9.10(a)	50 ppm or 20% of uncontrolled
dioxin		no limit
NOx		no limit
CO		no limit



Table 1c: Comparison of emission limits		
	Ash Grove	WAC 173-434
PM	10.6 lb/hr NOC 7381 Condition #5(d)	67 mg/desm (<250 ton/dy SW)
PM	10.6 lb/hr NOC 7381 Condition #5(d)	46 mg/desm (>250 ton/dy SW)
opacity (6 min.)	6 % Average 40 CFR 60.62(c)	10% (transmissometer)
opacity	5 % Hourly Average Regulation I Section 9.04(c)(1)	5% (visual)
opacity		0% (visual, other than incinerator stack)
cadmium		no limit
lead		no limit
mercury		no limit
SO <sub>2</sub> (7% O <sub>2</sub> )	180 ppm @ 10% O <sub>2</sub> 1-hour average NOC 7381 Condition #5©	50 ppmv (1 hr) or 20% of uncontrolled
HCl (7% O <sub>2</sub> )	100 ppm @ 7% O <sub>2</sub> 1-hour average Regulation I Section 9.10(a)	50 ppm or 20% of uncontrolled
dioxin		no limit
NO <sub>x</sub>		no limit
CO		no limit

### What sections do the amendments affect?

Once Eb is invoked by 434 for certain facilities, its provisions would apply in place of six specific sections of 434. The subject matter of those six section of 434 would be superseded by provisions in Eb that require more detailed planning, accountability, proficiency, oversight, and testing. The following table lays out the comparable sections side by side. Table 2 correlates the analogous sections in the state and federal rules.

Table 2: Comparison of sections affected	
WAC 173-434	Subpart Eb, 40 CFR 60.50a, <i>et seq.</i>
-090 Operation and maintenance plan.	.54b Standard for municipal waste combustor operator training and certification.
-130 Emission standards.	.52b Standard for municipal waste combustor metals, acid gases, organics, and nitrogen oxides. .55b Standard for municipal waste combustor fugitive ash emissions. .56b Standards for air curtain incinerators.
-160 Design and operation.	.53a Standard for municipal waste combustor operating practices. .57b Siting requirements.
-170 Monitoring and reporting.	.58b(b), <i>et seq.</i> Compliance and performance testing. .59b(d), <i>et seq.</i> Reporting and recordkeeping requirements.
-190 Changes in operation. (SSB&U)	.58b(a) Compliance and performance testing. (SS&M)
-200 Emission inventory.	.59b(d), <i>et seq.</i> Reporting and recordkeeping requirements.

### What other rules may the amendments affect?

- 1) Federal rules are implicated by reference to them in the definition of “solid waste.”
  - a) 40 CFR part 60, subpart Cb (Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994)
  - b) 40 CFR part 60, subpart Ea (Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After December 20, 1989 and on or Before September 20, 1994)
  - c) 40 CFR part 60, subpart Eb (Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996)
  - d) 40 CFR part 60, subpart AAAA (Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001)
  - e) 40 CFR part 60, subpart BBBB (Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999)
  - f) 40 CFR part 60, subpart CCCC (Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced After June 1, 2001)
  - g) 40 CFR part 60, subpart DDDD (Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999)

2) State rules

- a) WAC 173-400-050(4) Commercial and industrial solid waste incinerators
- b) WAC 173-400-050(5) Small municipal waste combustion units
- c) WAC 173-400-115 Standards of performance for new sources
  - i) Subpart Ea
  - ii) Subpart Eb
  - iii) Subpart AAAA
  - iv) Subpart CCCC

1.a.) Facilities subject to subpart Cb would not be affected by the amendments.

1.b.) Facilities subject to subpart Ea would not be affected by the amendments.

1.c.) The effective applicability of subpart Eb is extended by the amendments, which is described elsewhere in this document.

1.d.) Facilities subject to AAAA could be subject to subpart Eb under the terms of WAC 173-434-110(2). This is because the definitions of "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.e.) Facilities subject to BBBB that commenced construction after September 20, 1994, could be subject to subpart Eb under the terms of WAC 173-434-110(2). This is because the definitions of "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.f.) Facilities subject to CCCC with the capacity of 12 tons or more per day of CISW could be subject to subpart Eb under the terms of WAC 173-434-110(2). This is because the definitions of "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD, are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.g.) Facilities subject to DDDD with the capacity of 12 tons or more per day of CISW, that commenced construction after September 20, 1994, could be subject to subpart Eb under the terms of WAC 173-434-110(2). This is because the definitions of "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD, are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

2.a.) See 1.g. above, upon which WAC 173-400-050(4) is based.

2.b.) See 1.e. above, upon which WAC 173-400-050(5) is based.

2.c.i.) See 1.b. above.

2.c.ii.) See 1.c. above.

2.c.iii.) See 1.d. above.

2.c.iv.) See 1.f. above.

## **2) Describe the difference between text of the proposed rule as published in the register and text of the rule as adopted, other than editing changes, stating the reasons for the differences**

As a result of public comment and additional internal review the final rule has been revised from the version published as the proposed rule. Those revisions are discussed below. Only sections where a revision was made are included here. Text differences are indicated by a vertical line in the margin. The complete final text of the amendments is provided in appendix 1.

### **2)a) Text changed from proposed**

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-020 Applicability.** (1) The provisions of this chapter shall apply statewide to all ~~((solid waste or solid waste derived fuel))~~ incinerator facilities that:

~~(1)(a)~~ Are constructed after January 1, 1985, which are designed to burn twelve or more tons per day of solid waste; or

~~(2)(b)~~ ~~((Was))~~ Were constructed prior to January 1, 1985, but begin~~((s))~~ to burn twelve or more tons per day of solid waste after January 1, 1985.

(2) This chapter subjects solid waste incinerator facilities to either a primary compliance scheme or an alternate compliance scheme. The requirements for the primary compliance scheme are contained in WAC 173-434-090, -130, -160, -170, -190, -200, and -210. The requirements for the alternate compliance scheme are contained in WAC 173-434-110. The alternate compliance scheme applies to solid waste incinerator facilities that meet the criteria specified in WAC 173-434-110 and to solid waste incinerator facilities that opt in to the alternate compliance scheme pursuant to WAC 173-434-110(3)(b). The primary compliance scheme applies to all other solid waste incinerator facilities.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-030 Definitions.**

\* \* \*

(3) "Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, ~~((and)) discarded commodities~~~~((. This includes all liquid, solid and semisolid))~~, septage from septic tanks, dangerous waste, refuse derived fuel, solid waste derived fuel, problem wastes, and all materials~~((r))~~ which are not primary products of public, private, industrial, commercial, mining, and agricultural operations. ~~((Solid waste includes but is not limited to septage from septic tanks, dangerous waste, and problem wastes.))~~ This definition includes, but is not limited to, all materials that fit the definitions of municipal solid waste in 40 CFR 60, subparts Cb, Ea, Eb, AAAA, or BBBB, as well as all materials that fit the definitions of commercial and industrial solid waste in 40 CFR 60, subparts CCCC or DDDD, in effect on July 1, 20023. Notwithstanding the above, solid waste does not include:

(a) Creosote treated wood at facilities with an order of approval or Prevention of Significant Deterioration (PSD) permit issued on or after AugustDecember 1, 2003, for burning such wood, provided that such wood has not been in or repeatedly splashed by marine or brackish water;

(b) At a Portland cement plant kiln;

(i) Tires; and

(ii) Waste oil that is non-hazardous as defined in WAC 173-303-515, Standards for the management of used oil;

~~—(i) Tires; and~~

~~—(ii) Beneficial industrial by-products consumed as raw materials, such as bottom ash, slag, and gypsum board;~~

(c) Wood waste; or

(d) Sludge from waste water treatment plants.

(4) "Transmissometer" means a device that measures opacity and conforms to EPA Performance Specification Number 1 in Title 40 Code of Federal Regulations, Part 60, Appendix B ~~((as promulgated prior to July 1, 1988))~~ in effect on July 1, 20023.

**WAC 173-434-110 Standards of performance.** ~~((Sources and emissions units to which this chapter is applicable, shall comply with any applicable provisions of WAC 173-400-115 "Standards of performance for new sources."))~~ (1) Notwithstanding WAC 173-400-115, the following sections of 40 CFR part 60, subpart Eb, in effect on July 1, 20023, are hereby

incorporated by reference with the exceptions in subsection 110(2):

(a) 40 CFR part 60, subpart Eb, subsections 60.52b(a)(3), (a)(5), (b)(2), (c)(1), and (c)(2);

(b) All the rest of 40 CFR part 60, subpart Eb.

(2) Exceptions.

(a) The 250 tons per day figures throughout 40 CFR part 60, subpart Eb shall be 12 tons per day;

(b) The terms "municipal solid waste," "municipal type solid waste," and "MSW" in subpart Eb shall include all materials that fit the definition of solid waste in this chapter;

(c) 40 CFR part 60, subpart Eb, subsections 60.50b(i), (j), and (p) shall not be incorporated by reference with respect to facilities constructed, reconstructed or modified after AugustDecember 1, 2003;

~~(d) In 40 CFR part 60, subpart Eb, subsection 60.51b, the sentence of the definition of municipal waste combustor unit that excludes "cement kilns firing municipal solid waste (as specified in 60.50b(p))" shall be revised to read "municipal waste combustors do not include cement kilns firing less than 12 tons per day of solid waste (as defined in WAC 173-434-030)"; and~~

~~(ed)~~ The November 20, 1997, dates in subsection 60.52b(c) are changed to JuneNovember 20, 2005.

(3) Except for WAC 173-434-130 (4)(c), the following sections, WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190, and 173-434-200, shall not apply to:

(a) An incinerator facility regulated under this section; and

(b) An incinerator facility that elects to become subject to this section in an order of approval or other regulatory order from the permitting agency.

(4) The effective date of this section shall be JanuaryMay 1, 2004.

#### **WAC 173-434-170 Monitoring and reporting.**

\* \* \*

(1) Monitoring.

\* \* \*

(b) The monitors for (~~opacity,~~) sulfur dioxide, carbon monoxide, and oxygen shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B (~~as promulgated prior to~~) and Appendix F respectively, in effect on July 1, (~~1989~~) 20023.

(c) The monitor for opacity shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B in

effect on July 1, 200~~2~~3, and EPA-340/1-86-010, Recommended  
Quality Assurance Procedure for Opacity Continuous Emission  
Monitoring Systems.

\* \* \*

## **2)b) WAC Sections**

173-434-020 Applicability and compliance.

Discussion: Text is added to explain the general framework of the amendments. This text does not change the meaning of the amendments.

173-434-030 Definitions.

Discussion: Dates are updated to account for delays in the rule making process. The exclusion of certain materials at cement plants from the definition of “solid waste” is clarified.

173-434-050 New source review (NSR).

unchanged

173-434-070 Prevention of significant deterioration (PSD).

unchanged

173-434-090 Operation and maintenance plan.

unchanged

173-434-100 Requirement for BACT.

unchanged

173-434-110 Standards of performance.

Discussion:

- Dates are updated to account for delays in the rule making process.
- In subsection (2), the applicability of subpart Eb to cement plants (p) and metal recovery facilities (i) are no longer specifically modified. Prospective application of subpart Eb is not automatically triggered for such facilities.
- Words are added to subsection (3) to clarify the listing of sections.

173-434-120 Emission standards for hazardous air pollutants.

unchanged

173-434-130 Emission standards.

unchanged

173-434-160 Design and operation.

unchanged

173-434-170 Monitoring and reporting.

Discussion: Delays are updated to account for delays in the rule making process.

173-434-190 Changes in operation.  
unchanged

173-434-200 Emission inventory.  
unchanged

173-434-210 Special studies.  
unchanged

**3) Summarize all comments received regarding the proposed rule, and respond to the comments by category or subject, matter, indicating how the final rule reflects agency consideration of the comments, or why it fails to do so**

See Appendix 3, Responsiveness Summary.



**Appendix 1, Text of amendments to chapter 173-434 of the  
Washington Administrative Code (OTS-6450.5)**

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-020 Applicability and compliance.** (1) The provisions of this chapter shall apply statewide to all (~~solid waste or solid waste derived fuel~~) incinerator facilities that:

~~((1))~~ (a) Are constructed after January 1, 1985, which are designed to burn twelve or more tons per day of solid waste; or

~~((2) Was)~~ (b) Were constructed prior to January 1, 1985, but begin(~~s~~) to burn twelve or more tons per day of solid waste after January 1, 1985.

(2) This chapter subjects solid waste incinerator facilities to either a primary compliance scheme or an alternate compliance scheme. The requirements for the primary compliance scheme are contained in WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190, 173-434-200, and 173-434-210. The requirements for the alternate compliance scheme are contained in WAC 173-434-110. The alternate compliance scheme applies to solid waste incinerator facilities that meet the criteria specified in WAC 173-434-110 and to solid waste incinerator facilities that opt in to the alternate compliance scheme pursuant to WAC 173-434-110 (3)(b). The primary compliance scheme applies to all other solid waste incinerator facilities.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-030 Definitions.** The definitions of terms contained in chapter 173-400 WAC are incorporated by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings.

(1) "Incinerator facility" means all of the emissions unit(s), including quantifiable fugitive emissions, which are located in one or more contiguous or adjacent properties, and are under the control of the same person(s), whose activities are principal or ancillary to the incineration of solid waste. Ancillary activities include, but are not limited to, solid waste receiving, segregating and processing, solid waste derived fuel receiving and handling, fuel storage and mixing, heat recovery equipment, steam generating equipment, cooling towers, emissions control equipment, ash handling, ash storage, and combustion.

(2) "Residence time" means the minimum amount of time that a

parcel of gas is subject to a given temperature.

(3) "Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, ~~((and))~~ discarded commodities ~~((This includes all liquid, solid and semisolid))~~, septage from septic tanks, dangerous waste, refuse derived fuel, solid waste derived fuel, problem wastes, and all materials ~~((7))~~ which are not primary products of public, private, industrial, commercial, mining, and agricultural operations. ~~((Solid waste includes but is not limited to septage from septic tanks, dangerous waste, and problem wastes.))~~ This definition includes, but is not limited to, all materials that fit the definitions of municipal solid waste in 40 CFR 60, subparts Cb, Ea, Eb, AAAA, or BBBB, as well as all materials that fit the definitions of commercial and industrial solid waste in 40 CFR 60, subparts CCCC or DDDD, in effect on July 1, 2003. Notwithstanding the above, solid waste does not include:

(a) Creosote treated wood at facilities with an order of approval or Prevention of Significant Deterioration (PSD) permit issued on or after December 1, 2003, for burning such wood, provided that such wood has not been in or repeatedly splashed by marine or brackish water;

(b) At a Portland cement plant kiln;

(i) Tires; and

(ii) Waste oil that is nonhazardous as defined by WAC 173-303-515, Standards for the management of used oil;

(c) Wood waste; or

(d) Sludge from waste water treatment plants.

(4) "Transmissometer" means a device that measures opacity and conforms to EPA Performance Specification Number 1 in Title 40 Code of Federal Regulations, Part 60, Appendix B ~~((as promulgated prior to July 1, 1988))~~ in effect on July 1, 2003.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-110 Standards of performance.** ~~((Sources and emissions units to which this chapter is applicable, shall comply with any applicable provisions of WAC 173-400-115 "Standards of performance for new sources."))~~ (1) Notwithstanding WAC 173-400-115, the following sections of 40 CFR part 60, subpart Eb, in effect on July 1, 2003, are hereby incorporated by reference with the exceptions in subsection 110(2):

(a) 40 CFR part 60, subpart Eb, subsections 60.52b(a)(3), (a)(5), (b)(2), (c)(1), and (c)(2);

(b) All the rest of 40 CFR part 60, subpart Eb.

(2) Exceptions.

(a) The 250 tons per day figures throughout 40 CFR part 60, subpart Eb shall be 12 tons per day;

(b) The terms "municipal solid waste," "municipal type solid waste," and "MSW" in subpart Eb shall include all materials that fit the definition of solid waste in this chapter;

(c) 40 CFR part 60, subpart Eb, subsection 60.50b(j) shall not be incorporated by reference with respect to facilities constructed, reconstructed or modified after December 1, 2003;

(d) The November 20, 1997, dates in subsection 60.52b(c) are changed to November 20, 2005.

(3) Except for WAC 173-434-130 (4)(c), the following sections, WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190 and 173-434-200 shall not apply to:

(a) An incinerator facility regulated under this section; and

(b) An incinerator facility that elects to become subject to this section in an order of approval or other regulatory order from the permitting agency.

(4) The effective date of this section shall be May 1, 2004.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-130 Emission standards.** In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; no incinerator facility shall cause or permit air contaminant emissions in excess of the limits listed below. Specific emission standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

(1) Particulate.

(a) For incinerator facilities that are capable of burning two hundred fifty or more tons of solid waste per day, emissions from each stack shall not exceed 0.046 grams of particulate per dry cubic meter at standards conditions (0.020 grains/dscf) corrected to seven percent oxygen for an hourly average.

(b) For incinerator facilities that have a maximum capability of burning less than two hundred fifty tons of solid waste per day, emissions from each stack shall not exceed 0.069 grams of particulate per dry cubic meter at standards conditions (0.030 grains/dscf) corrected to seven percent oxygen for an hourly average.

(2) Hydrogen chloride. The hydrogen chloride emissions from each stack shall not exceed fifty ppm on a volumetric dry basis corrected to seven percent oxygen for an hourly average, except if the owner or operator demonstrates that uncontrolled emissions of hydrogen chloride are reduced by at least eighty percent and a procedure acceptable to ecology or the authority for monitoring is developed.

(3) Sulfur dioxide. The sulfur dioxide emissions from each stack shall not exceed fifty ppm on a volumetric dry basis corrected to seven percent oxygen for an hourly average, except if the owner or operator demonstrates that the uncontrolled emissions of sulfur dioxide are reduced by at least eighty percent and a procedure acceptable to ecology or the authority for monitoring is developed. (~~(When more than fifty percent of the heat input is fossil fuel, ecology or the authority may establish a higher sulfur dioxide limit provided that limit meets BACT requirements.)~~)

(4) Opacity.

(a) The opacity as measured visually from any incinerator stack shall not exceed an average of five percent opacity for more than six consecutive minutes in any sixty minute period.

(b) The opacity as measured by a transmissometer shall not exceed an average of ten percent opacity for more than six consecutive minutes in any sixty minute period.

(c) The opacity as measured visually shall not exceed an average of zero percent from any emissions unit except incinerator stacks for more than six consecutive minutes in any sixty minute period.

(5) Fugitive emissions. Each operator or owner shall take reasonable precautions to prevent fugitive emissions which includes the paving of all normally traveled roadways within the plant boundary and enclosing or hooding material transfer points.

(6) Source testing. To demonstrate compliance with this chapter, refer to WAC 173-400-105.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-160 Design and operation.** (1) Combustion.

(a) Combustion zone temperature. Whenever solid waste is being burned, the temperature of the final combustion zone shall not be below 982°C (1800°F) for a fifteen minute average nor below 871°C (1600°F) for any reading.

~~((2))~~ (b) Combustion zone residence time. The minimum combustion chamber temperature must be maintained for at least one second (1.0 second) in a zone after the last over fire air has entered the combustion chamber. If over fire air is not used, the combustion chamber shall maintain the minimum combustion temperature or greater for at least one second with all combustion gases. Procedures for determining the residence time shall be a part of the new source review.

~~((3))~~ (c) Excess air. The combustion gases leaving the final combustion zone must contain at least three percent oxygen measured on a wet basis.

~~((4))~~ (d) Combustion air distribution and control. The air distribution shall be fully controllable where pressurized air is

introduced and the air flow shall be monitored and recorded.

(2) Combustion air. To minimize odor, fugitive emissions and to maintain a negative pressure in the tipping area, the combustion air shall be withdrawn from the tipping area, or shall utilize an equivalent means of odor and fugitive emission control acceptable to ecology or the authority.

~~((5) Combustion air distribution and control. The air distribution shall be fully controllable where pressurized air is introduced and the air flow shall be monitored and recorded.~~

~~(6))~~ (3) Particulate control device temperature. The inlet temperature of the primary particulate control device shall not exceed 177°C (350°F).

~~((7))~~ (4) Operation. At all times, the owner or operator shall, to the extent practicable, maintain and operate any incinerator facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice. This may mean that if the emissions limits are being exceeded, no more waste should be fed into the incinerator until the problem is corrected. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to ecology or the authority which may include, but is not limited to, monitoring and recording results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-170 Monitoring and reporting.** The owners or operators of each incinerator facility shall conduct routine monitoring of emissions in accordance with a program that has been approved by ecology or the authority. The program must contain quality control and quality assurance procedures.

(1) Monitoring.

(a) The owners or operators shall install, operate, and maintain continuous monitors and recorders for the following:

~~((a))~~ (i) Opacity;

~~((b))~~ (ii) Combustion zone temperature;

~~((c))~~ (iii) Particulate control device temperature;

~~((d))~~ (iv) Hydrogen chloride and/or sulfur dioxide;

~~((e))~~ (v) Oxygen;

~~((f))~~ (vi) Carbon monoxide;

~~((g))~~ (vii) Combustion air distribution.

(b) The monitors for ~~((opacity,))~~ sulfur dioxide, carbon monoxide, and oxygen shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B ~~((as promulgated prior to))~~ and Appendix F respectively, in effect on

July 1, (~~1989~~) 2003.

(c) The monitor for opacity shall comply with EPA performance specifications and quality assurance and control criteria in Title 40, Code of Federal Regulations, Part 60, Appendix B in effect on July 1, 2003, and EPA-340/1-86-010, Recommended Quality Assurance Procedure for Opacity Continuous Emission Monitoring Systems.

(2) Reporting. Results of the monitoring shall be reported within fifteen days of the end of each calendar month and shall include but may not be limited to data such as:

(a) The average daily maximum and the daily maximum concentration of each monitored pollutant and the daily amount of solid waste burned.

(b) The date, time, and magnitude of any periods during which the standards were exceeded, and what corrective action was or will be taken.

(c) Any period(s) of monitor down time.

(3) Testing. The owners or operators shall conduct emission tests for particulate, sulfur dioxide and hydrogen chloride on a regular basis. These tests may be used to determine acceptable operating parameters. Testing shall be at least annually for incinerator facilities capable of burning two hundred fifty tons or more of solid waste per day and biennially for other facilities.

(4) Other data. Each owner or operator shall furnish upon request by ecology or the authority, other data required to evaluate the incinerator's emissions or emissions control program.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-190 Changes in operation.** (1) If a startup, shutdown, breakdown, or upset condition occurs which could result in an emissions violation or a violation of an ambient air quality standard, the owner or operator of the source shall take the following actions as applicable:

~~((1))~~ (a) For a planned condition, such as a startup or shutdown, the condition shall be reported to ecology or the authority not less than twenty-four hours in advance of its occurrence. For incinerator facilities that normally operate for less than twenty-four hours per day, this provision may be waived provided that daily startup and shutdown procedures are developed that are acceptable to ecology or the authority.

~~((2))~~ (b) For unplanned conditions, such as a breakdown or upset, the condition shall be reported to ecology or the authority as soon as possible, but no later than the end of the next business day.

(2) If, upon reviewing the available information, ecology or the authority determines that continued operation of any emissions unit is likely to cause a significant risk to the public, it may

order an immediate shutdown of the emissions unit.

(3) Upon request ecology or the authority, the owner or operator of the source shall submit a full written report including known causes of any infraction, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

(4) Compliance with the requirement of WAC 173-434-100(~~7~~) does not relieve the owner or operator of the source from the responsibility to maintain continuous compliance with all the requirements of chapter 173-434 WAC nor from the resulting liabilities for failure to comply.

AMENDATORY SECTION (Amending Order 90-10, filed 9/17/90, effective 10/18/90)

**WAC 173-434-200 Emission inventory.** The owner or operator of any solid waste incinerator shall submit an inventory of emissions that complies with WAC 173-400-105. The inventory shall include but may not be limited to stack and fugitive emissions of particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, hydrogen chloride, and other contaminants as requested by ecology or the authority or as required by federal emissions reporting requirements.

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 173-434-050	New source review (NSR).
WAC 173-434-070	Prevention of significant deterioration (PSD).
WAC 173-434-100	Requirement for BACT.
WAC 173-434-120	Emission standards for hazardous air pollutants.



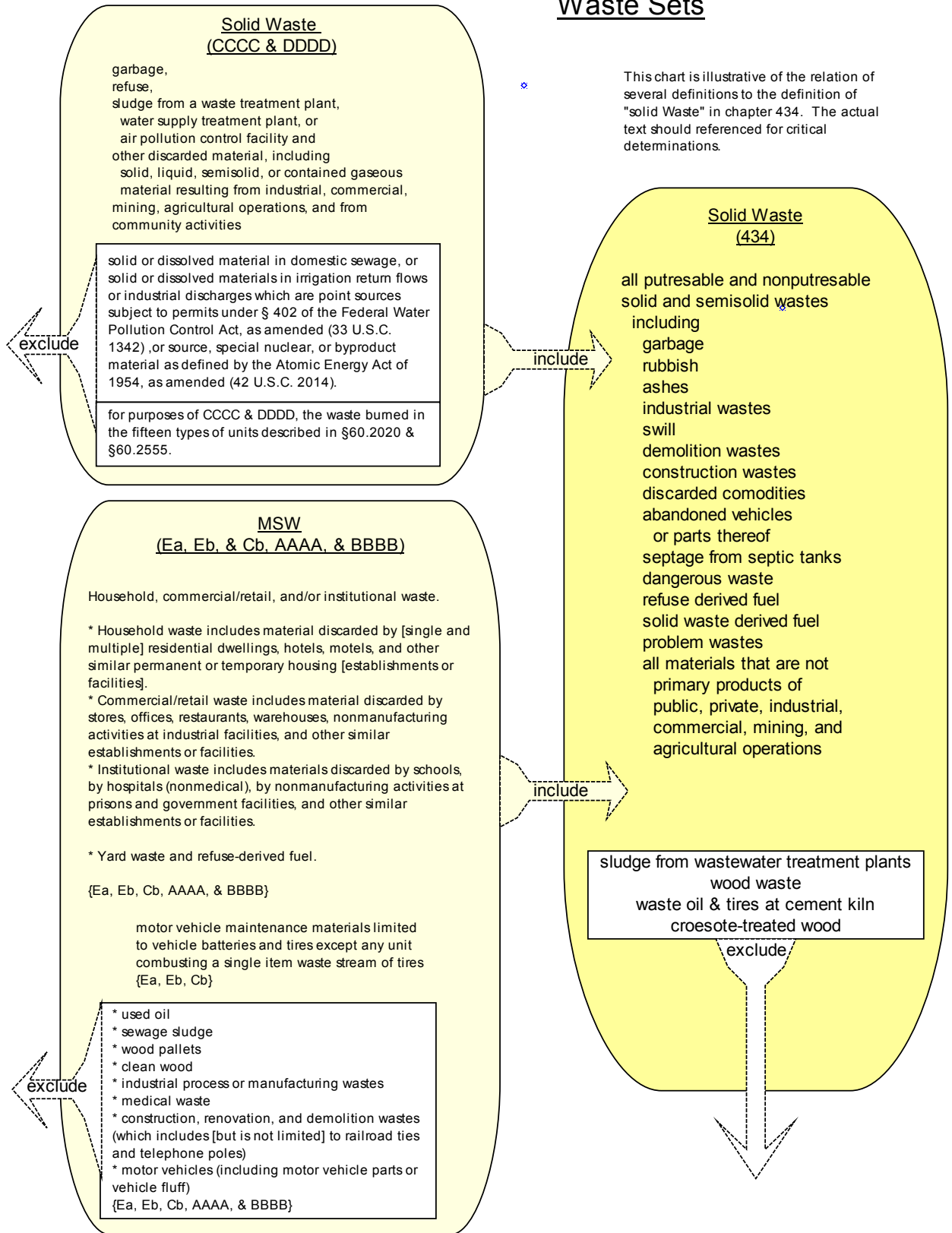
## Appendix 2, Waste Definitions

40 CFR Part 60 Subpart CCCC (2003)	40 CFR Part 60 Subpart DDDD (2003)
Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001.	Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999.
<p><b>§ 60.2265 What definitions must I know?</b>  <i>Commercial and industrial waste</i> means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.</p>	<p><b>§ 60.2875 What definitions must I know?</b>  <i>Commercial and industrial waste</i> means . . . .            * * *</p> <p>[Same as CCCC]</p> <p>* * *</p>
<p><b>§ 60.2265 What definitions must I know?</b>  <i>Solid waste</i> means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).            For purposes of this subpart and 40 CFR part 60, subpart DDDD, only, solid waste does not include the waste burned in the fifteen types of units described in § 60.2020.</p>	<p><b>§ 60.2875 What definitions must I know?</b>  <i>Solid waste</i> means . . . .            * * *</p> <p>[Same as CCCC]</p> <p>* * *</p> <p>For purposes of this subpart and subpart CCCC, only, solid waste does not include the waste burned in the fifteen types of units described in § 60.2555.</p>

40 CFR Part 60 Subpart Ea (2003)	40 CFR Part 60 Subpart Eb (2003)	40 CFR Part 60 Subpart AAAA (2003)
Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After December 20, 1989 and on or Before September 20, 1994.	Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996.	Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001.
<p><b>§ 60.51a Definitions.</b>  <i>Municipal solid waste or municipal-type solid waste or MSW</i> means . . . .</p> <p>* * *</p> <p>[Same as Eb]</p> <p>* * *</p> <p>(3) Motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in § 60.50a(c).</p>	<p><b>§ 60.51b Definitions.</b>  <i>Municipal solid waste or municipal-type solid waste or MSW</i> means household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities.  Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities.  Institutional waste includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities.  Household, commercial/retail, and institutional waste does <u>not</u> include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).  Household, commercial/retail, and institutional wastes <u>include</u>:  (1) Yard waste;  (2) Refuse-derived fuel; and  (3) Motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in § 60.50b(g).</p>	<p><b>§ 60.1465 What definitions must I know?</b>  <i>Municipal solid waste or municipal-type solid waste</i> means household, commercial/retail, or institutional waste.  Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing.  Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities.  Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities.  * Household, commercial/retail, and institutional waste does <u>not</u> include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).  * Household, commercial/retail, and institutional waste <u>does</u> include yard waste and refuse- derived fuel.</p>
<p><b>§ 60.50a(c).</b> Any unit combusting a single item waste stream of tires is not subject to this subpart if the owner or operator of the unit:  (1) Notifies the Administrator of an exemption claim; and  (2) Provides data documenting that the unit qualifies for this exemption.</p>	<p><b>§ 60.50b(g).</b> Any unit combusting a single item waste stream of tires is not subject to this subpart if the owner or operator of the unit:  (1) Notifies the EPA Administrator of an exemption claim; and  (2) [Reserved]  (3) Provides data documenting that the unit qualifies for this exemption.</p>	
<p>40 CFR Part 60 Subpart Cb (2003) Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That are Constructed on or Before September 20, 1994. <b>§ 60.31b Definitions.</b> Terms used but not defined in this subpart have the meaning given them in the Clean Air Act and subparts A, B, and Eb of this part.</p>		
<p>40 CFR Part 60 Subpart BBBB (2003) Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999. <b>§ 60.2265 What definitions must I know?</b> <i>Municipal solid waste or municipal-type solid waste</i> [Same as AAAA]</p>		

# Waste Sets

This chart is illustrative of the relation of several definitions to the definition of "solid Waste" in chapter 434. The actual text should be referenced for critical determinations.



## **Appendix 3, Responsiveness Summary**

# Comments and Responses

## Proposed Amendments to WAC 173-434 Solid Waste Incinerators Filed with the Code Reviser's Office June 13, 2003

This is a compilation of comments received during the comment period ending August 12 on proposed amendments to WAC 173-434. The comments are ordered alphabetically by the surname of the comment submitter. Lengthy submittals are subdivided.

Prepared by Steve Cross  
Environmental Planner  
Air Quality Program  
Washington Department of Ecology

## Introduction

Over one hundred comments were received by almost as many commenters. The comments are presented alphabetically by the name of the commenter. Some lengthy comments are subdivided into multiple comments.

## General

Optimal management of the byproduct and waste streams of our society is complex. We can not push on one side of the issue without causing a bulge on another side. For example, if we do not incinerate waste, then how do we manage it? If we do not burn certain materials, then what do we burn instead to satiate our huge demand for energy? Moreover, waste management is a multimedia problem going beyond air quality. The ultimate solution to waste is to not generate it in the first place by altering our patterns of consumption.

This rule is not a vehicle for addressing this ultimate issue. The decisions to build certain incinerators have already been made, as have decisions to burn specific substances at certain facilities. Every facility that seeks to burn a new material must obtain permission to do so from an air authority in a public process. This rule merely seeks to tighten the emission limits on solid waste incineration in Washington, not to realign the waste management priorities of Washington.

These amendments are more of an adjustment to chapter 434 than a major overhaul. The scope of the applicability of chapter 434 is modified, but not greatly expanded or contracted. The emission limits for facilities that hereafter become subject to chapter 434 are tightened by reference to EPA's subpart Eb. The emission limits for facilities that are already subject to chapter 434 are not changed, although such facilities may choose to upgrade to the subpart Eb limits. In addition, certain existing practices are recognized, and allowed to continue outside of chapter 434.

## WAC 173-434 Comment Responsiveness Summary

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Commenter(s): Dick Abrams  
Kimberly-Clark

Comment # 1

Comment

03/07/22

Transcript of rule Hearing Testimony, July 22, 2000.

I'm Dick Abrams, I'm the environmental manager up at Kimberly-Clark, and I'd just like to say very briefly, that I think burning railroad ties usually railroad ties and things of that nature is very good thing environmental. We are solving a solid waste problem, there are lot of firms that companies and even state agencies that are very eager to get rid of railroad ties, cause they don't know what to do with them and it's costing the public a lot of money to get rid of them. We get calls all the time for people that would like to get rid of these things and am wondering if they ship up if we can burn them. Just got a call this morning from Washington State Ferries the dock someplace, if they chip these things up or take them over to the Rebanco land field in Eastern Washington it's going to cost the citizen's a bundle and we can help everybody save money by doing that sort of thing. There is no emissions increases from us burning railroad ties. We did a extensive test burn when we first got in this business back in 1999. Department of Ecology had us measure that dioxin metals, just about anything you could think of. And we are one of the few sources in the state of Washington that's actually gone through all that testing. So we really know what we are emitting. Lot of people when they filled out there reports or looking at emission factors and don't really have a clue what they are putting out. But we know. And we know when we burn the creosote railroad ties as when we burn regular wood waste we had zero dioxin emission up the stack. No did we make the zero dioxin? No, whenever you have combustion, you make dioxin, but we have a state of the art boiler and we have the state of art bag ash where we collect this material. I think some of the boiler ash which goes then to the land fill where it belongs. So there is no impact to the air when burn railroad ties, just like this isn't any impact from that sort of material when we burn regular wood waste. I was just looking here, mercury on the test burn and actually the mercury went down, when you burn creosote. .00003 pounds down .00002, now I guess as a statistician I would say those were roughly equivalent, but the fact remains it did go down. That's pounds per hours, so pounds per year .2 to .1, this is not much material and the fact we are burning railroad ties has no impact on what we were in any case. Has no impact on the emissions. So we have - we are permitted very tightly and with this boiler, it's relatively new boiler that went in 1995. We get some of toughest emissions of any wood waste boiler in the state or in the country for that matter and when that boiler would in operation and whether or not we are burning wood waste or burning wood waste with a little creosote in the wood waste has no impact whatsoever on emissions and I think it's a good deal. I think it's a good deal for the people of the state, it's a good deal as far as multi-media use of the environmental resources. So, I'm hopefully that we will be able to continue to do that.

---

Response

See also the response to comment #2.

Whether to landfill or incinerate used railroad ties and other creosote-treated wood is a valid question. The dichotomy would be addressed by balancing landfill capabilities with air quality impacts. There would also be the environmental and social concerns.

K-C conducted a test burn when it asked the permitting authority to be allowed to burn rail road ties. Although the test burn failed to control the inclusion of sulfite waste water, the results were nonetheless indicated to the permitting authority the propriety of incinerating rail road ties at the facility. K-C proceeded to successfully burn rail road ties for a couple years. This amendment would allow it to continue without triggering the applicability of chapter 434.

The commenter notes an inquiry from the Washington State Ferries concerning disposing of a

## WAC 173-434 Comment Responsiveness Summary

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dock. The amendments clearly would not exempt creosote-treated pilings from the definition of "solid waste" because those pilings would necessarily be soaked with salt. Whether the superstructure and planking of the dock was repeatedly splashed by salt water or spray so as to have become unsuitable for incineration would have to be determined. Salt, sodium chloride, is a concern because the chlorine can combine with organic compounds under certain combustion conditions to form dioxins and furans.

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Commenter(s): Dick Abrams  
Kimberly-Clark

Comment # 2

03/08/12 9:04 AM

Comment

Kimberly-Clark (K-C) would like to supply comments concerning the proposed revision of WAC 173-434. K-C is supportive of the language in the proposed rule, and asks that it be expeditiously adopted as written.

The majority of this rule concerns incinerators and seems well crafted to meet their regulatory conundrum. However, K-C's specific concern is to retain the proposed exemption for creosoted wood provided in the definition of solid waste at 173-434-030(3).

As you are aware, K-C has put forth considerable time and expense to demonstrate that combusting creosoted wood in the Everett mill's wood waste boiler has no adverse environmental impact. That effort commenced in 1999 when a test burn of railroad ties was conducted; air modeling followed. More recently, it has included the preparation of a Relaxation Analysis (as requested by EPA) to demonstrate that sulfur dioxide emissions do not increase when wood containing creosote is added to the boiler's fuel mix. In order to continue burning creosoted wood after the rule is adopted, K-C will have to submit a revised Notice of Construction for the wood waste boiler. A draft of the NOC has already been prepared and sent to Ecology for preliminary review.

Commenters (submitting remarks at the very end of the original comment period) have opined that the types of fuels excluded by the solid waste definition in the 173-434 rule should be broadened, both for fuels utilized in wood waste boilers and for fuels consumed by cement kilns. While these thoughts may have merit, the logistics of rulemaking preclude adding "alternative fuels" as a carte blanche exception to the rule at this late date.

The rule needs to be adopted without delay so that the Tacoma Steam Plant can resume operation and so that K-C can continue to utilize rail ties in its fuel mix without interruption. Trying to reopen the rulemaking process to include studies of every conceivable fuel for wood waste boilers and cement plants is not timely at this point. That is logically the subject of a future rulemaking.

It is standard practice for wood waste boilers to burn gas or oil in conjunction with wood waste, and such fossil fuels are not considered solid waste. From comments on the proposed rule, it appears that cement kilns can also burn oil, including waste oil. Waste oil would seem to already be allowed under the language currently proposed, which includes for cement plants "beneficial industrial byproducts." While it would be reasonable to specify directly in the rule that waste oil combustion is allowed in kilns, it would seem that making the clarification that waste oil is a "beneficial industrial byproduct" in the "Response to Comments" would be sufficient to dispel any concerns from that industry.

It has also been pointed out that wood waste boilers burn a great variety of wood wastes. That is perfectly fine since wood waste is excluded from the incinerator rule. It is not productive to try and spell out every detail concerning what is or what is not wood waste in this rule; wood waste is properly defined in WAC 173-350. It was never the intent of the present rulemaking to open a debate as to what constitutes wood waste. A clarifying statement in the "Response to Comments" to the effect that "the



## WAC 173-434 Comment Responsiveness Summary

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current rule making is not meant to alter the variety of wood waste fuels currently burned in wood waste boilers" might be helpful in avoiding future issues of interpretation.

### Response

See also the response to comment #1. Also of interest may be the response to comment #62.

The comment points out that the Kimberly-Clark facility will submit a NOC for the burning of creosote-treated wood. This would trigger provisions of WAC 173-460, including toxic screening and BACT analysis.

The comment suggests that waste oil would seem to be a "beneficial industrial byproduct." This highlights the vagueness of the term "beneficial industrial byproducts." Also of interest may be the response to comment #114.

The comment explores the meaning of "wood waste." The definition of "wood waste" in WAC 173-350, Solid Waste Handling Standards, may or may not be useful in determining what "wood waste" means within the definition of "solid waste" in WAC 173-434. The response to comments on WAC 173-434 prepared for the original version of the rule states that "the definition of solid waste is the same as in the Solid Waste Regulation" and that "Ecology is trying to have consistent definitions in its regulations." The meaning of "wood waste" in chapter 434 is not defined. These amendments are not intended to modify current definitions of the term "wood waste."

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Commenter(s): Gordon Adams

Comment # 3

Robert McNeel & Associates

03/07/09 2:17 PM

### Comment

As a longtime member of Washington Toxics Coalition, I received the notice below.

I'm surprised that new exceptions to the rules (proposing changes to WAC 173-434) on these toxins are being contemplated.

I'm sure it's expensive for these jurisdictions to clean up their processes, but I hope Ecology won't be permitting outdated facilities and processes that we all thought were gone forever.

What's next? Shipping in more nuclear waste?

----- Original Message -----

From: "Kristina Logsdon" <klogsdon@watoxics.org>

To: <info@watoxics.org>

Sent: Wednesday, July 09, 2003 11:12 AM

Subject: Stop the Incineration of Toxics, Act Today

Tell the Department of Ecology to Ban Solid Waste Incineration Washington Toxics Coalition Action Alert 7/9/03

The Department of Ecology has proposed a rule that will allow expansion of solid waste incineration in Washington.

Solid waste incineration is obsolete, expensive technology that should be phased out, not encouraged!

Please do one or both of the following:

## WAC 173-434 Comment Responsiveness Summary

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Attend a public meeting on:

Tuesday, July 22, 2003

7:00 p.m.

Tacoma-Pierce County Health Department Auditorium

3629 South "D" Street

Tacoma, WA

Send comments to:

Steve Cross by mail at Department of Ecology, P.O. Box 47600, Olympia, WA 98504-7600; by fax to 360-407-7534; or by e-mail to [rulescomments@ecy.wa.gov](mailto:rulescomments@ecy.wa.gov). Visit [www.watoxics.org](http://www.watoxics.org) to send comments from our website. Comments are due by July 29, 2003.

Please see below for sample letter.

If you have questions, please contact Brandie Smith, Washington Toxics Coalition, 206-632-1545 ext. 18, [bsmith@watoxics.org](mailto:bsmith@watoxics.org).

Solid waste incineration should be stopped because:

. Nationally, the Environmental Protection Agency (EPA) has identified solid waste incinerators as among the top sources of dioxin emissions to air.

. The EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb.

. In 2001, Toxics Release Inventory data showed that the Tacoma Steam Plant released 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption.

. There are environmentally preferable alternatives to burning waste, such as recycling and re-use of products. Every effort should be made to use these alternatives rather than incinerate.

### Ecology Proposes Changes to Incinerator Rule

Ecology is proposing changes to WAC 173-434, the solid waste incinerator rule. The rule contradicts Ecology's policy to eliminate persistent toxic chemicals by allowing the continuation and expansion of solid waste incineration in Washington.

The rule will do the following:

. Allow a currently closed source of dioxin and mercury emissions, the Tacoma Steam Plant, to reopen. The Steam Plant has been closed since September 2001 because it cannot comply with the current requirements.

. The Spokane incinerator will be able to continue operations with the option of either complying with

## WAC 173-434 Comment Responsiveness Summary

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the proposed rule or operating under less stringent existing standards.

- . Allow the burning of creosote-treated wood at the Kimberly-Clark facility in Everett.
- . Allow cement kilns, such as Ash Grove and LaFarge, to continue burning tires and other wastes such as PCB contaminated oil.

The Department of Ecology has a program to eliminate persistent toxic chemicals including mercury, dioxin, and PCBs. Once these chemicals are released into the environment, they stay around for decades, in some cases forever. They build up in the food chain and eventually make their way into our bodies. Persistent toxic chemicals have been linked to a wide variety of human health impacts, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic damage.

The burning of wastes is a dangerous game. Polyvinyl chloride (PVC), one of the most widely used plastics in the world, is also one of the largest chlorine sources in municipal waste. When PVC is burned, dioxin and other persistent chemicals are emitted into the air. Similarly, mercury is emitted into the air when mercury products are incinerated.

We need you to tell the Department of Ecology to protect Washington's children by phasing out solid waste incinerators and the burning of wastes that result in persistent toxic pollution.

Sample Letter

Dear Mr. Cross,

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- . Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- . Phase out existing incinerators such as the Spokane incinerator.
- . Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Paul Allen

Comment # 4

Comment

03/07/25 3:10 PM

## WAC 173-434 Comment Responsiveness Summary

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The incidence of asthma and allergies has risen significantly in adolescent population. Air pollution with the increased toxins in the air we all breath is thought to be the primary cause of the increase. Incineration of waste materials adds significantly to airborne toxins.

Please use alternatives so that our air is cleaner and the North American population is healthier.

Nationally, the Environmental Protection Agency (EPA) has identified solid waste incinerators as among the top sources of dioxin emissions to air.

The EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb.

In 2001, Toxics Release Inventory data showed that the Tacoma Steam Plant released 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption.

There are environmentally preferable alternatives to burning waste, such as recycling and re-use of products. Every effort should be made to use these alternatives rather than incinerate.

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### Response

Please refer the response to comment #111.

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Commenter(s): Kim Antieau

Comment # 5

Comment

03/07/09 11:51 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I'm asking you to please stop this outdated obsolete technology. I have asthma, as well as multiple-chemical sensitivities. Every day I am impacted by the air I breathe in Washington state. I'm already at risk because every single day road crews are out spraying pesticides on the roadsides. I have to be careful everywhere I go, every place I drive to. Please protect our environment and our health!

I urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

1. Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
2. Phase out existing incinerators such as the Spokane incinerator.
3. Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #111.

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Commenter(s): Eldon Ball

Comment # 6

### Comment

03/07/11 4:48 PM

Solid waste incineration is obsolete, expensive technology that should be phased out, not encouraged!

Solid waste incineration should be stopped because:

Nationally, the Environmental Protection Agency (EPA) has identified solid waste incinerators as among the top sources of dioxin emissions to air.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1,000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen....

In 2001, Toxics Release Inventory data showed that the Tacoma Steam Plant released 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption.

... Phase out existing incinerators such as the Spokane incinerator.

... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

There are environmentally preferable alternatives to burning waste, such as recycling and reuse of products. Every effort should be made to use these alternatives rather than incinerate.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Eldon Ball

Comment # 7

### Comment

03/08/08 3:37 PM

Cement kilns should not be allowed to burn wastes, particularly in urban areas that suffer from poor air quality. Cement kilns should be required to burn the cleanest fuels available, such as natural gas, to run their operations.

The Department of Ecology has a program to eliminate persistent toxic chemicals including mercury, dioxin, and PCBs. Allowing industries to burn garbage contradicts this policy. Once persistent toxic chemicals are released into the environment, they stay around for decades, in some cases forever. They build up in the food chain and eventually make their way into our bodies.

In Seattle, there are two cement kilns that burn wastes that contribute to persistent toxic pollution despite the fact that the Duwamish River, a Superfund site currently undergoing cleanup, is contaminated with PCBs and mercury.

The burning of garbage exposes people to the devastating impacts of persistent toxic pollution. This type of pollution has been linked to a wide variety of human health impacts, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic damage.

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## WAC 173-434 Comment Responsiveness Summary

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Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thanks.

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### Response

Please refer the response to comment #112.

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Commenter(s): Tanya Barnett  
Earth Ministry

Comment # 8

03/07/21

### Comment

I am writing on behalf of Earth Ministry. Earth Ministry is a Seattle-based non-profit 501(c)(3), ecumenical, Christian organization with 782 members throughout Washington state. Earth Ministry seeks to draw attention to the spiritual and moral dimensions of environmental issues, especially as these issues affect some of the most vulnerable human and non-human populations.

Of great concern to us is the production and release of persistent toxic chemicals by solid waste incinerators. Persistent toxic chemicals, such as mercury and dioxin, can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1,000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington State to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Margaret Bartley

Comment # 9

03/07/10

### Comment

## WAC 173-434 Comment Responsiveness Summary

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I am writing to you because I was alerted by the Washington Toxics Coalition that you are considering rule changes that would greatly and adversely affect our health, and the health of future generations.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Margaret Bartley

Comment # 10

### Comment

03/08/07

I have been notified by the Washington Toxics Coalition that you are proposing a rule change to allow cement kilns to be exempt from some pollution limits.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Emily Becker

Comment # 11

## WAC 173-434 Comment Responsiveness Summary

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03/07/16

### Comment

We need to stop incinerating our trash - not build new incinerators!

Toxic chemicals such as mercury and dioxin are horrible for the health of communities. The EPA estimates that one out of every thousand people in the United States is at risk for developing cancer from dioxin, a primary pollutant from incinerator use.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Ban the burning of wastes that result in PVC , mercury, & PCB pollution.

Eliminating incineration is important to your health and mine. I urge you to take steps to protect our communities.

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### Response

Please refer the response to comment #111.

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Commenter(s): Catherine Benson

Comment # 12

03/07/12 7:49 PM

### Comment

We are writing to urge you to protect the health of our children and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state.

- \* Do not reopen the Tacoma Steam Plant and prohibit new sources of incineration.
- \* Destroy existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes producing persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.
- \* There are environmentally preferable alternatives to burning waste, such as recycling and re-use of products. Every effort should be made to use these alternatives rather than incinerate.

Thank you for considering these critical issues for our children and adults in Washington.

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### Response

Please refer the response to comment #111.

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Commenter(s): Julia Berg

Comment # 13

03/08/11 1:59 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.



## WAC 173-434 Comment Responsiveness Summary

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\* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil. Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Paul Boulay, Dianne Boulay

Comment # 14

03/08/08 10:57 AM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Arlene Brown

Comment # 15

03/08/08 7:15 PM

### Comment

Please do not let the cement kilns get away with murder with loose garbage burning rules. If you look at health studies near them, you know they are already a serious health threat that needs to be reduced, not encouraged.

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### Response

Please refer the response to comment #112.

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Commenter(s): Gerald Brown  
Ash Grove Cement Co.

Comment # 16

03/08/11

### Comment

I am writing on behalf of Ash Grove Cement Company to comment on the proposed amendments to WAC ch. 173-434. Ash Grove operates the largest cement manufacturing plant in Washington state on the Duwamish River in Seattle. We appreciate Ecology's initiative to exempt from the definition of "solid waste" tires and industrial by-products consumed as raw materials in a cement kiln. This amendment would enable Ash Grove to continue using the raw materials that it employs today. After

## WAC 173-434 Comment Responsiveness Summary

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Careful analysis of the proposed amendments, however, Ash Grove remains deeply concerned that they will frustrate environmentally beneficial recycling opportunities by subjecting cement kilns to “incinerator” requirements that no cement kiln can satisfy. Ash Grove requests that Ecology define the term “incinerator facility” to clearly exempt Portland cement kilns, following EPA’s lead in 40 CFR Part 60, Subpart Eb. Should Ecology reject this request, we urge Ecology to modify the technical demands of the proposed rule so that a cement company seeking to beneficially recycle solid waste has the ability to comply with WAC ch. 173-434.

\* \* \*

Ash Grove appreciates Ecology’s efforts to protect our ability to recover valuable raw materials and energy from other companies’ waste products.

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### Response

Please refer the response to comment ##17-22. Also of interest may be the responses to comments ## 39 & 112.

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Commenter(s): Gerald Brown

Comment # 17

Ash Grove Cement Co.

03/08/11

### Comment

A. Cement kilns are not like incinerators.

Cement kilns are large, inclined, rotating furnaces, with a diameter of 15 feet or more and a length of 150 to 600 feet. The cement kiln is lined with fire-brick, rotates about one to three revolutions per minute and is the world’s largest piece of moving industrial equipment. Raw materials (a finely ground mixture of limestone, clay or shale, iron ore and sand) are fed into the upper (cooler) end of the kiln. Fuels including coal, natural gas and some waste products are burned in the lower (hotter) end. As the raw materials move through the kiln a series of chemical reactions occur. The intense heat transforms raw materials into new compounds. At the lower end of the kiln the temperature in the combustion zone reaches 3000°F, materials in the kiln reach nearly 2700°F and become partially molten. They emerge from the kiln as a new substance: red-hot, marble-sized chunks called clinker.

Combustion gases in a cement kiln move up the incline of the kiln, counter to the downward flow of raw materials. The combustion gases contain suspended particulate (cement kiln dust) which is captured in the kiln’s particulate control device. The control device may be either an ESP or a baghouse. Ash Grove’s kiln vents to the atmosphere through a 189,000 acfm baghouse. All of the captured baghouse catch is recycled into the kiln as raw material. A tiny percentage of the particulate passes through the baghouse into the atmosphere.

Several features of the cement manufacturing process enable cement kilns to recycle waste materials with less environmental impact than other technologies. First, kilns subject fuels and raw materials to enormous heat, a high degree of turbulence, and long residence times, due to the large size of the kiln. In this environment greater than 99.99% of organic components by weight are destroyed. Some heavy metals from the raw materials and fuels recombine as part of the clinker and are locked into its crystalline structure to become an integral part of the cement. Other metals are incorporated into the cement kiln dust and returned to the kiln along with the raw materials. Since a large percentage of the raw material is powdered limestone, a cement kiln has the inherent characteristics of a dry absorbent scrubber. Kiln gases are “scrubbed” for SOx, HCl and other acid gases. Before they exit the stack, the scrubbed gases pass through the particulate control device.

The combustion characteristics of a kiln make it superior to an incinerator for thermal destruction of

## WAC 173-434 Comment Responsiveness Summary

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organic compounds. The maximum temperature of Ash Grove's kiln is over 3000°F, compared with 1800 to 2000°F for an incinerator. The average residence time for gases in a cement kiln is 8 to 12 seconds, compared with 1 to 3 seconds for an incinerator. The turbulence is much higher, due to the fact that the kiln rotates, and due to the high temperatures it achieves. Incinerators require control technologies to remove inorganic contaminants from flue gases. In a cement kiln inorganic constituents found in waste materials contain mineral components that actually improve the strength and quality of the clinker. For instance, Ash Grove recycles bottom ash from the Centralia coal plant to recover alumina, and slag from a zinc smelter to recover iron.

As a result of these features, cement kilns emit most toxic pollutants at much lower concentrations than incinerators. In a 2002 source test, Ash Grove's kiln emitted dioxins and furans at less than one percent of the limit set for incinerators by NSPS Subpart Eb. See discussion in Subsection B below. Mercury emissions are low because the concentrations of mercury found in the fuels and raw materials used in a cement kiln are low. Ash Grove recently sampled kiln feed, coal and tires for mercury. Assuming that every molecule of mercury found in these materials reaches the atmosphere, Ash Grove's kiln emits mercury at an average concentration of .011 mg/dscm. The Subpart Eb limit for incinerators is .08 mg/dscm. See 40 CFR 60.52b(a)(5). Other heavy metals are absorbed into clinker, as a result of which cement kiln emissions are orders of magnitude below the limits in Subpart Eb.

Another recycling advantage Ash Grove's cement kiln enjoys over incinerators is that it produces no solid waste. The organic combustion products are destroyed and the inorganic compounds either adsorb into the clinker or are captured in the baghouse and recycled to the kiln. By comparison incinerators produce large volumes of ash, which must be landfilled, and which can present its own environmental problems. Ash Grove recycles the minerals in the solid waste into portland cement and recovers the energy from waste fuels, conserving natural raw materials and fuels for future generations.

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### Response

Ash Grove has recently revised its lead and mercury release summary to the EPA. The single stack test that resulted in the original mercury figures was felt to be less accurate than a mass balance calculation which release of all the mercury compounds in the fuels. The revised release of mercury compounds was 39.95 pounds in 2001 and 43.8 pounds in 2002. The lead compounds release figure was revised because it was based on an assumption that all lead compounds in the fuels would be released. Unlike the volatile mercury, much of the semi-volatile lead becomes bound up in the cement plant product. The revised release of lead compounds was 86 pounds in 2001 and 86.1 pounds in 2002.

Ash Grove studies indicate that the mercury content of coal is 0.19 ppm and of tires is 0.13 ppm. This suggests that burning tires instead of coal results in lower mercury emissions. Of the 43.8 pounds of mercury released in 2002, 9.8 came from raw materials, 32.6 from coal, and 1.4 from tires. Incineration of certain solid waste can reduce emission of certain pollutants per unit of derived energy in comparison to certain fossil fuels.

The Pollution Control Hearings Board illuminated the question of whether cement kilns are incinerators in PCHB case # 02-020 City of Tacoma Dept. Public Works v. State of Wash. Dept. Ecology (June 14, 2002). The PCHB clarified the definition of "incinerator facility" as follows:

"Definition of 'Incinerator Facility'

"However, Appellants argue the TSP should not be considered an incinerator facility regulated by WAC 173-434. They assert this primarily for two reasons. First, they claim the TSP does not come within the meaning of the term 'incinerator facility' as defined in WAC 173-434-030.

## WAC 173-434 Comment Responsiveness Summary

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Secondly, they claim WAC 173-434 should be construed to regulate only those incinerators whose 'primary purpose' is the thermal destruction of solid waste per WAC 173-400-030. "The Board rejects both of these arguments. With regard to the argument based on the definition of the term 'incinerator facility,' the Board finds the definition of this term to be clear and unambiguous. Absent ambiguity, the legislative intent is determined from the language of the statute or regulation alone. Waste Management of Seattle, Inc., 123 Wash. 2d at 629. The Board sees no anomaly in the fact that in WAC 173-400 'incinerator' is defined in terms where the primary purpose of the burning unit is the combustion of solid waste, whereas in WAC 173-434 the term 'incinerator facility' broadens the regulatory scope to include units whose burning of solid waste may be only 'ancillary' to its primary purpose. Because the term 'incinerator facility' is clearly defined within the governing chapter, WAC 173-434, it is unnecessary to refer back to the general definitions contained in WAC 173-400." "The different purposes of these two regulations (WAC 173-400 and WAC 173-434) would not be well served if the term 'incinerator facility' did not have this distinct and separate meaning. And it is a basic rule of statutory and regulatory construction that one should assume each term of a regulation has a reasonable and independent meaning. Washington Econ. Dev. Fin. Auth v. Grimm, 119 Wn.2d 738, 746, 837 P.2d 606 (1992)."

The Dept. of Ecology does not intend to alter the PCHB decision by these amendments to chapter 434.

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Commenter(s): Gerald Brown

Comment # 18

Ash Grove Cement Co.

03/08/11

Comment

B. Existing rules tightly regulate criteria and toxic air pollutant emissions from Washington cement kilns.

Washington state currently supports two cement manufacturing plants, Ash Grove and Lafarge. Both are located in Seattle, and both are subject to EPA MACT standards, WAC ch. 173-460, Puget Sound Clean Air Agency toxics rules, and, in the event that either plant sought to manage dangerous waste, Ecology rules governing management of hazardous waste in boilers and industrial furnaces. These overlapping regulatory schemes set stringent controls on the emission by a cement plant of all pollutants regulated by WAC ch. 173-434.

MACT Standards -- EPA divided the Portland cement manufacturing source category into two classes for purposes of MACT regulation, based on whether the cement kiln combusts hazardous waste. 64 Fed.Reg. 52871 (Sept. 30, 1999). Plants that burn hazardous waste in their kilns are subject to the MACT standard for hazardous waste combustors, 40 CFR Part 63, Subpart EEE. Plants that do not burn hazardous waste are subject to the Portland Cement MACT standard, 40 CFR Part 63, Subpart LLL.

Ash Grove's Seattle plant is forbidden to use hazardous waste fuel. PSCAA Approval Order 5687 (1995) (copy enclosed). Nor does it have a potential to emit enough hazardous air pollutants (HAPs) to be a MACT "major source." Portland Cement MACT subjects all cement kilns to emission standards and monitoring requirements for dioxins/furans. Ash Grove is subject to the Subpart LLL D/F standards of 0.20 ng/dscm (raw mill on) and 0.40 ng/dscm (raw mill off). These limits are not directly comparable to the NSPS Subpart Eb standard of 13.0 ng/dscm, because the NSPS standard measures total D/F, whereas the Subpart LLL standard weights the relative toxicity of different D/F compounds. Compare 40 CFR 63.1343(d) with 40 CFR 60.52b(c).

In October 2002 Ash Grove conducted a MACT performance test to ensure that its kiln met the MACT D/F limits. At the time of the test the kiln was burning tires and coal. Raw materials included tires, slag

## WAC 173-434 Comment Responsiveness Summary

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and bottom ash. The test showed undetectable D/F emissions with the raw mill on, and compliance by two orders of magnitude with the raw mill off. See Letter of December 19, 2002 from Craig Gotro to Jim Nolan, copy attached. Converting the data to the test method specified for Subpart Eb, Ash Grove's kiln emitted 0.012 ng/dscm with the raw mill on and 0.071 ng/dscm with the raw mill off. The Subpart Eb standard is 13.0 ng/dscm. In the event that Ash Grove or Lafarge significantly changed the fuels or raw material fed into their kilns, 40 CFR 63.1349(e) would require the facility to repeat the performance test using the new fuel or raw material to ensure that the kiln still meets MACT emission standards.

PSCAA new source review rules -- Before Ash Grove or Lafarge could introduce a new fuel or raw material that the kiln is not currently permitted to accept, PSCAA new source review rules would require the company to quantify the effect of the new fuel or raw material on Toxic Air Pollutant (TAP) emissions. See, e.g., PSCAA Regulation I § 6.07(e); Regulation III § 2.07(b). If the change would cause an increase in TAP emissions, the company would need to submit a notice of construction application, apply T-BACT, and show that the increase would not exceed the relevant ASIL(s).

These requirements have been rigorously applied to Ash Grove. In 1994 Ash Grove applied for approval from PSCAA to burn used oil and grease generated on-site in its kiln. In 1995 Ash Grove applied for permission to combust tires in its kiln. Both requests went through new source review, and both resulted in formal approval orders, granting permission with conditions. See PSCAA Approval Order 5687 (1995) and 5755 (1995), copies attached.

Ecology air toxics rules -- WAC ch. 173-460 would subject a new fuel or raw material to the same review as the PSCAA rules summarized above. WAC 173-460-040(2) exempts "minor changes in raw material composition," but only where "the total toxic air pollutant emissions do not exceed the emission rates specified in the small quantity emission rate tables in WAC 173-460-080."

Ecology BIF rules -- EPA's hazardous waste combustor MACT standards, discussed above, displace portions of the Boiler and Industrial Furnace ("BIF") air emission standards promulgated under RCRA and codified at 40 CFR Part 266, Subpart H. 64 Fed.Reg. 52833 (Sept. 30, 1999). Ecology has not yet amended its BIF rules, however, to implement the new MACT standards. Until Ecology completes that update, Ash Grove or Lafarge would be required to comply with BIF rules found at WAC 173-303-510 if they sought to burn dangerous waste. Additional requirements apply to combustion of used oil for energy recovery. See WAC 173-303-515.

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### Response

The Ash Grove and Lafarge cement plants are not currently subject to the hazardous waste cement plant NESHAPS, subpart EEE, only the NHW cement plant NESHAPS, subpart LLL. If they were subject to subpart EEE, then they would be subject to additional emission limits. For example, subpart LLL has not emission limits for metals, while subpart EEE has limits for mercury, semi-volatile metals, and low volatile metals.

A dangerous waste may fit the definition of "solid waste" in chapter 434. This may trigger applicability of chapter 434 in addition to other dangerous waste rules.

Refer also to the response to comment #31.

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Commenter(s): Gerald Brown  
Ash Grove Cement Co.

Comment # 19

03/08/11

### Comment

C. The proposed amendments to WAC ch. 173-434 would prevent Ash Grove from recycling materials other than tires for energy recovery.

## WAC 173-434 Comment Responsiveness Summary

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The proposed amendments to WAC ch. 173-434 would exempt from the definition of solid waste tires and “beneficial industrial by-products consumed as raw materials . . .” WAC 173-434-030(3)(b). This exemption would enable Ash Grove to continue recycling the industrial by-products that it receives today. The amended ch. 173-434 would prevent Ash Grove from recycling waste products other than tires for energy recovery, because Ash Grove could not meet some of the design and emission standards in the amended ch. 173-434.

Most important, the proposed WAC 173-434-160 still contains a subsection stating: “The inlet temperature of the primary particulate control device shall not exceed 177° C (350° F). Ash Grove’s kiln is equipped with a large and efficient baghouse. Before reaching the baghouse, kiln exhaust gases pass through a raw material grinder and dryer called the raw mill. The raw mill uses some of the heat from kiln exhaust gases to dry kiln feed, lowering the temperature of the exhaust gases before they reach the baghouse. When the raw mill runs the inlet temperature to the baghouse averages 221° F. Once a week, however, Ash Grove shuts down the raw mill for 8 to 10 hours for maintenance. In addition, there are occasional unplanned outages. When the raw mill is not running, the average inlet temperature to the baghouse is 425° F. Ash Grove cannot meet the 350° maximum inlet temperature specification in WAC 173-434-160(3) when the raw mill is down.

WAC 173-434-110(3) sets an SO<sub>2</sub> limit for an incinerator of 50 ppm corrected to seven percent oxygen, or 80 percent removal efficiency, whichever is less stringent. PSD Permit No. 90-03 sets a BACT limit for SO<sub>2</sub> from Ash Grove’s kiln of 180 ppm, corrected to ten percent oxygen. Ash Grove obviously cannot meet the 50 ppm limit, but probably does meet the 80 percent removal efficiency option, except during certain phases of start-up when it is not possible to add lime sorbent to the kiln. It is not clear whether the removal efficiency requirement in WAC 173-434-130(3) applies during kiln start-up. If it does apply, Ash Grove cannot meet WAC 173-434-130(3).

WAC 173-434-130(4) sets an opacity limit “as measured visually” of 5 percent over a six minute average. Ash Grove’s kiln currently is subject to multiple SIP opacity limits, including a 20 percent six minute average limit and a 5 percent one hour average limit. Ash Grove does not conduct Method 9 monitoring of its kiln stack; it relies entirely on a continuous opacity monitor (COM) to document compliance with the referenced opacity limits. Without analyzing a lot of COM data Ash Grove cannot say whether the kiln continuously meets a 5 percent six minute limit.

WAC 173-434-160(1) and (2) establish various design standards for incinerators that make no sense when applied to a cement kiln. For instance, Subsection (2) requires the incinerator to maintain negative pressure in the “tipping area.” A cement kiln has no “tipping area.” An ID fan pulls exhaust gases air up the preheater tower to the baghouse. Kiln feed falls down by gravity feed through the same tower to reach the kiln.

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### Response

Refer also to the response to comment # 30.

The operational compliance sections of chapter 434 are unchanged by these amendments. An optional compliance regime is offered by reference to subpart Eb.

The comment points out that the bag house inlet temperature can not meet the 350 degree limit of chapter 434 at times, when the raw mill is down, at which time the temperature is 425 degrees, and during unplanned outages. As the inlet temperature limit is intended to control dioxin formation, this raises the question of whether dioxin emissions increase during these two noncomplying events.

## WAC 173-434 Comment Responsiveness Summary

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Simply making cement does not, and would not, trigger chapter 434 or subpart Eb. However, incinerating solid waste does and would continue to do so. Ecology does not characterize solid waste incineration as recycling or characterize solid waste simply as an allowable fuel on the basis that such characterizations are being made with respect to a cement plant. To say otherwise would require a comprehensive restructuring of chapter 434, which is well beyond the scope of these amendments.

Four essential components of Portland cement are silica, calcium, alumina, and iron. In addition to virgin raw materials that contain these components, the cement plants use materials such as bottom ash, slag, and gypsum considered to be beneficial raw materials. Such materials are byproducts of other facilities, such as coal-fired power plants and smelters, and do not contribute energy to the process. Such materials are beneficial, to the cement product, and are not being disposed of in the cement. The definition of "incinerator facility" in chapter 434 uses the word "incineration," which is not defined in chapter 434 or chapter 400. A possible source of guidance is chapter 350, Solid Waste Handling Standards, which defines "incineration" as "reducing the volume of solid wastes by use of an enclosed device using controlled flame combustion." This definition may not fit what is going on with bottom ash, slag, gypsum, and such raw materials which, rather than being reduced in volume, are instead being incorporated into the chemical and/or physical structure of the cement product. Such raw materials have long been used at the cement plants, and this rule is not intended to address the use of raw materials.

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Commenter(s): Gerald Brown

Comment # 20

Ash Grove Cement Co.

03/08/11

Comment

D. The proposed application to cement plants of NSPS Subpart Eb would force Ash Grove to decline many beneficial waste recycling opportunities.

Proposed WAC 173-434-110 would revise 40 CFR Part 60, Subpart Eb, Performance Standards For Large Municipal Waste Combustors, to define a "municipal waste combustor" to include a cement kiln that fires more than 12 tons per day of any material that fits the WAC 173-434 definition of "solid waste." The amended WAC 173-434-110 would incorporate without change 40 CFR 60.50b(a), which defines a Subpart Eb "affected facility" as any municipal waste combustor unit that commences "modification" or "reconstruction" after June 19, 1996.

Subpart Eb contains several emission limits for criteria pollutants that were not designed for cement kilns, and that Ash Grove's kiln cannot meet. The Subpart Eb NO<sub>x</sub> limit for an incinerator is 180 ppm corrected to seven percent oxygen. § 60.52b(d). Cement kilns emit NO<sub>x</sub> at a higher rate than incinerators because cement kilns burn much hotter than incinerators. The BACT limit for NO<sub>x</sub> from Ash Grove's kiln is 650 ppm corrected to ten percent oxygen. Ash Grove's kiln could not meet the Subpart Eb NO<sub>x</sub> limit.

Subpart Eb sets different CO limits for different municipal waste combustor technologies, none of which exceed 150 ppm, corrected to seven percent oxygen. § 60.53b. The BACT limit for CO from Ash Grove's kiln is 1045 ppm corrected to ten percent oxygen. If any of the CO limits in § 60.53b was deemed to apply to a cement kiln, Ash Grove could not meet that limit.

The BACT limit for SO<sub>2</sub> from Ash Grove's kiln is 180 ppm, corrected to ten percent oxygen, except during kiln start-up. The Subpart Eb SO<sub>2</sub> limit for an incinerator is the less stringent of 30 ppm corrected to seven percent oxygen, or 80 percent removal efficiency. § 60.52b(b). This limit closely

## WAC 173-434 Comment Responsiveness Summary

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resembles the limit in WAC 173-434-130(3). Ash Grove has the same concerns about meeting the Subpart Eb limit during startup as were described above for the WAC 173-434-130(3) limit.

Ash Grove's kiln cannot meet Subpart Eb emission standards for NO<sub>x</sub>, CO and possibly SO<sub>2</sub>, despite the fact that Ash Grove's kiln is equipped with Best Available Control Technology for each of these pollutants. Ash Grove's inability to meet these limits reflects differences between the combustion characteristics of cement kilns and municipal waste incinerators. For instance, it is not reasonable to expect a cement kiln that operates at 3000° F to meet a NO<sub>x</sub> limit designed for an incinerator that operates at 1800° F.

Other requirements of Subpart Eb would be difficult to apply to Ash Grove, because they regulate incinerator design features and/or operating characteristics that have no counterpart at a cement kiln. Examples include the § 60.53b CO limits for different waste combustor technologies, the standards in § 60.55b for fugitive ash emissions (Ash Grove's kiln produces no ash), and the requirement in § 60.54b(d) to send equipment operators, shift supervisors and control room operators to an EPA municipal waste combustor training course.

Subpart Eb contains an unusual definition of "reconstruction." A combustor unit is deemed to be "reconstructed" when the cumulative cost of all changes to that unit since June 19, 1996 exceeds 50 percent of the original cost of construction of the unit, even if the investments cause no increase in emissions. § 60.51b. Thus, Ash Grove would need to keep a running total of the cost of all "changes" made to its kiln since June 1996. When the cumulative total reaches 50 percent of the original construction cost, the kiln would become a Subpart Eb "affected facility."

Ash Grove is not aware of any change to its kiln since June 19, 1996 that would qualify as a Subpart Eb "modification." Ash Grove has made changes to its kiln since 1996, but none that have increased emissions. The cumulative cost of those changes does not yet approach the "reconstruction" threshold of 50 percent of original construction cost. It is more than likely, however, that Ash Grove will face market pressure to "modify" or "reconstruct" its kiln for purposes of Subpart Eb in the next few years. A manufacturer that does not invest in new technology cannot respond to changing market conditions and loses market share. Any increase in plant production capacity, any change in production methods or formulas, has the potential to increase emissions of some pollutant. The definition of "modification" in Subpart Eb, 40 CFR 60.51b, does not allow the facility owner to accept voluntary emission limits or operating restrictions to avoid an emissions increase. Because Ash Grove cannot meet several Subpart Eb standards, the proposed amendments to WAC 173-434-110 would force Ash Grove either to avoid "modification" or "reconstruction" of the kiln, or to avoid burning "solid waste."

The bottom line is that EPA exempted Portland cement plants from Subpart Eb because many provisions of Subpart Eb are not appropriate for cement plants. If Ecology ignores the EPA precedent and applies Subpart Eb to cement plants that burn 12 tons per day of "solid waste," Ash Grove will need to manage its operations to avoid accepting more than 12 tons per day of "solid waste." This result would set back Washington's efforts to promote recycling, for the reasons noted in Subsection A above.

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### Response

The draft amendments published with the CR-102 would have prospectively triggered the provisions of subpart Eb at a cement plant (or any other facility) that began incinerating 12 tpd of solid waste after a set date. This triggering of subpart Eb would have rendered the operational compliance sections of chapter 434 inapplicable. In recognition of comments received from the cement plants, the final version of the rule does not include the prospective automatic triggering of subpart Eb, which leaves those sections of chapter 434 applicable. The amendments continue to have another provision that allows a facility the option of



## WAC 173-434 Comment Responsiveness Summary

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choosing to be regulated under subpart Eb rather than under those operational compliance sections of chapter 434. A cement plant (or any other facility) considering whether to begin incinerating 12 tpd of solid waste would do so knowing that this would trigger the applicability of chapter 434, but that a choice of two compliance frameworks would be available.

The amendments are expected to encourage one facility, the TSP (Tacoma Steam Plant), to opt into the subpart Eb compliance regime. The TSP would achieve compliance with subpart Eb, although it once claimed that it was an electrical generating facility rather than an incinerator. It would be inconstant to enforce the applicability of chapter 434 one facility (the TSP) that incinerates solid waste, while creating an exemption for others (the cement plants) that also incinerate solid waste.

What the amendments do instead is offer an alternative compliance scheme to that of chapter 434. The alternative is subpart Eb, which sets more and stricter emission limits than chapter 434, but does not mandate how those limits are met.

The TSP is an example of a facility faced with a choice of not burning substances that trigger the incinerator rules, or of burning the substances and meeting the standards. Cement plants can similarly choose whether to burn substances that would trigger applicability of incinerator standards.

The cement plants are on record as emitting significant amounts of lead and mercury. Such heavy metals are limited by subpart Eb, but not by subpart LLL. Solid waste can be highly heterogeneous, containing a wide variety of toxic and persistent substances. MSW, for example, is a solid waste that can contain mercury-laden batteries, florescent light bulbs, and thermometers.

Refer also to the response to comment # 30.

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Commenter(s): Gerald Brown Comment # 21  
Ash Grove Cement Co. 03/08/11

Comment

E. Recommendations

Ash Grove urges Ecology to make the following edits to the proposed WAC ch. 173-434 amendments to exempt cement plants from the coverage of the chapter:

- Add the following sentence to the end of WAC 173-434-030(1), the definition of “incinerator facility”: “A cement kiln is not an incinerator facility.”
- Delete from WAC 173-434-030(3) the proposed new subsection (b), which excludes certain materials used in cement plants from the definition of “solid waste.”
- Revise WAC 173-434-110(2)(c) to delete the reference to subsection 60.50b(p);
- Delete WAC 173-434-110(2)(d).

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Response

Please refer the response to comment ## 34 & 35.

The proposed rule could have rendered prospective incineration at cement plants subject to

## WAC 173-434 Comment Responsiveness Summary

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the requirements of subpart Eb. It did so by excluding from the incorporation by reference EPA's exclusion of cement kilns from subpart Eb. The final rule includes in the subpart Eb incorporation by reference an exemption for cement plants that is present in subpart Eb itself. The cement plant exemption is one of many exemptions for particular industries that EPA regulates outside of subpart Eb. The final rule still provides the provisions of subpart Eb as a compliance option for all subject facilities. Choosing the Eb option would relieve a facility of the operational and compliance requirements of chapter 434. That choice would be made by application of the affected facility to the local air authority.

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Commenter(s): Gerald Brown

Comment # 22

Ash Grove Cement Co.

03/08/11

Comment

E. Recommendations

If Ecology deems it necessary to regulate cement kilns as incinerators, Ecology should at least amend the rule to exempt kilns from those requirements that they cannot meet. Those provisions include Subpart Eb, WAC 173-434-130(3) (sulfur dioxide limit) and WAC 173-434-160(3) (control device inlet temperature limit). If Ecology is concerned about appearing to exempt cement kilns from a control device temperature limit that was adopted to regulate organic toxic emissions, WAC 173-434-160(3) could be amended to read as follows:

(3) Particulate control device temperature. The inlet temperature of the primary particulate control device shall not exceed 177°C (350°F). At a cement kiln the inlet temperature to the primary particulate control device shall not exceed the limit(s) established in 40 CFR 63.1344(a).

Response

Please refer the response to comment ## 34 & 35.

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Commenter(s): J. Browne

Comment # 23

Comment

03/07/18 12:56 PM

I received notice of a hearing, 7/22 at 7PM, in Tacoma regarding a proposed rules change for incineration of various expendable substances, (including some fairly toxic ones), whose apparent purposes may include making it possible to reopen the Tacoma Steam Plant without further emissions-reduction equipment (or other technology to alleviate air pollution). This strikes me as a particularly bad idea, although it's obviously an affordable 'fix' for dealing with these aforementioned substances. The recent effort to rein in uses of mercury are laudable. So, why now set something in motion that will proliferate more airborne mercury? Likewise, pulp industry efforts to keep dioxins out of the environment should be encouraged, at least (since our State & Federal agencies seem incapable of demanding their abatement). Why, then, pursue a course (plastics burning) that will put dioxins in the air?.. & there's no doubt that this will occur, if the steam plant is fired up, again. As someone who has lived downwind of Asarco (& the tideflats, in general) it's not my idea of good management to have these things aloft and available to the general population of breathing creatures. We probably get our quota of dioxins from the effluent of Cascade Pole, at present (& my thanks for your 'oversight' of this ongoing process). A cousin who lives N of Everett tells me that your rule-change proposal will probably lead to a creosote incinerator in her neighborhood, as well. While i find that the occasional whiff of an old piling in the sun at the ferry terminal can call up nostalgic memories of boyhood outings along Commencement Bay, it doesn't strike me as good policy, given what recent studies of microparticulates out of diesel combustion have revealed, to be promulgating (or, by loosening restrictions, 'allowing') a renewed presence of creosote particulates into the atmosphere. Perhaps a technology which distilled the

## WAC 173-434 Comment Responsiveness Summary

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creosote out of the wood in a less 'reductionist' way might yield something useful (or at least offer a preferable way to sequester the toxic substances); after which the remainder might be composted.

Even given this marvelously well-scrubbed marine atmosphere with which we are blessed (thanks to the breadth and the machinations of the Pacific Ocean), the processes which 'dilute' airborne toxics and send them off to Canada, Idaho, etc seem to fit the profile of what has been called the "quick & dirty fix"- not a thing of which our State of Washington residents & employees should wish to be proud, in my view.

Please- take a long look, in Both Directions, at these problems; and deal with them in a way which fosters & promotes a sustainable way of Life- not merely 'Survival'. Thank you. ^..^

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### Response

Please refer the response to comment #111.

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Commenter(s): Deborah Campbell

Comment # 24

### Comment

03/08/10 6:36 PM

It has recently come to my attention that there is an effort to exempt cement kilns from the new state solid waste incinerator regulations.

I urge you to decline to allow this exemption.

Specifically, I strongly support banning, rather than expanding, the incineration of waste in general, particularly toxic waste.

If businesses and industries choose not to act responsibly and ethically as stewards of the environment and promoters of public health and safety, then it becomes the duty of government to regulate such businesses to the extent necessary to ensure public and environmental safety.

The negative effects of waste incineration, especially toxic waste, are well known and serious. I call on the Department of Ecology to act in the best interests of the residents of the state on this matter.

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### Response

Please refer the response to comment #112.

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Commenter(s): Chris Carrel

Comment # 25

### Comment

03/08/11 8:03 AM

I am writing regarding the proposed exemptions for cement kilns burning wastes that produce dioxin, mercury and PCB pollutants. Research has shown that persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. In order to protect human health and the environment, the Washington Department of Ecology is moving forward plans to reduce and eliminate some of the most dangerous of these persistent pollutants. Earlier this year, the Washington State Legislature enacted new legislation to help reducing mercury pollution. The proposed exemptions for cement kilns would fly in the face of current state policy to reduce these pollutants in the environment.

I urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and any other wastes that will result in dioxin, mercury, and PCB pollution being emitted to the environment. If cement kilns are permitted to burn these wastes, they should be subject to

## WAC 173-434 Comment Responsiveness Summary

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regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

The Department of Ecology has rightly begun eliminating persistent toxic chemicals that threaten the health of our citizens. Eliminating the burning of wastes in cement kilns that produce persistent toxic chemicals is an essential component of the overall program to eliminate toxic persistent chemicals from Washington's environment.

Thank you for considering my comments on this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Tim Carson  
Ecoquest International

Comment # 26

03/07/12 10:18 PM

### Comment

I hope you take a moment to read this and you have my permission to forward this and read it at the hearing against trash incineration.

I for one would like to see incineration phased out as soon as cost recovery on existing plants is met.

Burying trash is certainly not the solution either.

Transporting it to someone else's country is not good either. WA, OR permit toxic barge loads from the far east to come up the Columbia while in transit to a facility in ID to incinerate it there, all in pursuit of the almighty dollar. Spokane was importing medical waste from Canada as well, all in pursuit of the almighty dollar.

Morphing the waste and selling it to fertilizer companies (all in the pursuit of the almighty dollar) so that it can be spread out in low levels across the land is a non-starter.

We are all sharing the planet together and these acts are coming back to haunt us already. We as inhabitants of this planet have done more to contaminate and pollute the earth in the last 150 years than since the beginning of the creation of our planet. How about making good use of the space program and sending this junk deep into space? Oh, we certainly wouldn't want to harm that environment millions of miles away would we but harming our own planet is OKOK? Go figure.

Intelligent laws need to be in place to control the manufacturing of substances that we take for granted in our current society such as foams, plastics, etc. and continue to develop compounds that are environmentally friendly. Think about it, synthetics, man-made chemical compounds and irresponsible dumping (in pursuit of the almighty dollar) where not here 150 years ago but they will lead to an end one day.

I am not a "tree hugging, left-wing environmentalist but a concerned right winger that is concerned for what is happening to our planet. This problem needs to be addressed with accountability and concern. This is going to be the legacy we leave for our family generations to come.

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### Response

Please refer the response to comment #111.

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Commenter(s): Karin Carter

Comment # 27

## WAC 173-434 Comment Responsiveness Summary

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03/07/09 12:16 PM

### Comment

Waste incineration adds known toxic chemicals to our air. I support the following points mentioned by the Washington Toxics Coalition:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Don't we all know too many people who have been touched by cancer, chemical sensitivity, or other reactions to the huge chemical load we place on the environment?

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### Response

Please refer the response to comment #111.

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Commenter(s): William Chapman

Comment # 28

Preston Gates Ellis LLP

03/08/12

### Comment

This letter provides comments on the proposed amendments to WAC 173-434 on behalf of our client, Lafarge Cement Group ("Lafarge"). Lafarge operates a cement manufacturing plant in Seattle. Lafarge corporate policy pursues the concept of sustainable development and more particularly industrial ecology. Many Lafarge plants, including the Seattle plant, use a carefully chosen selection of non-hazardous recyclable materials to provide the fuel and raw components necessary to produce high-quality cement products.

The explanatory materials accompanying the proposed rule suggest that the Washington Department of Ecology ("Ecology") intends to preserve the status quo for cement kilns. A close assessment suggests, however, that the proposed rule could have a severe adverse impact on Lafarge's operations. This letter sets out the problems that the proposed rule would create for Lafarge's plant both operationally and economically, as well as the disadvantages for the environment.

The appropriate way to address cement plants under the proposed rule is to include, rather than exclude, the Federal law exemption for cement kilns. The Federal approach reflects the significant technological differences between incinerators and cement kilns. A general exemption would also encourage the future innovative use of non-hazardous recyclable materials because it would not limit cement plants to using a prescribed set of exempted materials. In the event that the general Federal exception is not reinstated, the proposed rule should be rewritten to reflect the specific characteristics of cement manufacture. In addition, Ecology must study the economic impact of the proposed rule on the cement business.

\* \* \*

### Conclusion

Under the proposed rule, cement kilns could potentially be subject to severe standards that are unnecessary and harmful to both industry and the environment. As the EPA has determined, cement kilns warrant separate regulation to reflect their distinct technological and operating characteristics. Separate regulation for cement kilns is already in place at the Federal, state and local levels. Cement kilns should therefore be exempted from 173-434.

## WAC 173-434 Comment Responsiveness Summary

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In closing, Lafarge appreciates the time extension that allowed us to prepare a more comprehensive set of comments. We hope our comments are both helpful and persuasive, and would be happy to discuss them further.

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### Response

Please refer the response to comment ##29-35.

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Commenter(s): William Chapman

Comment # 29

Preston Gates Ellis LLP

03/08/12

### Comment

A. A rule drafted for incinerators is a poor fit for cement kilns because cement kilns are technologically and operationally distinct

Cement kilns and solid waste incinerators should be regulated differently because they are technologically distinct. Cement manufacturing kilns are not incinerators, and are not operated like incinerators. Cement kilns are used to manufacture portland cement clinker and therefore must operate at extremely high temperatures, creating a severe thermal destructive environment. Specifically, kilns operate at around 1800-2000°C (over 3000°F). Incinerators, on the other hand, are used only to thermally oxidize compounds, operating at around 1000°C (around 1800°F). The residence time in cement kilns is also much longer: about 5-10 seconds (at T > 1200°C) compared with one second in incinerators.

In addition, in cement kilns, fuel ash and nonvolatile materials are trapped in the raw materials and become part of the cement produced. Minor elements including most metals are then trapped in a non-leachable form in the concrete product. By contrast, incinerators leave an ash residue that can often be concentrated in heavy metals. Thus, incinerator ash can only be landfilled, creating a disposal problem.

Further, cement kilns can often extract the full heat value of combustible materials, thus reducing fossil fuel consumption. Incinerators, on the other hand, use fossil fuel to ensure the combustion of the materials to be disposed of. For incinerators the more material to be disposed of, the more fossil fuel is consumed. For cement kilns the more recyclable materials that are used the less fossil fuel that is burned. Recycling combustible materials in cement kilns is therefore a better solution for the environment.

Cement plants must also carefully screen all fuels and raw materials to check for both technical and operational feasibility. By contrast with incinerators, the technical design and operation of cement kilns is dictated by product manufacturing standards and strictly specified output standards. Indeed, in several locations government agencies have specifically requested that cement kilns combust certain non-hazardous materials as the best way of managing them.

Due to this non-inclusive list of differences, if the proposed rule were applied to cement kilns, cement plants would either be unable to comply or the rule would prohibitively increase costs without providing any appreciable environmental benefit.

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### Response

Please refer the response to comment #17.

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Commenter(s): William Chapman

Comment # 30

Preston Gates Ellis LLP

03/08/12

### Comment

## WAC 173-434 Comment Responsiveness Summary

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B. The proposed rule could potentially subject cement kilns to onerous "incinerator" standards

As currently drafted, the proposed rule expressly excludes the Federal exception for cement kilns. WAC 173-434-110(2)(c). This approach has the potential to subject Lafarge's Washington cement kiln to a host of inappropriate and onerous standards that were clearly designed for "incinerators," not cement kilns. Furthermore, the proposed exception for some materials used at cement plants (i.e. tires and beneficial industrial by-products consumed as raw materials), WAC 173-434-030(3)(b), does not include other materials that are beneficially recycled as fuel and raw components at cement plants, including waste oil (subject to Ecology's existing regulations on use of waste oil), roof demolition materials, bone meal, paper products, auto body fluff, bottom ash, slag, and gypsum board.

□ As drafted, the rule could create a de facto ban on recycling such materials in cement kilns because it would be impossible for cement kilns to comply with some of the standards in the proposed rule. Indeed, because of the high burn temperatures and exothermic reaction, cement kilns would be unable to comply even if they burned 100% natural gas, simply because of different physical and operating characteristics. For example, Lafarge's cement kiln could not comply with the rule's (180 ppm) NOx standard, even if the best available NOx control technology were implemented.

If applied to cement kilns, the proposed rule could also force Lafarge to increase the consumption of electrical power with little or no beneficial impact on the environment. The proposed rule does not take into account alternate opacity standards. Thus, to meet the proposed rule's opacity standards Lafarge would have to increase power consumption, despite the fact that Lafarge's plant has demonstrated, and the Puget Sound Clean Air Agency ("PSCAA") has recognized, that the plant meets the applicable particulate emission standards with a higher than 5% opacity. This problem would be compounded if back end temperatures were also regulated to 350°F. The kiln's electrostatic precipitator would also operate less effectively due to corrosion and material resistivity (potentially increasing the potential for upsets), increasing maintenance as well as electrical costs.

In addition, the rule's SO2 standards would only be achievable if the kiln was fired under extreme excess O2 conditions. The order of magnitude drop from 1000 ppm to 30 or 80 ppm suggests that this standard was not developed with cement kilns in mind. Increased excess O2 would force Lafarge to increase kiln draft. This would reduce Lafarge's fuel efficiency and increase fuel consumption and costs.

In essence, the proposed rule has clearly been designed for incinerators, without taking the unique attributes of cement kiln operation into account. If enacted without appropriate revisions, the rule has the potential to cause duplicative and draconian regulation of cement kilns, creating unintended environmental impacts and unnecessary and significant costs.

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### Response

The cement plant commenters assert that their facilities would be physically incapable of meeting some of the requirements of chapter 434 and of subpart Eb. The state chapter 434 addresses solid waste incinerators, and the EPA subpart Eb addresses municipal waste combustors. The cement plants heretofore operated under other regulations, such as subpart LLL, which were written for cement plants. The PCHB decision, excerpted in the response to comment 17, illuminates the question of applicability of chapter 434 to cement plants in its holding on the Tacoma Steam Plant.

Please refer the response to comment ## 19 & 20.

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Commenter(s): William Chapman  
Preston Gates Ellis LLP

Comment # 31

Comment

03/08/12

C. Air quality impacts from cement kilns are already adequate regulated

Lafarge is already subject to appropriate air quality rules, making additional regulation under WAC 173-434 unnecessary. Significantly, the U.S. Court of Appeals (D.C.) vacated the U.S. Environmental Protection Agency's ("EPA") solid waste rule (made pursuant to section 129 of the Clean Air Act ("CAA")) as it applied to cement kilns. *Davis County Solid Waste Management and Recovery District v. EPA*, 101 F.3d 1395 (D.C. Cir. 1996), as amended, 108 F.3d 1454 (D.C. Cir. 1997). Instead, the EPA has adopted comprehensive rules governing air emissions from cement kilns pursuant to Section 112(d) of the Clean Air Act. The EPA's standards, codified at 40 CFR Part 63, subpart LLL, represent the "maximum achievable control technology" ("MACT") for Portland cement manufacturing plant. For new cement plants, EPA's standards are based on "the best controlled similar source." 64 Fed. Reg. 31,898, 31,899 (1999). For existing cement plants, the EPA's standards are "no less stringent than the emission control achieved by the best performing 12 percent" of cement plants in the United States." *Id.* The Lafarge plant is subject to these regulations as an existing "area source," under which it is subject to an emissions limit on dioxin/furans and associated monitoring requirements.

After careful and extensive study, and after receiving comments from industry and interested third-parties (including states and local regulatory agencies), the EPA adopted MACT for all Portland cement plants. The MACT includes "emission limitations for particular matter (as a surrogate for HAP metals), dioxin/furans ("D/F"), and total hydrocarbons (as a surrogate for organic HAPs, including polycyclic organic matter)." *Id.* at 31,900. The EPA also requires cement plants to repeat performance tests for opacity, particulate matter ("PM") and D/F "within 90 days of any significant change in the raw material components or fuels fed to the kiln (e.g., when there is an increase in the input rate of municipal solid waste, tire-derived fuel, medical waste, or other solid wastes to the kiln . . . above the rate used in the previous performance test." *Id.* at 31,903. EPA estimated that the capital costs for cement plants nationwide to comply with MACT would be \$108 million and that the O&M costs would be \$37 million per year. *Id.* at 31,909.

There is nothing in the proposed rule or supporting agency documents to indicate how or why applying the incinerator rules to cement plants in Washington State will produce any additional air quality benefits, whether the incinerator rules can feasibly be implemented at cement plants, whether there are non-air-quality implications of applying the rules to cement plants, or the economic consequences of applying the rules to cement plants. EPA considered and balanced all of these factors (cost, technical and practical feasibility, air quality benefits, non-air quality benefits) when it established MACT for cement plants.

Lafarge is also already subject to state and local emission limits and a regulatory process whereby Lafarge obtains agency approval before using alternative materials. The existing regulations ensure that the use of alternative materials at the plant will not adversely affect public health and air quality. For example, Lafarge is currently subject to emission limits on the following pollutants: particulate matter (0.05 gr/dscf); opacity (20% CEMS + VE 3 + 6 minutes, 12% 1 hour, no visible dust or employ reasonable precautions); SO<sub>2</sub> (1,000 ppm); HCl (100 ppm); and dioxin (0.20/0.40 ng/dscm).

Unlike the standards in the proposed rule, these standards were designed to address the particular characteristics and environmental issues raised by cement kilns. Further, before using any new alternative materials in its process, Lafarge has to obtain approval - through a Notice of Construction Order of Approval - from the Puget Sound Clean Air Agency (PSCAA). This modification review



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process entails a review by PSCAA air quality experts of any potential air quality and health impacts, including a review of potential air toxics impacts pursuant to PSCAA regulations and WAC 173-460. The agency can impose new or revised limits as necessary to protect health and the environment.

It is not sensible, therefore, to regulate and include cement kilns under WAC 173-434. The kiln is already highly regulated under standards that have been studied extensively and that were set specifically in light of kiln operating characteristics. Lafarge is able to manage and integrate its alternative fuels and materials programs so as to meet these specific standards.

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### Response

The commenter asserts the significance of the Davis court case, but does not explain such significance. The Davis court explicitly did not reach the Cement Kiln Recycling Coalition's "claim that the EPA erred in interpreting section 129 to apply to industrial furnaces such as cement kilns or its argument that the EPA cannot apply the existing or future standards to cement kilns." The court held merely that "the EPA's use of aggregate plant MSW capacity rather than unit MSW capacity in the 1995 standards to create categories of MWC units for MACT purposes violates the plain meaning of section 129 and exceeds the EPA's statutory authority." The court therefore vacated the 1995 standards in their entirety on that ground and remanded to the EPA, without reaching the additional challenges raised by petitioners and the CKRC. On rehearing, the court granted EPA's motion to vacate the 1995 standards only as they apply to small MWC units and cement kilns since it agreed with the EPA that the Davis opinion would not meaningfully alter the NSPS or the emission guidelines applicable to large units. The court therefore left the NSPS and emission guidelines for large units other than cement kilns in place pending further action by the EPA on remand. The EPA went ahead and exempted cement kilns since they were already all but exempt under the 30% co-fire exemption. The EPA had not studied cement kilns prior to issuance of the standards and the rulemaking record revealed that the EPA knew that, at the time of issuance, no cement kiln would come under the standards because none combusted more than 30 percent municipal solid waste.

In the preamble to its Portland cement industry NESHAPS (subpart LLL), EPA stated that it "believes that it is appropriate to apply these regulations as a gap-filling measure to control emissions from NHW cement kilns and in-line kiln/raw mills regardless of the material combusted in the kiln (except for hazardous waste) until EPA determines whether regulations applicable to cement kilns combusting solid waste materials should be repromulgated," 63 Fed. Reg. 14182, 14185.

There are EPA rules written for municipal waste incinerators, such as subpart Eb, and there are EPA rules for cement plants, such as subpart LLL. These rules may well be adequate for the types of facilities for which they were written. It is not a given, however, that an incinerator is adequately regulated to make cement or that a cement plant is adequately regulated to burn solid waste. Subpart Eb contains emission limits for some substances that are not regulated by subpart LLL, mercury, lead, and cadmium for example, which are of particular concern in the incineration of heterogeneous streams of solid waste.

Refer also to the response to comment #18.

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Commenter(s): William Chapman  
Preston Gates Ellis LLP

Comment # 32

Comment

03/08/12

D. The proposed rule would have significant environmental impacts

## WAC 173-434 Comment Responsiveness Summary

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Recycling certain non-hazardous waste materials in cement kilns has significant environmental benefits that could be greatly diminished by the rule as proposed. If the rule was interpreted to apply to materials that Lafarge is currently approved to use, the plant would be forced to stop using those non-hazardous recyclable materials that are not explicitly exempted. As a result, these materials would be disposed of in ways that are worse for the environment. Some of the materials would be incinerated at municipal waste incinerators (which operate at much lower temperatures), others would be deposited in landfills. Moreover, the rule could be interpreted such that Lafarge would be forced to rely more heavily on virgin natural resources to supplement for recyclable materials, even when the emissions testing required by the federal MACT rule already shows that use of these materials does not result in dioxin or furan emissions of any significance (emissions well within the applicable limits).

In addition, the proposed rule could also discourage the innovative use of alternative fuels that are not currently used by Washington state cement kilns. A wide variety of non-hazardous recyclable materials can be and are managed in cement kilns in the Lafarge group and other cement producers worldwide, some of which have high BTU values. There are very limited options for otherwise managing some of these materials.

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### Response

RCW 70.95.030, provides the following definitions

"(8) "Energy recovery" means a process operating under federal and state environmental laws and regulations for converting solid waste into usable energy and for reducing the volume of solid waste.

"(10) "Incineration" means a process of reducing the volume of solid waste operating under federal and state environmental laws and regulations by use of an enclosed device using controlled flame combustion.

"(17) "Recyclable materials" means those solid wastes that are separated for recycling or reuse, such as papers, metals, and glass, that are identified as recyclable material pursuant to a local comprehensive solid waste plan. Prior to the adoption of the local comprehensive solid waste plan, adopted pursuant to RCW 70.95.110(2), local governments may identify recyclable materials by ordinance from July 23, 1989.

"(18) "Recycling" means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration."

It may thus not be correct to characterize incineration of solid waste as recycling if it produces energy. RCW 70.95.010(8) states that "the following priorities for the collection, handling, and management of solid waste are necessary and should be followed in descending order as applicable:

"(a) Waste reduction;

"(b) Recycling, with source separation of recyclable materials as the preferred method;

"(c) Energy recovery, incineration, or landfill of separated waste;

"(d) Energy recovery, incineration, or landfill of mixed municipal solid wastes."

Incineration is explicitly not recycling. Generically speaking, energy recovery is thus on par with land filling. Technologies exist for recycling of tires, waste oil, asphaltic roofing, railroad ties, and so forth. At present, these technologies can only utilize a small percentage of the respective waste streams. For a large percentage of the materials in various waste streams the choices exist of land filling or energy recovery.

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Commenter(s): William Chapman  
Preston Gates Ellis LLP

Comment # 33

Comment

03/08/12

## WAC 173-434 Comment Responsiveness Summary

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E. The proposed rule would have significant economic impacts on cement plants

The proposed rule could also impose significant economic costs on Lafarge. If Lafarge were unable to use non-hazardous recyclable fuels and materials it would have to rely on virgin resources, particularly coal, that are significantly more expensive. Overall, the potential financial impact to the plant could be millions of dollars. These economic impacts would have the unfortunate effect of disadvantaging Washington State cement plants vis-à-vis plants in states that apply the Federal rules or obtain product from foreign sources. Thus, the proposed rule would encourage local cement manufacturers to move and/or expand outside of the State of Washington.

Ecology has thus far failed to analyze any of these economic impacts. The Draft Cost/Benefit Analysis only analyzes the economic impact on the Tacoma Steam Plant No. 1. If Ecology proposes to adopt the amendments in their current form, Ecology should complete the analysis with respect to cement plants prior to publishing a final rule. RCW 34.05.328(c). Ecology has acknowledged that RCW 34.05.328 applies to this rule. See Notice of Proposed Rulemaking, WSR 03-13-077 at 55; see also, Davis County Solid Waste, 108 F.3d 1454, 1460 (rule vacated as to cement kilns because EPA "never studied cement kilns prior to issuance of the standards."). Pursuant to RCW 34.05.328(c), Ecology needs to determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

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### Response

Economic impacts are examined in the final cost benefit analysis. The cement plants earn money for receiving some of the materials that they incinerate. Such payments are beneficial to the plants, and imply a benefit to those seeking to dispose of the materials. Fossil fuel costs are also avoided. Any health and environmental costs and benefits to the general public would also be relevant.

Under the 1990 version of chapter 434, cement plants could incinerate unlimited amounts of solid waste, subject to the emission limits and other requirements of chapter 434. The cement plants have commented that they can not comply with either chapter 434 or the new subpart Eb option. The final rule exempts from chapter 434 the incineration at cement plants of tires and nonhazardous waste oil. This exemption is of great value to the cement plants. The baseline for conducting the c/b analysis for the cement plants is the emission limits in chapter 434. The c/b analysis looks at the potential change in emissions between the baseline and the potential emissions allowed by the most stringent remaining applicable emission limits other than chapter 434. The potential changes in emissions allowed by the cement plant exemption do not engender a demonstrable health impact.

The Davis case cited by the commenter did not address Washington State law. The portion of the Davis case quoted by the commenter addressed the issue of the severability of the standards as to the different source types. The court determined that severance was allowable. The full quotation from the Davis case cited by the commenter is, with citations omitted:

"The EPA never studied cement kilns prior to issuance of the standards and the rulemaking record reveals that the EPA knew that, at the time of issuance, no cement kiln would come under the standards because none combusted more that 30% municipal solid waste. . . . Hence, the EPA simply was not concerned with cement kilns in issuing the 1995 standards and would have adopted the same standards even if cement kilns were exempted. Since severance of the standards for small units and cement kilns 'will not impair the function of [the

## WAC 173-434 Comment Responsiveness Summary

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other standards] . . . And there is no indication that the regulation would not have been passed but for [the] inclusion' of the standards for small units and cement kilns, these standards are severable. . . .

"We grant EPA's motion in full and amend our initial opinion so that we vacate the 1995 standards only as they apply to small MWC units and cement kilns since we agree with the EPA that the Davis opinion will not meaningfully alter the NSPS or emission guidelines applicable to large units and that vacating the large unit standards will have a significant deleterious effect."

In the original Davis decision from the year before (1996), the court stated that it did "not reach the CKRC's claim that the EPA erred in interpreting section 129 to apply to industrial furnaces such as cement kilns or its argument that the EPA cannot apply the existing or future standards to cement kilns without studying their unique operation in more depth."

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Commenter(s): William Chapman  
Preston Gates Ellis LLP

Comment # 34

Comment

03/08/12

F. Recommendations:

1. WAC 173-434 should include a general exemption for cement kilns

There are significant technological reasons why cement kilns should be treated differently from solid waste incinerators. The Federal rules reflect these differences. Together with Lafarge's operating permit, the EPA rules provide strict and specific regulation precisely designed for cement kilns like Lafarge's, including regulation of air toxics emissions. We can ascertain no reason why the Federal law position should be ignored in Washington State. There are important environmental and economic considerations in favor of the Federal approach. Moreover, Ecology is required to coordinate the rule "to the maximum extent practicable" with Federal laws applicable to the same activity or subject matter. RCW 34.05.328.

Thus, to the extent that Ecology intended to include cement kilns, this decision should be revisited. The most appropriate way to address cement kilns is through a general exception such as the EPA adopted. This approach ensures that innovative use of recyclable materials is encouraged to the benefit of all parties.

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### Response

Please refer the response to comment #21.

Chapter 434 contains no general exemption for any category of facility type. Exempting a facility type would require a relaxation analysis for submittal to EPA as part of the SIP submittal package. Preparing a relaxation analysis would be a labor and time consuming process that could significantly delay the remainder of the amendments. A relaxation analysis is envisioned under the SIP Process Improvement Project draft report process for preparation earlier in the rule writing process so that relaxation issues would not delay a rule or cause an adopted rule to be reopened. Industry wide exemptions from existing regulations are beyond the scope envisioned for this rule, and would present complexities worthy of a dedicated rule writing effort.

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Commenter(s): William Chapman  
Preston Gates Ellis LLP

Comment # 35

Comment

03/08/12

## WAC 173-434 Comment Responsiveness Summary

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### F. Recommendations:

#### 2. Alternatively, exceptions for cement plant solid wastes should be expanded

If a general exception for cement kilns is not added, the list of exceptions for cement plant solid wastes must be greatly expanded. The proposed exception for tires and "beneficial industrial by-products consumed as raw materials, such as bottom ash, slag, and gypsum board" is a start, but does not clearly include some of the key materials currently used as fuel and raw components by cement kilns. At a minimum, the exception should refer to:

All non-hazardous recyclable materials that could be used by cement plants to reduce the use of raw materials and/or fuels, including but not limited to tires, waste oil, roof demolition materials, bone meal, paper products, auto body fluff, bottom ash, slag, and gypsum board.

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### Response

The proposed rule would have granted cement plants an exemption from chapter 434 for the incineration of tires and certain raw materials. This exemption is modified in the final rule. The final rule removes from the definition of "solid waste" tires and nonhazardous waste oil.

Incineration of tires and waste oil has been permitted as "replacement fuels" at the cement kilns since at least the mid 1990s. The permits issued for those materials by the local air authority qualify and elaborate on the amounts and nature of those materials that are used or allowed to be used. The permits do not open the exemption in this rule to any other materials however.

Waste oil being incinerated in cement plant kilns is exempted from the definition of solid waste, and therefore the chapter. The waste oil must nonetheless be non hazardous, a federal term, and non dangerous, a state term. WAC 173-303-515, directed at the management of used oil, references a federal hazardous waste definition and the state definition of dangerous waste in WAC 173-303-040. Section 040 references other sections that elaborate on dangerous waste designation. For the waste oil to be exempt from chapter 434, it must be neither a hazardous waste nor a dangerous waste.

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Commenter(s): Tova Cochrane

Comment # 36

### Comment

03/07/09 12:13 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and

## WAC 173-434 Comment Responsiveness Summary

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should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Carolee Colter

Comment # 37

### Comment

03/08/08 12:11 PM

I am writing out of concern about the plan to exempt cement kilns from the Department of Ecology's program to eliminate persistent toxic chemicals. I am concerned because allowing cement kilns and other industries to burn waste products would allow them to continue to release PCB's and dioxin and mercury into the atmosphere.

I live in South Seattle where two garbage-burning cement kilns continue to contribute to persistent toxic pollution despite the fact that the Duwamish River, where they are located, is already contaminated with PCBs and mercury. In fact, the Duwamish has been designated as Superfund site and is in the process of getting cleaned up. How much sense does it make to repollute this area and expose the residents to ongoing unacceptably high levels of pollutants?

It's already been proven scientifically that dioxin, mercury and PCB's have negative effects on the nervous system and reproductive system. We already know that South Seattle residents have a heightened risk of developmental problems, cancer, and genetic damage. So why let these industries continue their current practice? Why let them off the hook?

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### Response

Please refer the response to comment #112.

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Commenter(s): Dianne Cook

Comment # 38

### Comment

03/07/27 8:57 AM

SOLID WASTE INCINERATION results in persistent, human health-injuring, highly toxic chemicals. please do not allow (by WAC 173-434) this health hazard to continue. it should all be PHASED OUT. thank you for voting for sanity in this matter.

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### Response

Please refer the response to comment #111.

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Commenter(s): Tom Crowninshield

Comment # 39

Lafarge N.A.

### Comment

03/08/11

Enclosed please find Lafarge's comments on the proposed amendments to WAC 173-434, prepared with our assistance by our lawyers at Preston Gates and Ellis LLP. As reflected in our comments, we believe there are strong reasons to further revise the proposed rule to clarify how cement kilns are treated under it. Without such revisions, we are concerned that the rule could have severe adverse economic impacts on our plant, without any associated environmental benefit.

The fact is, cement plants cannot meet many of the limits in the proposed rule due to their design and function. They are fundamentally different from incinerators and should be treated as such. Modern

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## WAC 173-434 Comment Responsiveness Summary

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cement making, in the current economic and environmental climate, generally entails the use of carefully chosen non-hazardous recyclable materials to provide the fuel and raw components necessary to produce high-quality cement products. Without any specific analysis of these practices, Ecology's proposed rule would limit such options for cement plants in Washington.

Further, under federal hazardous air pollutant rules, cement kilns are already subject to emission limits and monitoring requirements for dioxins and furans. There is no indication in the rulemaking that the Department has determined that the use of non-hazardous recyclable materials at cement kilns poses any risks to health or the environment. The rule, therefore, should not preclude recycling activities that are economically imperative for cement plants and which are themselves environmentally beneficial.

Thank you for the opportunity to submit these comments. Please feel free to call me or Russ Simonson with any questions you may have about them.

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### Response

Please refer the response to comment #28. Also of interest may be the responses to comments ## 16 & 112.

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Commenter(s): Daphne Cuizon

Comment # 40

### Comment

03/07/25 1:56 PM

I am writing to urge you to protect Washington State's environment and the health of its people by strengthening solid waste incinerator regulations in Washington State.

- Please do not allow the Tacoma Steam Plant to reopen.
- Please phase out existing incinerators such as the Spokane incinerator
- Please immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride, mercury products and PCB-contaminated oil.

I urge you to eliminate incineration in Washington State. It doesn't make sense to put the environment and especially the health of people in Washington State in jeopardy. We have a right to clean air.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Jamie Donatuto

Comment # 41

### Comment

03/07/21 2:56 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.

## WAC 173-434 Comment Responsiveness Summary

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... Phase out existing incinerators such as the Spokane incinerator.  
... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Janee Durkee

Comment # 42

### Comment

03/07/10 8:33 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Pamela Engler

Comment # 43

### Comment

03/07/10 9:33 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.



## WAC 173-434 Comment Responsiveness Summary

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- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Tiffany Fehr

Comment # 44

### Comment

03/07/09 4:15 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Margot Fetz

Comment # 45

### Comment

03/08/08 11:51 AM

Cement kilns should not be allowed to burn wastes, particularly in urban areas that suffer from poor air quality. Cement kilns should be required to burn the cleanest fuels available, such as natural gas, to run their operations.

These are some of the problems with cement kilns burning wastes:

... The Department of Ecology has a program to eliminate persistent toxic chemicals including mercury, dioxin, and PCBs. Allowing industries to burn garbage contradicts this policy.

... Once persistent toxic chemicals are released into the environment, they stay around for decades, in some cases forever. They build up in the food chain and eventually make their way into our bodies.

## WAC 173-434 Comment Responsiveness Summary

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... In Seattle, there are two cement kilns that burn wastes that contribute to persistent toxic pollution despite the fact that the Duwamish River-a Superfund site currently undergoing clean-up- is contaminated with PCBs and mercury.

... The burning of garbage exposes people to the devastating impacts of persistent toxic pollution. This type of pollution has been linked to a wide variety of human health impacts, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic damage.

Protect Washington's children from persistent toxic pollution by not exempting cement kilns from the state incinerator rule.

Thank you.

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### Response

Please refer the response to comment #112.

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Commenter(s): Melissa Frysztacki

Comment # 46

### Comment

03/08/08 12:38 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue. The decision to work towards eliminating all toxic pollution from industry should be a goal we work towards together. I believe your family and friends as well as mind consider this an important, and realistic goal to work towards; making King County a healthy place to live.

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### Response

Please refer the response to comment #112.

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Commenter(s): Linda Fulsaas

Comment # 47

### Comment

03/07/23 11:49 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

## WAC 173-434 Comment Responsiveness Summary

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- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Nicole Gainey

Comment # 48

### Comment

03/08/08 2:10 AM

Tommorrow I go to UW medical center to visit a friend with Leukemia, she is young the mother of two. I am worried for her. Do you know the leading cause of Leukemia is air pollution. Please do what you can to continue to reduce toxic emissions in our state. Please do not roll back laws or weaken rules already in place. Most immediately please take into consideration the following facts about cement kilns. These are some of the problems with cement kilns burning wastes:

... The Department of Ecology has a program to eliminate persistent toxic chemicals including mercury, dioxin, and PCBs. Allowing industries to burn garbage contradicts this policy.

... Once persistent toxic chemicals are released into the environment, they stay around for decades, in some cases forever. They build up in the food chain and eventually make their way into our bodies.

... In Seattle, there are two cement kilns that burn wastes that contribute to persistent toxic pollution despite the fact that the Duwamish River-a Superfund site currently undergoing clean-up- is contaminated with PCBs and mercury.

... The burning of garbage exposes people to the devastating impacts of persistent toxic pollution. This type of pollution has been linked to a wide variety of human health impacts, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic damage.

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### Response

Please refer the response to comment #112.

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Commenter(s): Claude Ginsburg

Comment # 49

### Comment

03/07/09

Incineration of solid waste is a major contributor to the release of persistent bioaccumulative toxins in the environment. The recent bold step of Ecology to eliminate these toxins from our state will be seriously compromised if solid waste continues to be incinerated.

Therefore, I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.

## WAC 173-434 Comment Responsiveness Summary

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\* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for your time and effort on this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Joe Ginsburg

Comment # 50

### Comment

03/07/18 8:20 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride, mercury products, and PCB-contaminated oil.
- Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- Phase out existing incinerators such as the Spokane incinerator.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for your consideration of these comments.

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### Response

Please refer the response to comment #111.

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Commenter(s): Jon Gould

Comment # 51

### Comment

03/07/15 9:53 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington State to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator and LaFarge cement plant.

## WAC 173-434 Comment Responsiveness Summary

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... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Joanna Grist

Comment # 52

Washington Wildlife & Recreation Coalition

03/07/25 9:34 AM

### Comment

Dioxin, a chemical that is worrisome in even small amounts, increased to 328 pounds, up from 220 pounds the year earlier.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

\* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.

\* Phase out existing incinerators such as the Spokane incinerator.

\* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Willa Halperin

Comment # 53

03/07/09

### Comment

I am writing to you because I am very concerned about persistent toxic chemicals such as mercury and dioxin which can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

## WAC 173-434 Comment Responsiveness Summary

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- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

I have 4 young grandchildren and I am especially concerned about them as well as all the other young children in the state who are being exposed to these chemicals. I appreciate your considering this important issue.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Laurie Hannon Comment # 54  
City of Tacoma 03/07/03 10:14

### Comment

While reviewing the rule change in preparation for the public hearing I noticed a statement that I think needs to be clarified within the document itself.

It is WAC 173-434-110 (3) which reads: Except for WAC 173-434-130 (4)(C), WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190 and 173-434-200 shall not apply to:

I think it is confusing. On initial read it appears as though all the sections listed are exempted. I think it would be less confusing if it read:

Except for WAC 173-434-130 (4) (C) the following sections, WAC 173-434-090, 173-434-130, 173-434-160, 173-434-170, 173-434-190 and 173-434-200 shall not apply to:

Thank you for considering this clarification. Call me with any questions.

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### Response

Also of interest may be the response to comment #64.

Ecology agrees that this suggested wording enhances clarity.

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Commenter(s): Laurie Hannon Comment # 55  
City of Tacoma 03/07/22

### Comment

Transcript of rule Hearing Testimony, July 22, 2000

Good Evening. My name is Laurie Hannan, and I am the Plant Manager for the City of Tacoma's Steam Plant, one of the four existing facilities impacted by this proposed rule change. I am speaking this evening on behalf of the City of Tacoma in support of the proposed changes to the Solid Waste Incinerator Facilities rule, WAC 173-434.

The Tacoma Steam Plant has been shut down because the facility cannot operate under the current version of WAC 173-434. Without the proposed changes, the Steam Plant will be unable to obtain

## WAC 173-434 Comment Responsiveness Summary

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additional air permits critical to continued operation of the Plant. For that reason, as well as to ensure that the rule changes are as protective to human health and to the environment as possible, City staff has worked cooperatively with Department of Ecology staff throughout this process, and the City supports the rule change.

The proposed changes are necessary to the successful reopening of the Steam Plant.

First, as it is presently written, the Steam Plant is physically and legally unable to comply with the combustion zone temperature requirements in WAC 173-434-160(1). The rule change adopts the federal emission standards for dioxin furans and the federal standards for good combustion practices, allowing facilities that opt into meeting these standards to do so without the temperature constraints inherent in the present WAC 173-434.

Second, the rule change will clarify the averaging period of the emission standards for sulfur dioxide in WAC 173-434-130 (3).

Third, although the Steam Plant will eventually comply with the current bag house temperature limits of WAC 173-434-160 (6), the new rules will more appropriately measure compliance based on emission standards, rather than an operational standard.

At this time, I would like to address each of these changes in more detail.

First, the combustion zone temperatures in WAC 173-434-160 (1) are required to be more than 1,800 degrees Fahrenheit over a 15-minute average or 1,600 degrees Fahrenheit at any time solid waste is being fired. This rule conflicts with the Steam Plant's present PSD permit issued by the Department of Ecology that requires combustion zone temperatures not to exceed 1800 degrees at any time. The conflicting temperature requirement in these two permits makes it legally impossible for the plant to operate.

The combustion zone temperatures in WAC 173-434 are typical operating temperatures for mass burn facilities for which the rule was intended. However, they do not take into account the normal operating temperatures of different technologies like the fluid bed combustors at the Tacoma Steam Plant. The normal operating temperatures of Tacoma's combustors is 1650 degrees Fahrenheit.

One of the primary advantages of the fluid bed system is that extremely high combustion temperatures are not required due to extreme mixing and turbulence within the combustor. Increasing the temperature above the 1600 degrees Fahrenheit does nothing to increase the combustion efficiency but instead will generate greater quantities of NOX emissions from fixation of nitrogen in the combustion air at high temperatures.

The Department of Ecology wrote and adopted WAC 173-434 in 1980's prior to the establishment of federal emission standards for numerous pollutants. At that time it was believed that higher temperatures were required to destroy dioxin furan emissions. As the result of a comprehensive federal study, it has since been determined that good combustion practices and steady state operations are the keys to low dioxin furan destruction. The federal standards incorporated as part of the rule change include continuous monitoring of carbon monoxide, steam flow, and the bag house inlet temperatures. These are key indicators of combustion and are used as benchmarks to ensure maintenance of good combustion.

WAC 173-434 as amended removes the focus from operating temperatures to the actual emissions coming from the stack. It allows facilities to develop and implement new and more effective operating

## WAC 173-434 Comment Responsiveness Summary

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methods for emission controls when and as they become available without worry about violation of state or federal rules.

Second, the present sulfur dioxide emission standard in WAC 173-434-130 (3) allows no more than “50 ppm sulfur dioxide in the exhaust gas on a one-hour average, except if the owner or operator demonstrates that the uncontrolled emissions of sulfur dioxide are reduced by at least eighty percent and a procedure acceptable to Ecology or the authority for monitoring is developed.”

The Tacoma Steam Plant produces very low SO<sub>2</sub> emissions and has not violated the SO<sub>2</sub> emission standards in the existing air permits. However, due to the fluid bed design of the facility, and the response time of the SO<sub>2</sub> control system, the hourly SO<sub>2</sub> average was not used as the compliance standard. Rather with approval of the agencies, the Steam Plant measured SO<sub>2</sub> emissions using the 80% reduction criteria based on a 30-day rolling average.

The rule change calls for the more stringent averaging times specified in the Federal Regulations. As amended the new rule would clarify and tighten the averaging period on the 80% reduction standard by requiring the 80% reduction to be calculated on a 24-hour average for every effected facility.

Finally, WAC 173-434-160 (6) imposes a maximum bag house temperature limit of 350 degrees F. Because federal mercury standards had yet to be developed, this temperature was selected as a method of controlling mercury emissions. Although the Steam Plant cannot currently meet the temperature limit, new economizers will be installed to lower the bag house inlet temperature. The economizers will allow the plant to operate more efficiently and to meet the federal mercury standard.

As I have stated, the rule change we are discussing tonight will introduce new emission standards for dioxin and mercury that will be applied to the Steam Plant and other like facilities. Once again this rule change shifts the focus from the method to the result.

The emission standards that are incorporated into WAC 173-434 as part of the rule change are the federal standards in 40 CFR Part 60 Subpart Eb. Subpart Eb standards are the latest and the most stringent Solid Waste Combustor emission standards. They are the culmination of a comprehensive study at the federal level on waste combustion that included evaluation of human health and environmental risks from combustion emissions. Subpart Eb includes performance based emission limits for dioxins, mercury and other hazardous pollutants. The attached table provides a comparison of the current WAC 173-434 standards and the proposed Subpart Eb standards.

The inclusion of Subpart Eb into WAC 173-434 also introduces additional new standards for cadmium and lead emissions. It will tighten the emission standards for particulate matter and hydrogen chloride, and it will include new standards for carbon monoxide and nitrogen oxides. The addition of new emission standards and tightening of existing standards will provide an additional level of assurance that the Steam Plant and other like facilities are operating in a manner that is protective of human health and the environment.

The application of the new standards and the requirements of 40 CFR Part 60 Subpart Eb, addresses many of the public comments and concerns that were provided during hearings on the Steam Plants' Notice of Construction Permit (NOC) and Title V permit in 2000.

I would now like to take the opportunity to address some of the benefits that we believe the Waste-to-Energy process brings to the residents of the City of Tacoma and Washington state. The Steam Plant Waste-to-Energy Facility is a vital link in the City of Tacoma's nationally recognized solid waste management program. It provides to the citizens of Tacoma a cost effective, environmentally sound



## WAC 173-434 Comment Responsiveness Summary

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alternative to waste disposal at local or regional landfills. The reuse of waste products as fuel reduces our dependency on fossil fuels and water resources, reduces the cost of waste disposal, increases our disposal options and is more environmentally responsible.

The Steam Plant is also an important source of electrical power. Located in the heart of the industrial district of Tacoma, it produces and delivers power where it is most needed. During the 2000 energy crisis, the City of Tacoma Steam plant provided low cost electricity to Pioneer Incorporated, enabling that struggling local industry to continue to operate through the energy crisis. As the need for power increases in the region, there is little doubt that the Steam Plant will again assume the role as a source of steady state reliable energy.

The City of Tacoma supports the rule change as written, not simply because it is critical to the operation of the Steam Plant, but because it tightens every emission standard in the present rule, clarifies those sections that are ambiguous, modernizes an archaic rule and makes Washington State's Solid Waste Incinerator Rules more protective of human health and the environment for all its citizens.

Thank you for allowing me to address this hearing. And I had handouts for the comparison of the emission standards. That I would be happy to give to everyone, if they would like. Thank you.

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### Response

Ecology will not respond to this comment in every respect. Suffice it to say that the proposed rule, insofar as it relates to the Tacoma Steam Plant, is unchanged in the final rule. Ecology believes that this represents a tightening of the emission limits at this facility, leading to decreased emissions.

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Commenter(s): Tracy Hendershott, Greg Slayden

Comment # 56

### Comment

03/07/19 8:16 PM

Please phase-out the use of solid waste incinerators and combustion as a means of dealing with solid waste, in general. Burning solid waste, including plastics and waste that contains persistent toxic chemicals like mercury and dioxin, brings these cancer-causing chemicals into the air we breathe and disperses them into water and soil downwind of the incinerator. Ultimately, the toxic chemicals end up in the water table and food supply, poisoning generations well into the future. Infants and children are especially vulnerable to these toxic substances because their cells are multiplying rapidly. The danger of inhaling, ingesting or contacting toxic chemicals like mercury and dioxins is well-known, and the EPA has found solid waste incinerators to be one of the top sources of dioxin emission to the air. The EPA estimates that 1/1000 people in the U.S. may develop cancer from exposure to dioxin. Mercury is a known neurotoxin, effecting 60,000 infants born each year, according to the National Academy of Sciences.

Please protect us, our children, animals and the environment from this dangerous method of burning and dispersing toxic chemicals. Please STRENGTHEN the regulations for solid waste incineration in the state of Washington in the following ways:

1. Prohibit any new sources of incineration and keep the Tacoma Steam Plant closed.
2. Phase-out existing incinerators, as they are costly both financially and to our health.
3. Ban burning of substances emitting persistent toxic chemicals like polyvinyl chloride (PVC), mercury, PCB-contaminated oil, creosote and pressure-treated wood, tires and any other waste containing toxic chemicals or radioactive substances.

Instead of burning waste, the state should use environmentally safe alternative such as recycling and re-

## WAC 173-434 Comment Responsiveness Summary

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using products. Burning solid waste is a very dangerous prospect for us now and in the future.

Thank you for taking our comments into consideration.

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### Response

Please refer the response to comment #111.

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Commenter(s): Tracy Hendershott, Greg Slayden

Comment # 57

### Comment

03/08/10 4:00 PM

On July 19, 2003 we sent the letter below urging the ban of incineration as a method of dealing with solid waste altogether. We have recently heard that the Department of Ecology is proposing the expansion of garbage burning in the state of Washington and that cement kiln incineration is seeking an exemption from the new solid waste incinerator rules in an attempt to allow emission of toxic carcinogenic substances such as mercury, dioxin and PCB's to the air we breathe. This would be a by-product of burning things like tires and PCB-containing oils.

As is hopefully evident in the message of the letter below, we are strongly opposed to incineration of toxic solid waste by kilns, or any other method, much less the expansion of it the practice. Solid waste should not be burned. If they continue to burn waste in cement kilns, we believe they must at least follow the regulations that all solid waste incinerators are required to meet and that they use cleanest fuels available while in operation, such as natural gas. Please take the time to read the letter below. Thank you.

LETTER FROM JULY 19, 2003:

Re: WAC 173-434 Solid Waste Incinerator Rule – Ban Incineration

Dear Mr. Cross:

Please phase-out the use of solid waste incinerators and combustion as a means of dealing with solid waste, in general. Burning solid waste, including plastics and waste that contains persistent toxic chemicals like mercury and dioxin, brings these cancer-causing chemicals into the air we breathe and disperses them into water and soil downwind of the incinerator. Ultimately, the toxic chemicals end up in the water table and food supply, poisoning generations well into the future. Infants and children are especially vulnerable to these toxic substances because their cells are multiplying rapidly. The danger of inhaling, ingesting or contacting toxic chemicals like mercury and dioxins is well-known, and the EPA has found solid waster incinerators to be one of the top sources of dioxin emission to the air. The EPA estimates that 1/1000 people in the U.S. may develop cancer from exposure to dioxin. Mercury is a known neurotoxin, effecting 60,000 infants born each year, according to the National Academy of Sciences.

Please protect us, our children, animals and the environment from this dangerous method of burning and dispersing toxic chemicals. Please STRENGTHEN the regulations for solid waste incineration in the state of Washington in the following ways:

1. Prohibit any new sources of incineration and keep the Tacoma Steam Plant closed.
2. Phase-out existing incinerators, as they are costly both financially and to our health.
3. Ban burning of substances emitting persistent toxic chemicals like polyvinyl chloride (PVC), mercury, PCB-contaminated oil, creosote and pressure-treated wood, tires and any other waste containing toxic chemicals or radioactive substances.

Instead of burning waste, the state should use environmentally safe alternative such as recycling and re-using products. Burning solid waste is a very dangerous prospect for us now and in the future.

Thank you for taking our comments into consideration.

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### Response

## WAC 173-434 Comment Responsiveness Summary

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Please refer the response to comment #112.

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Commenter(s): Candice & Ted Hoffman

Comment # 58

Comment

03/08/12 11:49 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

I am one of those people with high levels of dioxin and PCBs in my blood; I have been undergoing an intensive treatment for 18 months to reduce my toxic load. Please do not allow burning of toxic waste, for the sake of your health, your family's health, our state's health and mine.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

Response

Please refer the response to comment #112.

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Commenter(s): Karen Hoover

Comment # 59

Comment

03/07/12 2:02 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the U.S. Environmental Protection Agency (EPA) estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

Prohibit new sources of incineration. The Tacoma Steam Plant should either be upgraded to meet or exceed current air quality standards, or not be allowed to reopen.

Phase out existing incinerators such as the Spokane incinerator. Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #111.

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Commenter(s): Matthew Houghton

Comment # 60

### Comment

03/08/12 4:41 PM

I do not understand how the Department of Ecology can, in good conscience, allow for the incineration of toxic waste. The EPA has identified incineration as the leading cause of dioxin pollution – as you know, dioxin is one of the leading residual cancer-causing agents.

How is it possible that The Department of Ecology even considers this? You know as well as I that even if companies like LaFarge are allowed to incinerate at ‘non-toxic’ levels, there is a dearth of accountability measures.

Currently LaFarge has hundreds of complaints leveled against it – school classes have been evacuated, communities complain regularly – but nothing happens to LaFarge. Instead, we see they are trying to mitigate regulation and be allowed to burn toxics currently banned. The LaFarge incinerator stack emits at the same elevation as residences onto the adjacent geologic feature - the ridge in the Riverview and Pidgeon Point neighborhoods. Those emissions not sinking down into South Park blow straight into the windows of the latter neighborhoods; there is no dispersion in that setting; i.e.; not only is incineration a bad idea, its being done in the wrong places at greatest risk to people and their families.

Please end incineration, and stop allowing our children to be poisoned.

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### Response

Please refer the response to comment #112.

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Commenter(s): Scott Inloes

Comment # 61

Noveon Kalama, Inc.

03/07/29

### Comment

Noveon Kalama, Inc. appreciates the opportunity to comment on the modification of the incinerator regulations (WAC 173-434). Noveon Kalama, Inc. request that the following exemption be added to the rule.

WAC 173-434-030(3) Solid Waste: Please add the following exemption; (e): Non-hazardous Industrial process waste, generated on site, with a heat value of 10,000 Btu/lb or greater, as burned, used as a replacement for fossil fuel in an industrial boiler.

Basis:

Section Analysis States "WAC 173-434-030(3)(b) A narrow exception for specific items introduced into Portland cement plants is proposed in recognition of preserving the status quo." The background document does not address industrial process waste used as fossil fuel replacement in industrial boilers. The only sources regulated by this rule in the background document receive waste from off-site.

The purpose of the exemption is to clarify WDOE's intent to exclude these wastes from the incinerator rule. Further, this exemption provides clarity that this rule is only addressing incinerators and is consistent with the proposed exemption for Portland cement plants.

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## WAC 173-434 Comment Responsiveness Summary

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### Response

On-site incineration of on-site generated solid wastes was not regulated under the original version of chapter 434. Permit engineers have not considered these the materials to be solid waste, since the material is not designated for off-site disposal. We consider this material to be a byproduct of one process which is used beneficially in another process.

The suggested language would not change the scope or historical application of chapter 434 to on-site generated and combusted materials. As written, the suggestion is narrowly crafted to effect a specific concern at a specific facility. Ironically, this is the problem with adopting the suggestion. It's adoption could be misconstrued to suggest that analogous materials (especially those with a lower Btu content than suggested) at other facilities would be classed as solid waste. Ecology does not wish to so broaden the applicability of chapter 434 in this rule making.

Suffice it to say that this rule making is not intended to extend to definition of "solid waste" to non-hazardous industrial process waste, generated on site, with a heat value of 10,000 Btu/lb or greater, as burned, used as a replacement for fossil fuel in an industrial boiler. Ecology does not wish to change the interpretation of what is waste and what is an on-site byproduct that is used as fuel. Incineration of such materials is presumably regulated as permitted fuels subject to rules other than chapter 434.

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Commenter(s): Ken Johnson

Comment # 62

Weyerhaeuser Company

03/07/29

### Comment

Weyerhaeuser Company's comments on this proposed regulation revision are provided below. Weyerhaeuser operates a number of combination-fuel fired combustion units in Washington. None of these combustion units are subject to WAC 173-434.

The Focus Sheet and Draft Cost-Benefit Analysis identify that only a few facilities in Washington are currently subject to this regulation. The lack of commentary or analysis on emission units or source categories not presently regulated strongly implies that Ecology's intention is not to broaden the reach of the regulation. There is, however, some ambiguity in the definition of "solid waste" and in how the "wood waste" term might be applied such that uncertainty on the scope of this revised rule could result. Our sole interest with this regulation revision is to ensure that its jurisdictional scope is not inadvertently expanded to encompass our combination fuel-fired combustion units.

\* \* \*

Thank you for the opportunity to provide these comments. If Ecology decides to retain WAC 173-434 then a clear statement on the "wood fiber-derived fuel" issue will be important in the Response to Comments. If Ecology, in fact, intends for some wood fiber fuel types to be considered as solid waste, then the agency should re-propose the regulation.

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### Response

Please refer the response to comment ##63-65.

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Commenter(s): Ken Johnson

Comment # 63

Weyerhaeuser Company

03/07/29

### Comment

Ecology should critically evaluate whether WAC 173-434 is even needed.

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## WAC 173-434 Comment Responsiveness Summary

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Discussion – The fundamental question is whether WAC 173-434, once amended, accomplishes anything of importance beyond the existing regulatory requirements facing the Washington emission units identified in the Focus Sheet. Existing emission units would be subject to WAC 173-400, WAC 173-401, and probably federal PSD and NESHAPs requirements. New or modified units would likely need to satisfy a federal New Source Performance Standard (seven are mentioned in the proposed regulation.) It is not clear what regulatory niche WAC 173-434 occupies and whether the rule is needed to accomplish an important regulatory outcome.

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### Response

Because chapter 434 is a component of the SIP, its elimination would entail procedural steps in coordination with EPA that would likely have been time consuming and burdensome. This likelihood is exemplified by the relaxation analysis conducted for two relatively narrow aspects of the amendments; railroad ties and the SO2 averaging period.

The purpose of this rule amendment is not to eliminate or expand WAC 173-434, solid waste incineration. Any such purpose was not specified in the CR-101 and CR-102 forms, which set the scope of the rule writing.

The many rules promulgated by EPA in the years since chapter 434 was adopted in 1990 fill narrowly defined niches. Chapter 434 is of much broader applicability, and fills the gaps between EPA rules by catching activities that fall between the cracks. Three of these encompassing provisions of chapter 434 are the broadly inclusive broadly encompassing definition of "solid waste" in chapter 434, the chapter's lower threshold of 12 tpd, and its earlier applicability date.

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Commenter(s): Ken Johnson

Comment # 64

Weyerhaeuser Company

03/07/29

### Comment

The structure of and terminology used in WAC 173-434 defies a clear and crisp determination of the emission units subject to the regulation and the emission control requirements.

Discussion - Proposed WAC 173-434-110 is difficult to comprehend. The interface of this regulation with federal new source performance standards and NESHAPs requirements is especially confusing. A document provided with this rule package labeled "Waste Sets" attempts to show the interaction between federal and state regulation on the basis of the "solid waste" definition. It is extremely confusing.

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### Response

Also of interest may be the response to comment #54.

The section 110 amendments are based on a simple concept of displacing the substantive requirements of 434 with those of subpart Eb. Weaving together the applicability provisions of the two rules raised complicating nuances. The background documents, provided on the web, help with this understanding, although the "Waste Sets" chart has proven to be lacking in explanatory text. Ecology added a "road-map" subsection to section 020 to help explain the rule's new structure.

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Commenter(s): Ken Johnson

Comment # 65

Weyerhaeuser Company

03/07/29

### Comment

The definition of "solid waste" and intended meaning of "wood waste" in proposed WAC 173-434-030(3) needs to be broad enough to encompass the full set of fiber-based fuels.

Discussion - Weyerhaeuser combination fuel-fired combustion units burn fiber-based fuels referred to

## WAC 173-434 Comment Responsiveness Summary

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as: hog fuel, wood waste, salt-water hog fuel, fiber-derived waste, effluent treatment sludge, de-ink fiber rejects, urban wood including lumber trim pieces, hogged pallets/crates, paper cubes, oil absorbent booms, hogged railroad ties, old corrugated container rejects, shredded wood waste from material recycling facilities, log sort yard debris, sawdust, wood dust, chips, shavings, bark, wood demolition debris, etc. In short, any fiber by-products or wastes originating from the wood products industry might be used as combustion unit fuel.

Consistent with what appears to be Ecology's intention, the meaning of the term "solid waste" should not include fuels generically characterized as "wood fiber-derived fuels." Additionally, the term "wood waste" should be recognized as broadly including all "wood fiber-derived fuels." The caveat, of course, is that if any of these fuels would cause a combustion unit to become a "new source" through WAC 173-400-030 and WAC 173-400-112 or 113, or any federal regulation, then appropriate permitting will be needed to gain regulatory approval to burn the fuel.

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### Response

"Wood waste" is not defined in chapter 434, and the amendments do not address the meaning of wood waste. This term has ramifications beyond, and definitions outside of chapter 434. The laundry list supplied by the commenter seems to imply that anything containing wood fiber would be "wood waste" under chapter 434, including railroad ties. This runs counter to the specific exception in the definition of "solid waste" added for creosote-treated wood. If railroad ties were wood waste simply because they contain wood fiber, that exception would not have been necessary. There is no intention for these amendments to address the issue of recognizing "wood waste" as broadly including all "wood- fiber-derived fuels."

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Commenter(s): Marcia Kato

Comment # 66

03/08/10 6:33 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet. South and Southwest Seattle continue to be affected by strong odors indicative of air pollution that has been linked to a cement factory on the Duwamish River.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Jennifer Kessler

Comment # 67

03/07/10

### Comment

## WAC 173-434 Comment Responsiveness Summary

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I have been reading a lot lately about the devastating impacts persistent toxic chemicals such as mercury and dioxin can have on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

As a citizen of the state of Washington, I respectfully request that you keep me informed as to the outcome of this important decision. Thank you for your assistance.

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### Response

Please refer the response to comment #111.

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Commenter(s): Margaret Kitchell

Comment # 68

Washington Physicians for Social Responsibility

03/08/12

### Comment

Washington Physicians for Social Responsibility opposes any exemption for cement kilns from the state incineration rule. The dangers posed from burning tires, PCB contaminated oil, and other wastes are an unnecessary public health hazard, especially in urban areas. These wastes contain or produce dioxin, lead, mercury, and other persistent toxins with well-documented health hazards.

The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

It is discouraging that Washington Ecology, praised for its visionary comprehensive strategy to phase out persistent toxins, would now be considering exempting a source of those very emissions from protective regulations. We urge you to put Washington's health and environment first.

Thank you for considering our comments. We look forward to your response.

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### Response

Please refer the response to comment #111.

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Commenter(s): Melissa Kohler

Comment # 69

### Comment

03/07/10 9:21 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health



## WAC 173-434 Comment Responsiveness Summary

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and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. Yet infants are not the only ones who are affected. Mercury is toxic to anyone! In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators. Dioxin is also linked to such female health disorders as endometriosis.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals. Please do not let Washington air to become even more polluted than it is!

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): T. Larson

Comment # 70

### Comment

03/07/20 10:00 AM

I OBJECT TO ANY CHANGES TO THE SOLID WASTE INCINERATOR RULE [ WAC 173-434 ]. My reasons follow:

(1) My wife and stepson are double-blind tested "toxic/allergic to fluorine-bearing compounds (fluorides)" which are ubiquitous in the environment now--no thanks to volcanic eruptions, "Street" drugs and prescription pharmaceuticals as well as industrial pollution. Fluorine gas and fluoride particulates from the combustion of fossil fuels, wheat and grassfield, coal and wood burning as well as solid waste incineration are also relatively unmonitored.

(3) I have idiosyncratic chemical sensitivity--possibly the result of my having been born and raised in Hanford's "Greenrun" region of North Idaho--which sensitized me to the influence of thyroid-compromising airborne pollution principal of which is fluorine gas and particulates from waste incineration.

An honorably-serving, decorated Veit Nam veteran who was thereby exposed to bio-accumulative thyroid-compromising defoliant warfare chemicals, which hypersensitized me to more than 50% of the pharmaceuticals employed in modern medicine, I am one of the few who by the grace of God learned of this fact and subsequently learned how to overcome the resulting chemical-induced health problems by switching to a chemical-free (i.e. "organically-grown-foods") diet which brought me back to an optimal level of health until, that is, the Spokane Waste Incinerator began operating the latter part of August, 1991.

Within 60 days of its start-up, my energy level began falling and within the following six months, while co-workers within my U.S. PHS Mailhandler's department were suddenly experiencing

## WAC 173-434 Comment Responsiveness Summary

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strange new disease symptoms or angina pain or heart attacks or chronic flu symptoms and the upper respiratory problems began to suddenly increase, others as well as myself were struck with heart muscle arrhythmia or arm, leg or back muscle stiffness or paralysis.

I am a long-term employee of the USPHS and am well-acquainted with the health problems among my co-workers. Prior to the Spokane Waste Incinerator the usual problems were the result of their poor choices in diet and life-style and included the usual long-term acquired results of habitual junk food, tobacco and alcohol consumption.

I have never used tobacco products and have been on an alcohol and soft-drink-free, chemical-free, "organic" diet for the better part of my mature adult life. Now, at retirement age, I have no chronic disabling health problems and am still able to handle "overtime" work (12 to 14 hour days) and regularly do so. I am the only one among my co-worker peers who can. Even so, beginning when the Spokane Waste Incinerator went "on-line," I began to have a struggle to maintain optimal health, especially upper respiratory health, and more so when the Spokane Valley region has air inversions. Last winter was the worst. Needless to say, I must work the Overtime because average health care insurance, including the state's own version, do not pay for the kind of health care which keeps me and my family healthy.

In the mid-eighties I remarried a woman who, along with my stepson, are also chemical-sensitive and who also have been on a chemical-free optimal diet for over thirty years now.

At that time I owned property and lived in a semi-industrial area near downtown Spokane where, when I rototilled the backyard to fulfill my new wife's vegetable garden desires the non-nutritive "products" under the top soil of that area prompted our investigating the history of that region.

Subsequently we learned the houses in that neighborhood were built over one of the first Spokane city garbage dumps which regularly burned and buried its garbage back then.

We also learned that the problems caused by the garbage burning was instrumental in outlawing the burning of garbage in Washington state over 50 years ago. What happened to the state legislature when the Incinerator Salesmen came to town?

There's an old saying which questions the intelligence of those who cannot or will not learn from the lessons of the past: they are condemned thereby to repeat the same mistakes.

I REITERATE: DO NOT RELAX WASHINGTON STATE INCINERATOR LAW. IT SHOULD BE MORE STRICT, IN FACT, INDUSTRIAL AND MUNICIPAL WASTE INCINERATION SHOULD BE OUTLAWED!

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### Response

Please refer the response to comment #111.

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Commenter(s): Margaret Lee

Comment # 71

### Comment

03/07/16

I am 70 years old. I have lived long enough to know the harm that can be done by allowing pollutants into the air and soil and water.

Years ago, after Rachael Carson's book, "A Silent Spring", was published our attitude about DDT changed, but it took a long time to get the word out; to pass legislation; to wean people away from old

## WAC 173-434 Comment Responsiveness Summary

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habits. At that time, every garage and basement in the mid-west, (the annoying bug capital of America where I grew up), had cans and big metal sprayers full of the stuff. It was easy to use and believe me, everyone used it. On warm summer nights, children ran around spraying everything and each other. Innocent.

That seems long ago, but we are yet paying a price for such choices. And, to our shame, we continue making decisions about toxic substances that will have harmful effects for generations to come.. Why? Not because we don't know any better. Not because the studies haven't been done. We cannot claim to be innocent.

Mr. Cross, you have the obligation to uphold your commitment to reducing persistent toxic chemicals in our State. Why have you changed course?

Who will gain from a decision to allow more, extremely toxic substances to flow into our environment, such as Dioxin, from the Tacoma Steam Plant, Dioxin and Mercury from burning PVC, (the state legislature recently passed SHB 1002 to reduce the release of Mercury into the environment), contaminants from burning creosote soaked wood at the Kimberly Clark facility in Everett, PCB's from burning contaminated oil at the cement kilns at Ash Grove and La Farge?

We are each accountable for what we use and discard, but you, (and my legislators), have the responsibility to take the lead by educating the public about choosing products wisely; by encouraging recycling and finding alternative solutions for the disposal of hazardous material. If you don't have the money to make sure your department, ECOLOGY, meets its obligations to protect the health of the citizens of Washington, (this is the usual excuse I am given), please tell me and I will do everything in my power to convince my representatives to provide the necessary funding.

Please encourage and reward companies who move toward zero pollution.

I will look for a positive response from Department of Ecology and my elected representatives.

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### Response

Please refer the response to comment #111.

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Commenter(s): Kristina Logsdon

Comment # 72

### Comment

03/08/08 11:05 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #112.

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Commenter(s): Mike Lonergan

Comment # 73

Tacoma City Council

03/07/24 3:21 PM

### Comment

The taxpayers of the City of Tacoma have made a large investment in our waste-to-energy incinerator/steam plant. This investment was made in good faith with a reasonable expectation of effectively disposing of waste and at the same time generating needed electricity.

Tacoma city government is involved in partnerships with the Department of Ecology and others to clean up contaminated areas in and around the city. Our commitment and resolve to protect the environment and restore the ecology are clear, and have been backed with substantial public and private investment.

Rules governing a waste-to-energy type incinerator should be reasonable, and scientifically supportable, and should take into account the reality of large capital investment made by a municipality on behalf of Washington State citizens, and also additional costs that will be incurred if that capital investment cannot be used for its intended purpose. It is reasonable to recognize and give weight to the fact that waste must be disposed of in some fashion, and energy must be generated in some fashion, and that both waste disposal and energy production entail some necessary effect on the environment.

Justice demands that rules governing a waste-to-energy incinerator such as Tacoma's be reasonable, and that those rules allow the citizens who have invested in this facility to achieve a benefit from it. The reality of air quality should be weighed against the fact that disposing of waste in any fashion, and generating energy in any fashion, also have environmental impacts. A reasonable standard should be applied that will allow this plant to operate in a practical fashion, with economic viability in order that the 197,000 citizens of Tacoma are able to recover their good faith investment in this facility. This should be done without further delay.

### Response

Also of interest may be the responses to comments ## 55 & 111.

At Ecology, our mission is to protect, preserve and enhance Washington's environment, and promote the wise management of our air, land and water for the benefit of current and future generations. Our goals are to prevent pollution, clean up pollution, and support sustainable communities and natural resources. Our values include environmental stewardship, environmental justice, environmental education, community spirit, professional conduct and expertise, accountability, and our employees.

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Commenter(s): Lis Lutz

Comment # 74

03/07/09 2:56 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by

## WAC 173-434 Comment Responsiveness Summary

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strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Dave & Deb Luxem

Comment # 75

### Comment

03/08/08 12:24 PM

Persistent toxic chemicals such as mercury and dioxin have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals. Thank you for considering this important issue. Sincerely,

Thank you for your time and consideration.

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### Response

Please refer the response to comment #112.

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Commenter(s): Audrey Lyle

Comment # 76

### Comment

03/08/07 9:53 PM

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #112.

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Commenter(s): Beth Lynch

Comment # 77

### Comment

03/07/16 4:37 PM

I am opposed to the allowed burning of tires, tire derived fuel, and waste oil contaminated with dangerous heavy metals. I live near Lafarge and Ashgrove Cement companies which are currently allowed to burn waste oil, tires, coal, etc.

For the last two years an acrid, chlorine-like odor has been persistent in the air in various Seattle South End neighborhoods and is believed to come from Lafarge. Residents have experienced respiratory problems when breathing the strong, caustic odor. There seems to be no end to this problem because Lafarge continues to deny responsibility.

Because the odor has been the focus, we haven't even delved into the problem of the long term health effects of all the emissions. The only continuous emission monitoring required is for NOx and SO2. It is my understanding these companies don't monitor at all for metals such as lead and mercury that are emitted (or end up in cement itself).

Washington State has never done a comprehensive health study of the area near these industries. From recent air studies funded by the EPA, we do know that the Georgetown neighborhood, adjacent to the Duwamish industrial area, is the most polluted of all the Seattle neighborhoods.

Frankly, I am frustrated with the low and outdated federal and state pollutant standards, and variances to these standards by local governing agencies. Please put more consideration to the needs of residents, and oppose the proposed relaxation of incineration rules.

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### Response

Please refer the response to comment #111.

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Commenter(s): Connie Marsh

Comment # 78

### Comment

03/08/08 6:20 AM

I am dismayed to learn about cement kilns potentially being exempt from air quality regulations. The point is to make the human impact less, rather than letting it flow on unhindered. I realize Ecology does many good things to protect our future quality of life, but it would be an error to allow this exemption. Waste that is more hazardous needs to be treated in the most environmentally protective way possible.

Thanks for your interest.

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### Response

Please refer the response to comment #112.

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Commenter(s): Llewellyn Mathews  
Northwest Pulp&Paper

Comment # 79

### Comment

03/08/12 3:30 PM

NWPPA supports revisions to 173-434 WAC, Solid Waste Incinerator Facilities, rules to remove creosote treated wood from the definition of "solid waste."

This change has net environmental benefits. The proposed exemption of creosote treated wood will increase the desirability of using this material as a fuel to replace or supplement wood hog fuel. This valuable material might otherwise be directed toward landfills, a wasteful scenario in several respects.

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## WAC 173-434 Comment Responsiveness Summary

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NWPPA believes that emissions from modern, well-maintained and properly operated wood waste-fired boilers do not pose a risk and that, based on test results, there is no significant difference in emissions in wood fuel containing creosote.

The proposed rules contain two important environmental caveats.

First, the facility must have an order of approval or PSD permit issued after August 1, 2003. NWPPA agrees with this approach. NWPPA would, however, appreciate written clarification in the Response to Comments. Ecology is about to embark on a multi-year effort to reform its New Source Review rules. Is it your intention that the term, "an order of approval" would be broad enough to encompass the applicable review requirements that may emerge from that process? If so, the proposed language will suffice.

Secondly, NWPPA agrees that creosote wood that is saturated with salt water should not be part of the exemption. The proposed language is an improvement over the prior limitation, "on or near" salt water. The proposed revised language, "such wood has not been in or repeatedly splashed by marine or brackish water," is still fairly subjective. You might consider simply using the word "saturated."

Thank you for addressing the issue of creosote wood in this rulemaking so that wood-fired boilers do not face a duplicative regulatory scheme to utilize this material as a fuel.

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### Response

\* The term "order of approval" is expected to be broad enough.

\* At some point in the range of possibilities, the saltiness of the creosote treated wood will be sufficiently ambiguous as to require the exercise of judgment by a permit engineer. See the example in the response to comment #1.

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Commenter(s): Pat Maxwell

Comment # 80

Comment

03/07/09 12:56 PM

Ecology is proposing changes to WAC 173-434, the solid waste incinerator rule. The rule contradicts Ecology's policy to eliminate persistent toxic chemicals by allowing the continuation and expansion of solid waste incineration in Washington

Don't do it!  
strengthen rules against air pollution instead of weakening them.

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### Response

Please refer the response to comment #111.

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Commenter(s): Sandy McCandless

Comment # 81

Comment

03/07/11

I want to urge you to protect our environment and health from toxic pollution by prohibiting more incineration. Please do not allow the Tacoma Steam Plant to reopen. Please ban the burning of all toxic waste.

We should be phasing out the use of incinerators, as they release dioxins into the air. My husband has had cancer twice. This is a time to reduce the pollution in our environment.

## WAC 173-434 Comment Responsiveness Summary

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Lets work to reduce our waste by recycling and phase out incinerators.

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### Response

Please refer the response to comment #111.

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Commenter(s): Hannah McFarland

Comment # 82

03/07/09

### Comment

The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by thusly strengthening solid waste incinerator regulations in Washington:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen;
- \* Phase out existing incinerators such as the Spokane incinerator; and...
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

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### Response

Please refer the response to comment #111.

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Commenter(s): Jill McGrath

Comment # 83

03/07/24 4:43 PM

### Comment

I am writing out of the desire to protect my children's health. I am a teacher, and I firmly believe we need to take better care of our environment for future generations.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

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## WAC 173-434 Comment Responsiveness Summary

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Thank you for considering this important issue.

### Response

Please refer the response to comment #111.

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Commenter(s): Erick McWayne

Comment # 84

Northwest Environmental Training Center

03/07/09 2:30 PM

### Comment

I am writing to urge you to protect human health and the environment from persistent toxic pollution by making solid waste incinerator regulations more stringent in Washington.

To protect human health, we need the new incinerator regulations to:

- 1) Prohibit new incineration.
- 2) Not allow the Tacoma Steam Plant to reopen.
- 3) Phase out ALL existing incinerators.
- 4) Immediately ban the burning wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB contaminated oil.

Best available science has changed in the last few decades and we now all know that low levels of airborne toxins can have long term significant affects that are unacceptable. The Dept. of Ecology's number one role is to strictly protect human health. Please consider the people who live downwind of these incinerators when making the final rule.

Thank you for your service to this wonderful state.

### Response

Please refer the response to comment #111.

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Commenter(s): Jodi Meekins

Comment # 85

### Comment

03/07/10 9:36 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #111.

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Commenter(s): Bonnie Miller

Comment # 86

### Comment

03/07/24

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. I am writing you because it is important to protect our health and the environment. I am writing you because it is important to protect our health and the health of our children. You can make the difference in the quality of life for our citizens.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Bonnie Miller

Comment # 87

### Comment

03/08/08

We in the State of Washington depend upon you and your agency to protect our air from toxic chemicals resulting from burning solid wastes. You do have a program to eliminate persistent toxic chemicals that result from certain materials that are used by commercial companies in their burning matter. How can you allow the cement kilns to be exempted from these rules when they are they most egregious offenders to our clean air? Two of these cement kilns are in the Seattle area, one of the most densely populated areas of our state. Please act to protect our children. We are well aware of the health impacts of poisoned air.

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### Response

Please refer the response to comment #112.

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Commenter(s): Dustin Moon

Comment # 88

### Comment

03/07/09 12:50 PM

I understand that below is a letter that may have already crossed your desk numerous times. I am forwarding this letter on because the concerns raised within echo my sentiments exactly. I hope you act, with all your power, to strengthen regulations regarding solid waste incineration.

Persistent toxic chemicals such as mercury and dioxin have devastating impacts on human health and

## WAC 173-434 Comment Responsiveness Summary

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the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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"However destructive may be the policies of the government and the methods and products of the corporation the root of the problem is always to be found in private life. We must learn to see that every problem that concerns us ... always leads straight to the question of how we live. The world is being destroyed--no doubt about it--by the greed of the rich and powerful. It is also being destroyed by popular demand. There are not enough rich and powerful people to consume the whole world; for that, the rich and powerful need the help of the countless ordinary people." Wendell Berry, Essayist and Farmer

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### Response

Please refer the response to comment #111.

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Commenter(s): Dustin Moon

Comment # 89

### Comment

03/08/08 11:11 AM

I'm pleading to your sensibilities of the present and to your compassion for the future - please do not allow the burning of garbage in cement kilns, especially without strict regulations to protect the health and environment of us all.

If there is a program already in place to eliminate persistent toxic chemicals (mercury, dioxin, and PCB's) then why would the Dept. of Ecology directly hinder this program and goal by allowing industry to burn garbage that results in such toxins?

I'm sure you're already aware that these types of pollutants have been linked to a wide variety of human health impacts, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic damage.

The burning of garbage exposes people to the devastating impacts of persistent toxic pollution - please, please do not allow it.

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### Response

Please refer the response to comment #112.

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## WAC 173-434 Comment Responsiveness Summary

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Commenter(s): Bobbie Morgan  
Natural Landscapes Project

Comment # 90

03/07/26 5:48 PM

Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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Response

Please refer the response to comment #111.

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Commenter(s): Bobbie Morgan  
Natural Landscapes Project

Comment # 91

03/08/12

Comment

I stand in strong opposition to exempting cement kilns from recently proposed environmental controls. The burning of garbage emits dangerous poisons into the air. Long-lasting pollutants are released by such burning, with dire consequences to human health. Dioxin, PCB and mercury are all contaminants that are by-products of the burning of garbage (tires, solvents, etc.) in cement kilns. Of course, you know this. And you also know that the very department you work for has a campaign to reduce toxic emissions in Washington state. So, it really makes no sense to allow more toxic emissions from cement kilns. We know the dangers. The policy is clear. What is needed is the political will to do the right thing. That is why I am writing, to represent the average citizen who breathes Washington air, drinks Washington water and relies on Washington's Department of Ecology to ensure that our air and water are safe, so our very bodies do not become burdened with toxic emissions.

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Response

Please refer the response to comment #112.

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Commenter(s): Amy Mower

Comment # 92

03/07/16 1:39 PM

Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

## WAC 173-434 Comment Responsiveness Summary

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I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Nancy Newman

Comment # 93

### Comment

03/07/18 2:23 PM

The compelling dangers of persistent toxic chemicals are well documented.

Actions we take or do not take now, will have far reaching effects long into our children's futures.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Please do what is necessary now, to prevent the long terms costs of this pernicious pollution.

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### Response

Please refer the response to comment #111.

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Commenter(s): Cathy Nolan

Comment # 94

### Comment

03/07/15 8:00 AM

I learned that the Department of Ecology has proposed a rule that will allow expansion of solid waste incineration in Washington.

I urge you not to go forward in this direction. Please work to protect the neurological health of Washington's citizens by phasing out solid waste incinerators as the burning of wastes results in persistent toxic pollution.

## WAC 173-434 Comment Responsiveness Summary

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Thank you,

### Response

Please refer the response to comment #111.

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Commenter(s): Paul Osebold

Comment # 95

### Comment

03/07/11 3:57 PM

Please ban solid waste incineration.

### Response

Please refer the response to comment #111.

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Commenter(s): Fatima Oswald, Glenn Eades  
The Mountaineers

Comment # 96

### Comment

03/08/12 10:23 AM

Please accept the attached comment letter (also pasted below) as The Mountaineers official comments for the proposed exemption of cement kilns from incinerator air pollution control regulations in Washington State.

Thank you for the opportunity to submit these comments.

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Cement kilns burn a variety of wastes which may result in toxic emissions of mercury, dioxin, and Polychlorinated Biphenyls (PCBs). The Mountaineers, a Washington state conservation and recreation organization with over 13,000 members, understand that the owners of several Seattle area cement kilns seek exemption from incinerator air pollution control regulations which would limit such emissions.

The EPA Dioxin Reassessment Document was released on June 12, 2000. This document estimates that average levels of dioxin in ALL Americans is "at or approaching levels" where we can expect to see a variety of dioxin induced health effects, including immunosuppression, reproductive irregularities, heart disease, and cancer in humans.

Exposure to mercury, a potent neurotoxin, can cause mental problems, as well as impaired vision, speech, hearing, and coordination. High levels can damage the brain, kidneys and lungs, and can cause death. Mercury can harm wildlife as well as human health.

PCBs may result in neurobehavioral and immunological changes in children and are known to cause cancer in animals. Killer whales found in the Puget Sound region are now considered to be among the most contaminated marine mammals in the world. They are contaminated with PCBs.

We remind you that in August, 1998, the Washington State Department of Ecology (Ecology) challenged the state of Washington to develop a strategy to "virtually eliminate" the release of 27 Persistent Bioaccumulative Toxins, (PBTs) and suggested accomplishing this goal by 2025. Ecology's draft strategy selected a list of nine of these toxins as priorities for elimination, including mercury and PCBs.

Protection of human health and the environment is best achieved by prohibiting the incineration of wastes that will result in the release of dioxin, mercury, and PCB pollution. Such prohibition is consistent with Ecology's stated strategy. Bearing that in mind, cement kilns should be subject to the

## WAC 173-434 Comment Responsiveness Summary

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same regulations as any other solid waste incinerator. We urge you to deny any exemption of cement kilns from solid waste incinerator regulations.

Thank you for the opportunity to comment on this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Chris Page

Comment # 97

### Comment

03/07/09 12:10 PM

Please don't add to the damage already being done to the life on earth in the great northwest.

The proposed changes to WAC 173-434 contradict your agency's policy to eliminate persistent toxic chemicals by allowing the continuation and expansion of solid waste incineration in Washington.

Solid waste incineration should be stopped because:

- Nationally, the Environmental Protection Agency (EPA) has identified solid waste incinerators as among the top sources of dioxin emissions to air.
- The EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In 2001, Toxics Release Inventory data showed that the Tacoma Steam Plant released 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption. There are environmentally preferable alternatives to burning waste, such as recycling and re-use of products. Every effort should be made to use these alternatives rather than incinerate.

Please support re-use and recycling of these materials instead of incineration.

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### Response

Please refer the response to comment #111.

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Commenter(s): Jonathan Pasley

Comment # 98

### Comment

03/07/13 12:22 PM

Please do not support the proposed changes to WAC 173-434.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.

## WAC 173-434 Comment Responsiveness Summary

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\* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Jonathan Pasley

Comment # 99

### Comment

03/08/08 9:25 AM

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Tanja Pederson

Comment # 100

### Comment

03/07/17

It has come to my attention that the Department of Ecology has proposed a rule that will allow expansion of solid waste incineration in Washington. I urge you not to support this proposed rule because there are environmentally preferable alternatives to burning waste, such as recycling and re-use of products. Every effort should be made to use these alternatives rather than incinerate.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from the persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to.

Thank you for your considering this important issue.

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### Response



## WAC 173-434 Comment Responsiveness Summary

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Please refer the response to comment #111.

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Commenter(s): Kim Phan

Comment # 101

Comment

03/08/11 7:03 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

Response

Please refer the response to comment #112.

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Commenter(s): Susan Prescott

Comment # 102

Comment

03/07/10 7:29 AM

I am responding to a notice from the Washington Toxics Coalition concerning the proposal by the Department of Ecology to expand waste incineration in this state. I am concerned that present incinerators have not been designed or retrofitted to control toxic air emissions. Until there is funding and a program to improve these incinerators, I am requesting that the incinerators be phased out.

Response

Please refer the response to comment #111.

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Commenter(s): Jill Reifschneider

Comment # 103

Comment

03/07/31 2:48 PM

It is my understanding that the Department of Ecology has a program to eliminate persistent toxic chemical including mercury, dioxin, and PCBs. A recent proposal to make changes to WAC 173-434, the solid waste incinerator rule, seems to contradict Ecology's policy. Rather than eliminating persistent toxic chemicals, the Department is allowing the continuation and expansion of solid waste incineration in Washington. Phase out solid waste incinerators and the burning of wastes that result in persistent toxic pollution. The Tacoma Steam Plant, the Spokane incinerator, the Kimberly-Clark facility in Everett, the Ash Grove and LaFarge cement kilns are among the polluters that worry me. Protect us from the top sources of dioxin emissions to our air by not making the proposed changes to solid waste incineration rules. Thank you.

Response

Please refer the response to comment #111.

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## WAC 173-434 Comment Responsiveness Summary

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Commenter(s): Peter Rimbos, Naomi Rimbos

Comment # 104

Comment

03/07/10 9:15 AM

We are writing to you today because of our concern regarding persistent toxic chemical. these chemicals, such as mercury and dioxin, can have devastating impacts on human health and the environment. The National Academy of Sciences estimates 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

We urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in our state to:

1. Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
2. Phase out existing incinerators such as the Spokane incinerator.
3. Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

We firmly believe eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for listening to our comments and acting soon on our recommendations regarding this important issue to current and future generations of Washingtonians.

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Response

Please refer the response to comment #111.

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Commenter(s): Peter Rimbos, Naomi Rimbos

Comment # 105

Comment

03/08/09 9:30 AM

We are writing to you today to submit public comment concerning the burning of toxic wastes in cement kilns. As you and your department are keenly aware, persistent toxic chemicals (e.g., mercury and dioxin) can have major impacts on human health and our shared environment. We've read The National Academy of Sciences estimates 60,000 infants are born each year are at risk of neurological problems caused by exposure to mercury in the womb. Also, the EPA estimates 1 in 1000 people in the US may be at risk for developing cancer from a primary pollutant from incinerators--dioxin.

We urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If it is decided that cement kilns are permitted to burn these wastes, then they should be subject to regulations equal to or more stringent than regulations all solid waste incinerators must meet.

Once persistent toxic chemicals are released into our environment, they (1) stay around for decades (in some cases forever), (2) build up in the food chain, and (3) eventually make their way into our bodies. We believe eliminating burning of wastes is a critical step towards ensuring the health of Washington's people and environment, and, consequently, should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering our comments, concerns, and recommendations on this important issue to all

## WAC 173-434 Comment Responsiveness Summary

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Washingtonians. Please place this correspondence in the Public Record.

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### Response

Please refer the response to comment #112.

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Commenter(s): Stephanie Roche

Comment # 106

03/07/09 5:05 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Stephanie Roche

Comment # 107

03/08/11 12:16 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

## WAC 173-434 Comment Responsiveness Summary

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Please refer the response to comment #112.

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Commenter(s): John Schinnerer

Comment # 108

Comment

03/07/09 12:14 PM

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

Actions that need your support for implementation:

- Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- Phase out existing incinerators such as the Spokane incinerator.
- Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for taking action on this issue.

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Response

Please refer the response to comment #111.

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Commenter(s): Susan Shouse

Comment # 109

Comment

03/08/08 12:33 PM

I strongly urge you to prohibit cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution.

It seems that the more we know about what can harm people, the more we disregard this information and give in to corporate greed. Disallowing the burning of toxic garbage is just common sense and allowing cement kiln burning promoters to be exempt is a crime.

Please do the right thing and protect human health and the environment by prohibiting cement kilns from contributing to the pollution problem.

Thank you for considering this important issue.

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Response

Please refer the response to comment #112.

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Commenter(s): David Smead

Comment # 110

Comment

03/08/08 2:25 PM

Prevent toxic material from incineration in cement kilns.

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## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #112.

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Commenter(s): Brandie Smith

Comment # 111

Washington Toxics Coalition

03/07/22

### Comment

Transcript of rule Hearing Testimony, July 22, 2000

My name is Brandie Smith, I am a toxic campaigner with the Washington Toxics Coalition, I am also environmental attorney and in general we have serious concerns about the incineration of solid waste and it's contribution to persistent toxic pollution. Most specifically we have concerns with the rule change, because it contradicts the Department of Ecology's policy to eliminate persistent toxic chemicals, by allowing new sources of this pollution. I just mentioned that Department of Ecology has a program to eliminate persistent toxic chemicals including dioxin, mercury and PCBs. These chemical persistent in the environment for long periods of time. They build up in the fat of animals and humans, increasing in concentrations as they move up the food chain. And they're extremely toxics in minute amounts. Persistent toxics chemical have been linked to birth defects, reproductive failure, learning and behavior problems in young children, cancer and other health problems. Exposed sources go the Environmental Protection Agency has identified solid waste incinerators of among the top sources of dioxin emissions to air nationally. These incinerators also a source of lead, cadmium and mercury air emissions. Dioxin lead cadmium and mercury also wind up in the incinerator ash bed, mostly land filled. Mercury and Dioxin pollution are concerns that solid waste incinerators, because of many products that enter the waste stream either contain these chemicals or contribute to the formation of these chemicals when burned. Polyvinyl chloride, one of the most widely used plastic in the world, is also one of the largest chlorine sources in municipal waste. When PVC is burned dioxin and other persistent chemicals are emitted into the air. Similarly, when mercury containing products of burned, mercury is emitted into the environment. According to the 2001 Federal Toxic Relief Inventory data the Tacoma Incinerator reported releasing 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate a fish in 28 acre lake, to the point where they are unsafe for human consumption. The proposed changes to the state incinerator ruling incorporate 40 CFR part 60 subpart Eb which establishes a dioxin emit of 30 mammograms to DSCM and a mercury limit of 0.8 milligrams DSCM per day. These limits are based on a mission level that are being achieved by the better controlled and lower emitting sources in a industrial not health based standards. The only safe level of dioxin, and mercury from a incinerator stack is zero based on the current health concerns and based on the levels on our bodies. Even though these limits are an improvement over the current rule, we disagree with the practices of allowing these chemicals to be discharged in any amounts, particularly when alternative to incineration are available and used throughout the state and country. The only way to eliminate persistent toxic pollution is to stop the release of these chemicals and that sources. In addition to the above comments, we disagree with the proposed changes to exclude creosote treated wood, wood waste, tires and other beneficial industrial by-products from the definition of solid waste. First of all, we are concerned with the vagueness of the terms of beneficial and industrial by-products and wood waste. After a review of the definitions in 173-434 and 173-3400 it appears that these words are not clearly defined, potentially creating a loop-hole for burning a variety of waste that are contaminated with persistent toxic chemicals such as PVC and PENTA. Secondly, we are concerned about the exclusion of creosote treated wood, tires and other waste from the definition of solid waste because when burned these waste contributed to persistent toxic pollution. We believe that the burning of these waste should be banned and in order to be consistent with Ecology's policy to eliminate persistent toxic chemicals. However, if Ecology allows Kimberly-Clark and the Cement \_\_\_\_\_ to burn the aforementioned waste they should at the very minimum trigger the incinerator rule and should have comply with the emission standards from mercury and dioxin.

## WAC 173-434 Comment Responsiveness Summary

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Based on the above information we request that the Department of Ecology protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington to prohibit new sources of incineration, phase out existing incinerator such as – and (excuse me) and immediately ban the burning of waste that would result in persistent toxic pollution, including PVC, mercury products, creosote treated wood, tires and PCB contaminated oil. Thank you.

### Response

See also the response to comment #112. Also of interest may be the response to comment #55.

Chapter 434 was not originally conceived with the idea of limiting incineration per se, only the emissions there from. The purpose of these rule amendments is not to prohibit, phase out, ban, eliminate, expand, or encourage incineration of solid waste. Any such purpose was not specified in the CR-101 and CR-102 forms, which set the scope of the rule writing. Ecology may not have the authority, as delegated by the legislature, to prohibit new sources of incineration, to prohibit the reopening of the Tacoma Steam Plant, or to phase out existing incinerators such as the Spokane Incinerator. Within the allowable scope of this rule writing, emissions of toxic and criteria air pollutants should be better controlled.

The decisions to manage waste through incineration at the Spokane and Tacoma facilities was made years ago, and not without controversy. Ecology even played a role in funding of the facilities. Ecology is not in a position to turn back the clock and revisit those decisions.

The obsolescence and expense of solid waste incineration is a question for case by case determination by the owners and operators of the particular facilities. This is a private decision for some facilities, and public for others. The amendments adding stricter emission standards do not encourage solid waste incineration. The amendments make it more difficult and expensive to incinerate waste, other than creosote treated wood. The burning of railroad ties has been conducted for a couple years at the Kimberly-Clark facility, and has been found to be environmentally benign and not obsolete.

Ecology agrees that recycling and reuse are preferable to incineration and landfilling. There are some innovative methods being developed and marketed for recycling oil, tires, and railroad ties. These are consuming a small fraction of the potential material however. Ties, oil, and tires have high energy content, and burning them displaces significant amounts of other fuels such as coal and waste wood. The two facilities in Washington that burn MSW are at the tail end of waste management systems that include source separation and recycling. The leftover material is either burned or buried.

Solid waste can be heterogeneous, particularly MSW. PVC can be one of the waste materials that pervade MSW. Mercury can also pervade MSW, though less so in recent years as source separation and product substitution programs have been introduced. Oil containing over 50 ppm of PCBs would be a dangerous waste subject to more rules than chapter 434, 40 CFR 761.60 for example. The permit for burning waste oil at the LaFarge cement plant prohibits incinerating such oil.

The TRI On-site and Off-site Reported Releases of Mercury compounds by CITY OF TACOMA STEAM PLANT NO. 2 (TRI ID 98421CTYFT1171T) for 2001 is 46 pounds.

The proposed amendments do not allow the expansion of solid waste incineration in Washington. It is already legal to burn solid waste such as railroad ties, tires, and MSW in

## WAC 173-434 Comment Responsiveness Summary

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Washington.

\* Kimberly-Clark is already burning railroad ties under a variance from chapter 434. Without the amendments, K-C could apply to burn railroad ties under chapter 434. For K-C, or any other facility, to burn creosote-treated wood on an ongoing basis, they would have to apply for a permit. Such applications are decided by local air authorities after soliciting public involvement.

\* Both of the two cement plants on Washington are already permitted to burn tires. The proposed amendments would not have granted a new right to burn tires. Tires could previously have been burned, if in accordance with all applicable laws. The final amendments give all facilities an alternative compliance scheme by way of subpart Eb.

\* Chapter 434 contains no limit on the amount of solid waste incineration. The TSP (Tacoma Steam Plant) began incinerating RDF (refuse derived waste) under NOC order of approval 2546, March 26, 1986. RDF was limited to no more than 30% of fuel in NOC order of approval 6858, November 12, 1997. The air operating permit issued in 2002 gave the TSP two options; either burn no more than 12 tpd of solid waste or submit a plan for compliance with chapter 434. A new or existing facility could apply for a permit to build or expand solid waste incineration capacity under either the existing or the amended versions of chapter 434. The Pollution Control Hearings Board recites the plant history as follows in PCHB case # 02-020, City of Tacoma Dept. Public Works v. State of Wash. Dept. Ecology (June 14, 2002):

"The Tacoma Steam Plant (TSP) is owned by Tacoma Public Utilities and operated by the City of Tacoma, Department of Public Works and the Tacoma Energy Recovery Company (TERC). The TSP is a power generation facility. By burning a mix of different fuels, including solid waste, it creates steam utilized to generate electricity.

"The TSP, built in 1931, was originally designed to burn coal to create steam to generate electricity. In 1949 it was converted to burn fuel oil. In 1973 it was removed from service after the failure of equipment central to its operation. It also lacked modern air pollution control equipment.

"From the mid-1970's to the mid-1980's, a change in social priorities encouraged municipalities, including the city, to look at alternative energy sources. The TSP became the focus of an effort to develop its current cogeneration capacity by burning refuse derived fuel (RDF). It became a source of cost-effective energy because of its low cost RDF fuel. In addition, it also became an efficient and environmentally acceptable source of solid waste disposal.

"Pursuant to its new purpose, in 1986, the Puget Sound Air Pollution Control Agency (PSAPCA) issued the first notice of construction order of approval to the TSP (Order of Approval No. 2546). This order approved installation and operation of two fluid bed combustors, a special technology enabling the plant to burn a variety of fuels, such as coal, wood, paper, leather, plastic and cloth. In its provisions, Order No. 2546 also contained regulatory conditions the TSP must comply with in order to operate. In 1987, the Department of Ecology adopted WAC 173-434 to regulate the operation of solid waste incinerator facilities. In 1988, Tacoma sent PSAPCA a request for variance from the application of WAC 173-434. PSAPCA responded, informing the city that the plant's conditions of operation did not require it to comply with WAC 173-434. Over the next twelve years the TSP applied for and was granted several notice of construction, orders of approval ('NOC Order of Approval'). In none of these orders was compliance with WAC 173-434 required.

"In 1995, the TSP submitted a Title V operating permit application to the PSAPCA, which stated WAC 173-434 was an inapplicable requirement. The PSAPCA acknowledged by letter stating the application was complete as written.

"In October of 2000, after application by TSP, the Puget Sound Clean Air Agency (PSCAA) published notice of a 30-day comment period for draft Order of Approval No. 8093 and draft

## WAC 173-434 Comment Responsiveness Summary

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Air Operating permit No. 28780. During the public comment period members of the public raised the issue that WAC 173-434 should apply to the TSP. To insure completeness of the public record, PSCAA asked Ecology to indicate its opinion on the issue in writing. In January of 2001 Ecology indicated to the PSCAA that WAC 173-434 did apply to the TSP. Thereafter the City of Tacoma withdrew draft Order of Approval No. 8093. On January 25, 2002, PSCAA issued revised Air Operating Permit No. 28780 requiring the TSP to comply with WAC 173-434 and setting forth a compliance schedule with a final compliance deadline of January 1, 2003. On this date the TSP must certify to PSCAA that it is burning less than 12 tons of solid waste per day. On February 6, 2002 the City of Tacoma Department of Public Works and Tacoma Energy Recovery Company filed an appeal with the Pollution Control Hearings Board ('Board'), contesting Air Operating Permit No. 28780 as issued."

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Commenter(s): Brandie Smith

Comment # 112

Washington Toxics Coalition

03/08/12 10:40 AM

Comment

The Washington Toxics Coalition respectfully submits the following comments on the proposed changes to WAC 173-434. The Toxics Coalition is a statewide non-profit organization with over 1300 members working to prevent toxic pollution in industry, agriculture and in the home.

### General Comments

We have serious concerns about the incineration of waste for several reasons.

1. The Environmental Protection Agency (EPA) has identified solid waste incinerators as among the top sources of dioxin emissions to air nationally. These incinerators are also a source of lead, cadmium, and mercury air emissions. Dioxin, lead, cadmium, and mercury also wind up in the incinerator ash that must be landfilled.
2. The Department of Ecology has a program to eliminate persistent toxic chemicals including dioxin, mercury, and PCBs. These chemicals persist in the environment for long periods of time, they build up in the fat of animals and humans increasing in concentration as they move up the food chain, and they are extremely toxic in minute amounts. Persistent toxic chemicals have been found at dangerous levels in Puget Sound orca whales and dioxin in particular is known to travel far distances, contaminating pristine areas (and people) of the Arctic. Basically, there is no place on earth that has not been contaminated with this type of pollution. Along with Washington, international and national bodies such as the International Joint Commission on the Great Lakes, the United Nations, the EPA and others have recognized the dangers of persistent toxic chemicals and have called for phase-outs of these chemicals.

If the Department of Ecology accepts the proposed changes to WAC 173-434, it will contradict its own policy to eliminate persistent toxic pollution by allowing an increase of incineration in Washington.

3. There are environmentally preferable alternatives to burning waste and every effort should be made to use these alternatives rather than incineration. Such alternatives include recycling, composting and reuse. Permits should not be given to facilities to burn wastes that are recyclable or reusable.
4. Current federal and state incinerator regulations play a toxic shell game with persistent toxic pollution, transferring these poisons from air to ash. The standards merely require the addition of more sophisticated control technology to an incinerator. The pollution control devices catch more of the pollution, but result in more concentrated dioxins and metals in the fly ash, which must be disposed of in a landfill. This back-ended approach to pollution control has been proven over and over again to fail in regards to persistent toxic chemicals. We need to prevent these chemicals from being created in the



## WAC 173-434 Comment Responsiveness Summary

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first place.

We request that the Department of Ecology strengthen the state solid waste incinerator rule by prohibiting new sources of incineration, phasing out existing sources of incineration, and immediately banning the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), tires, mercury products, creosote treated wood, and PCB contaminated oil.

### Specific Comments

\* \* \*

### Conclusion

Based on the above information, we urge the Department of Ecology to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington State to:

... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.

... Phase out existing incinerators such as the Spokane incinerator

... Subject cement kilns to the requirements of WAC 173-434.

... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, creosote-treated wood, tires and PCB contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment ## 113-115. See also the response to comment #111. Also of interest may be the responses to comments ## 2, 16, 39, & 55.

The Proposed Strategy to Continually Reduce Persistent Bioaccumulative Toxins (PBTs) in Washington State, December 2000, Department of Ecology Publication No. 00-03-054 states the following:

"PBTs are chemicals and/or pollutants that: 1. Remain in the environment for a long time (persist) without breaking down. 2. Accumulate in the environment and build up in the tissues of humans, fish, and animals (bioaccumulative). 3. Are toxic (causing cancer and other health problems) to living organisms, including humans.

"The Department of Ecology (Ecology) is interested in these chemicals and pollutants because they act very differently than most chemicals we currently regulate. Unlike other chemicals we release into the environment, these do not dissipate or break down over time. They may even go undetected because the quantities are so small, yet they can build up to harmful levels in humans and the environment.

"The Governor's budget proposal supports Ecology's request for \$1,216,000 from the State Toxics Control Account to implement this strategy during the 2001-03 biennium. With this account, 2.3 FTEs will be funded (\$190,000 per FTE for the biennium), and the remaining dollars (\$779,000) will be dedicated to developing and implementing: 1. A PBT public education program 2. A PBT baseline monitoring program 3. Chemical-specific action plans \$54,000 of this amount will be allocated to the state Department of Health to assist Ecology with this effort. Depending on legislative action in the 2001 session, Ecology will either proceed with the full proposed strategy or continue to work with EPA and its National PBT

## WAC 173-434 Comment Responsiveness Summary

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Strategy."

The Washington State Mercury Chemical Action Plan, January 2003, Department of Ecology Publication No. 03-03-001 states the following:

"Under guidance by the 2002 Legislature, the Washington State Departments of Ecology and Health have developed the Mercury Chemical Action Plan. This plan targets mercury as the first priority in the state's Persistent, Bioaccumulative Toxins (PBT) Strategy and describes elements of a statewide campaign to virtually eliminate the use and release of human-caused mercury in Washington State. Currently, about 3,800 to 5,000 pounds of mercury are released into Washington's environment each year from human sources within the state. Mercury pollution comes from land-filling, incinerating, or flushing down the drain a variety of consumer products; mining; coal-powered plant emissions; refineries; municipal sewage plants; and other sources. Mercury discharged to land, air, or water can eventually find its way to lakes, rivers, and the ocean, where it settles into sediments. By focusing on better waste disposal, management, and recycling, mercury pollution can be greatly reduced.

"This document identifies sources of human-caused (anthropogenic) mercury in Washington State, outlines the existing regulatory structure around mercury, describes existing mercury-reduction efforts, identifies possible strategies for further mercury reduction, and makes recommendations for action to be taken by the state Department of Ecology and the state Department of Health."

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Commenter(s): Brandie Smith

Comment # 113

Washington Toxics Coalition

03/08/12 10:40 AM

Comment

A. Prevent mercury, dioxin, and lead air emissions by requiring an emission limit of zero.

Mercury is a potent neurotoxin. It can also harm the brain, kidneys, and lungs. Mercury pollution has led to numerous fish advisories in Washington State, including a recent statewide advisory on bass due to high mercury levels found through fish testing.

Dioxin can cause a range of health problems from learning disabilities to cancer. The EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, with the current average daily intake of dioxin at more than 200 times the amount considered safe by the agency.

Mercury and dioxin pollution are concerns at solid waste incinerators because many products that enter the waste stream either contain these chemicals or contribute to the formation of these chemicals when burned. Polyvinyl chloride (PVC), one of the most widely used plastics in the world, is also one of the largest chlorine sources in municipal waste. When PVC is burned, dioxin and other persistent chemicals are emitted into the air. Similarly, when mercury-containing products are burned, mercury is emitted into the environment. According to the 2001 federal Toxics Release Inventory data, the Tacoma incinerator reported releasing 46 pounds of mercury on and off site. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption.

In addition to the aforementioned wastes, cement kilns and Kimberly Clark want to burn wastes such as tires, PCB contaminated oil, and creosote treated wood. The burning of such wastes contribute to persistent toxic pollution. For example, burning tires contributes to the release of dioxin, furan, benzene and other cancer causing carcinogens into the environment. In addition, tires contain 17 heavy metals including lead, chromium, arsenic and zinc, none of which burn in the incineration process but remain in the fly ash after it exits the stack. According to 2001 TRI data, Ash Grove Cement released 1151 pounds

## WAC 173-434 Comment Responsiveness Summary

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of lead compounds to the air. Lead has been linked to brain damage in children.

The proposed changes to the State incinerator rule incorporate 40 CFR part 60, subpart Eb, which establishes a dioxin limit of 30 ng/dscm per day and a mercury limit of .08 mg/dscm per day. These limits are based on emission levels that are being achieved by the better-controlled and lower-emitting sources in an industry, not health based standards. The only safe level of dioxin and mercury from an incinerator stack is zero based on the current health concerns and based on the levels in our bodies. Even though these limits are an improvement over the current rule, we disagree with the practice of allowing these chemicals to be discharged in any amounts, particularly when alternative practices are available. The only way to eliminate persistent toxic pollution is to stop the release of these chemicals at their source.

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### Response

Mercury and dioxin are recognized as toxic. The Proposed Strategy to Continually Reduce Persistent, Bioaccumulative Toxins (PBTs) in Washington State, December 2000, Publication #00-03-054, page 44, states the following:

"Previous and current sources: Dioxin does not have any commercial uses. It has been found in the environment, in the products and emissions of chemical plants manufacturing chlorinated phenols, and in the ash residues and emissions of municipal waste incinerators. Emissions may also occur from pulp and paper manufacturing plants, industrial accidents, combustion, and gasoline and diesel exhaust.

"Health effects: EPA recently completed its review of the health literature on dioxin in the Dioxin Reassessment. EPA currently considers dioxin to be a known human carcinogen based on limited evidence in humans. Studies on dioxin health effects in animals have also demonstrated possible developmental effects, reproductive effects such as endometriosis, and immunological effects such as thyroid problems.

"Other health effects associated with higher exposures: The most noted health effect in people who have been exposed to large amounts of the form 2,3,7,8-TCDD is chloracne, a severe skin disease. Other symptoms include skin rashes, discoloration, and excessive body hair. There have also been reported changes in individual's blood and urine that indicate liver damage."

The Proposed Strategy, page 45-46, states the following:

"Previous uses: Mercury is used as a cleaning agent in some soaps and as a base for pesticides. It is also used in chemical production, batteries, dental fillings, thermometers, switches, and in pharmaceuticals.

"Health effects: Individuals exposed to mercury are most likely exposed to the organic species of this chemical (e.g., methylmercury). Human health effects associated with methylmercury include severe neurological disorders in infants exposed during pregnancy. Other health effects noted in adults include numbing in the extremities such as fingertips and toes. Mercury has not been classified by EPA as a probable or known human carcinogen. More-recent reviews conducted by ATSDR continue to find supporting evidence in humans of neurological effects associated with low levels of methylmercury. However, more-recent studies have reported mixed findings with regards to the developmental effects of methylmercury (e.g., mean age in children to begin walking or talking).

"Other health effects associated with higher exposures: The nervous system is very sensitive to all forms of mercury. Symptoms include irritability, shyness, tremors, changes in vision or hearing, and memory problems. Exposure to the vapors can cause effects such as lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes,

## WAC 173-434 Comment Responsiveness Summary

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and eye irritation."

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Commenter(s): Brandie Smith  
Washington Toxics Coalition

Comment # 114

Comment

03/08/12 10:40 AM

B. Creosote-treated wood, tires and other industrial byproducts should not be excluded from the proposed definition of solid waste.

The proposed changes to the state's solid waste incinerator rule, WAC 173-434(3) defines solid waste in the following way:

"Solid waste" means all putrescible and nonputrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, discarded commodities, septage from septic tanks, dangerous waste, refuse derived fuel, solid waste derived fuel, problem wastes, and all, which are not primary products of public, private, industrial, commercial, mining, and agricultural operations. This definition includes, but is not limited to, all materials that fit the definitions of solid waste in 40 CFR 60, subparts CCCC or DDDD, in effect on July 1, 2002. Notwithstanding the above, solid waste does not include

- (a) creosote treated wood at facilities with an order of approval or Prevention of Significant Deterioration (PSD) permit issued after August 1, 2003, for burning such wood, provided that such wood has not been in or repeatedly splashed by marine or brackish water,
- (b) at a Portland cement plant.
- (i) Tires, and
- (ii) Beneficial industrial byproducts consumed as raw materials, such as bottom ash, slag, and gypsum board,
- (c) wood waste, or
- (d) sludge from waste water treatment plants."

We are especially concerned with the exclusion of creosote treated wood, tires, and other wastes from the definition of solid waste because when burned these wastes contribute to persistent toxic pollution. We believe that the burning of these wastes should be banned in order to be consistent with Ecology's policy to eliminate persistent toxic chemicals. However, if Ecology allows Kimberly-Clark and the cement kilns to burn the aforementioned wastes, they should at the very minimum, trigger the incinerator rule and should have to comply with the emission standards for mercury and dioxin.

1. Burning tires, creosote treated wood and other wastes at industrial facilities results in persistent toxic pollution, and if excluded from the proposed definition of solid waste, these facilities will be subject to less stringent standards that regulate these chemicals.

According to U.S. EPA, tire combustion is a source of dioxins, furans, lead and PCBs (See DRAFT Exposure and Human Health Reassessment of 2,3,7,8- Tetrachlorodibenzo-p-dioxin (TCDD) and Related Compounds, September 2000, Chapters 3.6 & 11.4). Under the proposed rule, tires are excluded from the definition of solid waste in order to allow Portland cement plants to use tires as a fuel source. This exclusion results in allowing cement kilns to burn tires, a source of persistent toxic chemicals, without triggering the proposed state incinerator rule, which if adopted will establish more stringent limits for dioxin and mercury. Currently, under the federal Clean Air Act, cement kilns must comply with 40 CFR63 subpart LLL, which establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the NESHAP standards are not as stringent as the Eb standards in the proposed rule. As a result, if cement kilns do not trigger the incinerator rule, they will be subject to more relaxed standards overall.

## WAC 173-434 Comment Responsiveness Summary

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Our concerns are similar for excluding creosote treated wood from the definition of solid waste. Under the proposed rule, a facility with an order of approval or Prevention of Significant Deterioration (PSD) permit, will be allowed to burn creosote treated wood without triggering the incinerator rule. Although the facility is required to obtain a permit, PSD permits do not address chemicals such as dioxin, mercury and other persistent toxic chemicals. These permits primarily address criteria pollutants. Therefore, if a facility is allowed to burn creosote treated wood, it should at the very least have to comply with the emission standards in the proposed rule, should it be adopted.

In addition to the above arguments, test burn results from one facility show that burning creosote treated wood increased the amount of benzo-a-pyrene, a persistent toxic chemical, targeted by the Department of Ecology for elimination.

2. Ecology should not declassify what is clearly solid waste so that industrial facilities are exempt from the new rule.

In order for regulations to be consistently applied to industrial facilities, all industries participating in the same practices should be subject to the same rules. Therefore, if an industry burns solid waste, these wastes should be included in the definition of solid waste in the regulation and governed by the solid waste incinerator rules.

3. The language used to exempt wastes is too broad and should be clarified to avoid potential loopholes.

We are concerned with the vagueness of the terms "beneficial industrial by-products" and "wood waste." After a review of the definitions in 173-434 and 173-400, it appears that these words are not clearly defined, potentially creating a loophole for burning a variety of wastes that are contaminated with persistent toxic chemicals, such as PCBs and penta.

In particular we are concerned with the language "beneficial industrial by-product." This language could apply to a wide range of by-products and it gives industry the flexibility of saying that something is a beneficial use product and not a waste. By using the phrase "such as," there is room to expand this exemption beyond the raw materials listed in the proposed rule. We believe that this exemption should be eliminated but if it remains in the proposed rule, Ecology should tighten the language by adding the phrase "limited to" and then listing the materials.

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### Response

1) The amendments require a facility that may desire to burn creosote treated wood to obtain an NOC permit and, if applicable, a PSD permit. Obtaining an NOC permit entails new source review for TAPs (toxic air pollutants) under WAC 173-460. Any increase in the amount of any particular TAP would be screened under the steps specified in chapter 460. The cement plants already have obtained permits for those materials that they are already incinerating. These permits happen to be under examination in the context of the Title 5 review.

2) See the response to sub-comment #3 of this comment.

3) The comment that the terminology is vague is reinforced by the interpretations propounded by other commenters in comments ## 2 & 35 ("beneficial industrial by-products") and #65 ("wood waste"). The "beneficial industrial by-products" language is absent from the final amendments, rendering part of this comment moot. Also of interest may be the response to comment #19. New language has been substituted that more clearly identifies the two waste streams that are "grandfathered" at cement plants. Please refer the responses to comments

## WAC 173-434 Comment Responsiveness Summary

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## 2 & 65 with regard to the part of the comment related to "wood waste."

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Commenter(s): Brandie Smith  
Washington Toxics Coalition

Comment # 115

Comment

03/08/12 10:40 AM

C. Cement kilns should not be exempted from WAC-173-434.

Fundamentally, we disagree that cement kilns should be able to burn wastes at all for two reasons: 1) cement kilns are not designed to burn wastes and 2) both cement kilns in this state operate in highly populated Seattle, where people could be exposed to the devastating impacts of persistent toxic pollution. Cement kilns should be required to burn the cleanest fuels possible, such as natural gas, to run their operations.

1. If cement kilns are going to continue burning wastes such as tires and PCB contaminated oil, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

If cement kilns are going to be allowed to continue burning wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet. As mentioned earlier in the comments, the proposed changes to WAC 173-434 excludes tires and other "beneficial industrial by-products" from the definition of solid waste. This is problematic because without including these wastes, cement kilns may not trigger the stricter emission standards of proposed rule 173-434 even though they are operating in a manner consistent with other industries that are subject to the rule and they have similar emissions of toxic chemicals into the environment. For example, according to 2001 TRI data, the Tacoma Steam Plant released .663 grams of dioxin and dioxin like compounds into the environment and Lafarge released 3.8000000 grams of the same. If facilities are going to use wastes as fuel sources, they should be subject to the same standards.

In addition, the cement kilns are asking for a complete exemption from the rule but they want to leave the door open to burn other alternative fuels without triggering the rule. We believe that it is unacceptable to exempt the cement kilns from WAC 173-434 if they are going to continue burning wastes.

a. The proposed changes to rule 173-434 incorporate emission standards that are more stringent than the federal National Emission Standards for Hazardous Pollutants (NESHAP) that the cement kilns are subject to at this time.

Cement kilns are subject to federal emission standards under 40 CFR part 63, subpart LLL, that are less stringent than the emission standards in the proposed changes to WAC 173-434. We are especially concerned with the absence of mercury, lead and other heavy metal standards in the regulations governing cement kilns. According to 2001 federal Toxic Release Inventory (TRI) data, Ash Grove Cement Co. released 77 pounds of mercury to the air and Lafarge released 73 pounds of mercury compounds to the air. This is a significant amount considering that one gram of mercury is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption. Furthermore, both Ash Grove and Lafarge are located close to the Duwamish River, a federal Superfund site that is currently under going clean-up. One of the main contaminants of concern in the river is mercury. It is counter-intuitive to allow industries along the river to continue emitting persistent toxic chemicals like mercury around a site that is being cleaned up because of toxic contamination. Such practices increase the probability of recontamination and do little to protect the health of people eating fish from the river.

## WAC 173-434 Comment Responsiveness Summary

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We are also concerned that there is no emission standard for lead in the NESHAP requirements. Exposure to lead is especially dangerous to young children and the developing fetus as it is passed on from mother to child. Health effects include reproductive problems, learning deficits and behavioral problems, brain damage, and cancer. As discussed above, according to 2001 TRI data, Ash Grove Cement released 1151 pounds of lead compounds to the air. It is unacceptable for a facility to release this amount of lead without being subject to emission standards.

b. The testing and monitoring requirements for dioxins and furans are more stringent in proposed WAC 173-434 than in the NESHAP requirements.

Under the NESHAP requirements, a facility is required to conduct a performance test to demonstrate initial compliance with dioxin/furans standard. If the facility is below the standard, it is not required to test again for five years unless there is a change in operations. In contrast, under 173-434, a facility must test emissions of dioxins/furans for two consecutive years and the emissions must be below 7 ng/dscm before the facility has more relaxed testing requirements. This difference between the requirements is extremely relevant in this situation because the cement kilns are asking for an exemption from the incinerator rule so that they can have flexibility to burn alternative fuels. If there is a mixture of fuels being used in the operations it is imperative that the facility conduct regular testing of dioxin/furans.

2. Cement kilns are "incinerator facilities" as defined in WAC 173-434 and thus, should be subject to the state solid waste incinerator rule.

Cement kilns that are burning more than 12 tons of waste per day should be subject to WAC 173-434 because they fall within the definition of "incinerator facility." The proposed changes to WAC 173-434-030 (1) defines "incinerator facility" in the following way.

"Incinerator facility" means all of the emissions unit(s), including quantifiable fugitive emissions, which are located in one or more contiguous or adjacent properties, and are under the control of the same person(s), whose activities are principal or ancillary to the incineration of solid waste. Ancillary activities include, but are not limited to, solid waste receiving, segregating and processing, solid waste derived fuel receiving and handling, fuel storage and mixing, heat recovery equipment, steam generating equipment, cooling towers, emissions control equipment, ash handling, ash storage, and combustion.

In June 2002, The Pollution Control Hearings Board (PCHB) determined that the definition of the term "incinerator facility" was clear and unambiguous and thus applied to facilities that burned solid waste as an ancillary activity to its primary purpose. Specifically the PCHB stated:

"The Board sees no anomaly in the fact that in WAC 173-400 "incinerator" is defined in terms where the primary purpose of the burning unit is the combustion of solid waste, whereas in WAC 173-434 the term "incinerator facility" broadens the regulatory scope to include units whose burning of solid waste may be only "ancillary" to its primary purpose." City of Tacoma Department of Public Works and Tacoma Energy Recovery Co. v. The State of Washington Department of Ecology, PCHB NO. 02-020, June 14, 2002, pp. 4.

The PCHB went on to say that, "[t]he different purposes of these two regulations (WAC 173-400 and WAC 173-434) would not be well served if the term "incinerator facility" did not have this distinct and separate meaning. See *id.* Thus, if the cement kilns are going to continue burning wastes such as tires, PCB contaminated oil, and other alternative fuels, they are operating as "incinerator facilities" and should be governed by the rules that regulate such facilities.

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### Response

## WAC 173-434 Comment Responsiveness Summary

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Please refer the response to comment ## 16 & 39.

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Commenter(s): Brian Smith

Comment # 116

Comment

03/07/10 2:41

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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Response

Please refer the response to comment #111.

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Commenter(s): John Soderberg

Comment # 117

Comment

03/07/09 12:46 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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Response



## WAC 173-434 Comment Responsiveness Summary

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Please refer the response to comment #111.

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Commenter(s): Katherine Sopher

Comment # 118

Comment

03/07/11 11:11 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.

... Phase out existing incinerators such as the Spokane incinerator.

... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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Response

Please refer the response to comment #111.

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Commenter(s): Katherine Sopher

Comment # 119

Comment

03/08/08 11:15 AM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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Response

Please refer the response to comment #112.

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Commenter(s): Julie Taylor

Comment # 120

## WAC 173-434 Comment Responsiveness Summary

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03/08/10 12:35 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Leeann Tourtillott

Comment # 121

Educational Consulting

03/07/10 10:46 AM

### Comment

The current standards that the department of Ecology is proposing re burning of toxins sound too risky to me. I understand that it is difficult to deal w/these toxic substances and the allure of having an "alternate fuel source" is tempting. BUT, the nature of the mercury, PVC and PCB contaminants that are released are so persistent that it is irresponsible to condone burning with such a result.

I'm afraid the Tacoma steam plant, the Spokane plant and the cement projects all fall in this category of creating PERSISTANT environmental hazardous waists.

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### Response

Please refer the response to comment #111.

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Commenter(s): Kevin Uhl

Comment # 122

03/07/09 3:20 PM

### Comment

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl

## WAC 173-434 Comment Responsiveness Summary

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chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Shannon Valderas

Comment # 123

### Comment

03/07/10 7:33

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

Sincerely,  
Shannon Valdera

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### Response

Please refer the response to comment #111.

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Commenter(s): Noemie Vassilakis

Comment # 124

### Comment

03/08/08 12:58 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that

## WAC 173-434 Comment Responsiveness Summary

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are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #112.

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Commenter(s): Lyn Vaughn

Comment # 125

### Comment

03/07/24 12:50 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- ... Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- ... Phase out existing incinerators such as the Spokane incinerator.
- ... Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Mark Wahl

Comment # 126

### Comment

03/07/09 2:57 PM

There is simply no justifiable reason for placing the population of Puget Sound in jeopardy through the burning of toxic waste. It has long been known that it generates intolerable quantities long-lived dioxin and mercury in the air and both are simply unacceptable cancer risks for your children and grandchildren or mine.

I request that you move not in a regressive but enlightened way to:

- \*Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \*Phase out existing incinerators such as the Spokane incinerator.
- \*Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Please give this your most important and unbiased attention. Once the genie is out of the jar it can't be put back in.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #111.

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Commenter(s): Rose Waldram-Larson

Comment # 127

### Comment

03/07/20 5:26 PM

I object to changes in Washington state solid waste incinerator law which would do other than eliminate solid waste incineration. My concerns follow and are based on personal health and medical experience as well as personally researched data.

My son and I are are double-blind tested "toxic/allergic to fluorine-bearing compounds (fluorides)". The smokestacks of waste incinerators, especially the one here on the West Plains of Spokane, emit various forms of this highly toxic element which is currently not well monitored.

I am also a Hanford "Downwinder" having lived ten years in the Spokane and North Idaho region in the late forties and early fifties. At age 13 I was medically diagnosed with clinical hypothyroidism.

Anyone with thyroid problems must avoid excess fluoride exposure because fluorides depress thyroid function (because of this, through the sixties, fluoride treatment for goiter was commonly prescribed and the discoveries from this are now used to slow the growth of cancers which may, to the uninformed, sound great but, conversely, because they are enzyme poisons, fluorides also cause cancer).

In the late sixties I learned that, then, 30 percent or more of the drugs prescribed by MDs have a fluoride base (a recent Science News Desk research reveals this figure is now over 50%).. It was also then I learned that the pre and postnatal fluoride supplement prescribed by my Ob/Gyn during my second pregnancy was responsible for the strange and chronic health problems during that pregnancy and those of my son (which included "mild autism", an "allergy to sunlight" and a depressed immune response) for three years thereafter.

Prior to the Industrial Revolution, volcanic eruption was the main source of fluorine gas and polluting particulates in the earth's atmosphere. Now, the smoke from wheat and grassfield burning are joined by waste incineration as a little known offically umonitored source of Hydrogen-fluoride (HF) and fluoride particulate air pollution and these waste incineration effluents are, for the most part, inadequately monitored or just not monitored at all.

Because Seattle water was artificially fluoridated in 1970, our family was forced to leave our home of 15 years there because my son and I learned the hard way that fluorides, even though one is buying and using "F"-free bottled water for drinking and cooking, can be absorbed through the skin via showering, bathing and swimming. Subsequently, we moved to unfluoridated Portland, Oregon in 1972.

A five-year experience there with industrial-source HF and F-particulate air pollution taught us about air-borne fluorine/fluorides. Thanks to an environmentally-aware Portland M.D. and two employees of local polluting metal refining industries, I accessed life-saving information as well as the practical experience re the little-known myriad sources of "F" pollution in the environment.

In the late eighties, as founding members of Spokane's CITIZENS FOR CLEAN AIR , our concerns were for the increased health risk this posed re the relatively unmonitored fluorine/fluoride output of waste incinerators. I unsuccessfully attempted to enlarge the Spokane city/county council's frame of reference with what I'd discovered: an Environmental Impact Study (EIS) conducted ten years after the same brand of Incinerator (then being promoted for Spokane) had been installed in a nearby Canadian

## WAC 173-434 Comment Responsiveness Summary

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province, revealed that for 200 miles downwind everything grown and eaten locally (or shipped elsewhere) was contaminated with the incinerator's monitored and unmonitored toxics.

To a packed, standing-room-only, a late eighties Monday night city council meeting of an impressive majority of citizens opposing waste incineration, that era's mendacious Spokane city/county council circumvented a citizen-initiated referendum to the voter which was on the following Tuesday's ballot by signing the contract for its presently-operating Incinerator immediately following that public meeting, at 2:30 a.m. Tuesday morning.

Some time later, my son followed up on the rumor that a Spokane local Mfgr. had been denied the right to submit a bid for this project simply because they had never done this kind of work before. I was in the company of my son the day we learned for ourselves the local bid was not only reasonable (less than \$100,000) but the local contractor was willing to, in writing, stand behind his work---he would "eat" any mistakes!

COMPARE THIS ETHIC WITH WHAT SPOKANE ACTUALLY RECEIVED: A BURN PLANT COSTING \$250,000 WHICH HAS NEVER OPERATED WITHIN COMPLIANCE THE OPERATION OF WHICH HAS A CURIOUS HISTORY OF OUTWITTING ANY ATTEMPT TO COMPLETE AN E.I.S. STUDY ON IT!

The alleged "independent" consultant who recommended it (who just "loved" the Spokane region and was going to "settle" here "permanently,") was then hired to be its first Project Director. When, less than three years later he and his family moved on (to Texas where he was later heard promoting the same brand of waste management and confiding that the "Spokane incinerator was outdated even before the contract was signed") his successor (who came from long-term employment with a local air and water polluting industry) was a few years later responsible for compromising the first EIS study of Spokane's incinerator by having a conflict of interest relationship with the study's toxicologist. Now, a second EIS study's findings have been curiously withheld from public scrutiny for the past several years!

PERHAPS THIS EXPLAINS THE CURRENT PUSH FOR RELAXING INCINERATOR REGULATIONS?

Last December, Spokane experienced its "worst air inversion ever" which lasted nearly three weeks. Ten days into it, starting in my eyes and nose and from the head down, I experienced a severe case of "allergic dermatitis" (exema) which, before it was over, manifested itself in all four different varieties, covering over 40% of my body!

The entire winter last year was the "worst ever" for "one air inversion after another" .

Because over 50% of all drugs now contain a fluoride and because the standard treatment for Exema involves the use of "F"-containing medications, I spent an extremely miserable winter, to say the least! After spending over \$600 on blood tests and another \$400 seeing the M.D. (none of which was covered by the insurance my husband has through his employer) I then spent another \$1000 at a chemical detox clinic in another state in order to find relief. They, too, deduced my problem was fluoride intoxication.

ARE YOU AWARE THAT FLUORIDE TOXICOLOGY IS NOT, NEVER HAS BEEN, ROUTINE IN AUTOPSY? Is this, perhaps, the reason why the cause of S.I.D.S. is yet to be discovered?

The average dentist and MD is unacquainted/untrained in recognizing symptoms of "F" intoxication or "allergy". Is it not possible that many "death from unknown cause" victims could be the result of incorrect diagnosis and iatrogenesis as a subsequence of prescribed fluoride-containing medications?

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ARE YOU AWARE THERE WERE SOME STRANGE DEATHS AMONG THE FIRST EMPLOYEES OF THE SPOKANE INCINERATOR WHICH WERE NOT MADE PUBLIC?

BECAUSE IT IS AN ENZYME POISON, HIGH LEVELS OF FLUORIDE IN THE BLOOD STREAM OF AN INFANT OR YOUNG CHILD CAN DISALLOW THE BIOSYNTHESIS OF ENZYMES VITAL TO THE ACT OF RESPIRATION WHICH THEN INVITE DEATH BY ASPHIXIATION WHICH, IF "F" TOXICITY IS NOT INCLUDED IN AUTOPSY SOFT TISSUE ANALYSIS, THE RESULT CAN BE "DEATH FROM UNKNOWN CAUSE."

I have over thirty years of experience surviving fluoride exposure, learning thereby its myriad sources and what to avoid, principally fluoridated public water systems, chemical fertilizer, pesticides and herbicides and the foods produced by their use as well as drug medicine and the exhaust and smoke from combustion of fossile fuels, tobacco and waste incineration.

I REITERATE: WAC 173-434 SHOULD NOT ONLY NOT BE WEAKENED BUT STRENGTHENED; IN FACT, INDUSTRIAL AND MUNICIPAL WASTE INCINERATION SHOULD BE OUTLAWED!

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### Response

Please refer the response to comment #111.

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Commenter(s): Corrie Watterson

Comment # 129

### Comment

03/07/23 12:19 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): Diana West

Comment # 130

East Lake Washington Audubon Society

### Comment

03/07/09 12:20 PM

## WAC 173-434 Comment Responsiveness Summary

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Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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Commenter(s): J. West

Comment # 131

### Comment

03/07/09 1:11 PM

As a physician (and Head & Neck cancer surgeon,) I am very concerned about any reversal of our current level of environmental protection re "persistent toxic chemicals." Rather, I would encourage you to strengthen our statewide efforts to eliminate such chemicals from our air, water and soil.

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from pulp mills and incinerators.

I am writing to urge you to protect human health and the environment from persistent toxic pollution by strengthening solid waste incinerator regulations in Washington state to:

- \* Prohibit new sources of incineration. The Tacoma Steam Plant should not be allowed to reopen.
- \* Phase out existing incinerators such as the Spokane incinerator.
- \* Immediately ban the burning of wastes that result in persistent toxic pollution, including polyvinyl chloride (PVC), mercury products, and PCB-contaminated oil.

Eliminating incineration is an essential step for the health of Washington's people and environment, and should be a key part of the Department of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

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### Response

Please refer the response to comment #111.

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## WAC 173-434 Comment Responsiveness Summary

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Commenter(s): Steve Zemke

Comment # 132

Comment

03/07/09 12:11 PM

I oppose your proposed rule changes to W.A.C.173-434. Release of persistent toxins into the air we breathe and the water we drink is one of the greatest long term threats to a healthy future. We need to reduce, not allow, increases of chemicals like mercury, lead, dioxin and other harmful chemicals being released by burning municipal and other wastes in incinerators.

Emphasis needs to be put on waste reduction and waste prevention programs and efforts to reduce or eliminate the purchase and use of toxic chemicals that could get released into the environment. We need to do the right thing for our children's health and our health and for future generations who come after us. We need to phase out incineration of municipal and other waste that produces and releases persistent toxic chemicals into the environment.

Please include my comments in the hearing record and inform me of future actions on this issue.

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Response

Please refer the response to comment #111.

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Commenter(s): Steve Zemke

Comment # 133

Comment

03/08/08 10:53 AM

The buildup of persistent toxic chemicals in our environment represents a major threat to our health and the health of future generations. Your rulemaking needs to tighten not loosen restrictions on release of persistent toxic chemicals into the air, water and land.

In particular these tighter rules need to include any businesses now burning waste like cement kilns that burn tires, PCB contaminated oils and other waste that release PCB's, dioxin, and mercury. There is absolutely no reason to consider less stringent limits on toxic releases for cement kilns.

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Response

Please refer the response to comment #112.

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Commenter(s): Jill Zimmerman

Comment # 134

Comment

03/08/08 9:52 PM

Persistent toxic chemicals such as mercury and dioxin can have devastating impacts on human health and the environment. The National Academy of Sciences estimates that 60,000 infants that are born each year are at risk of neurological problems caused by exposure to mercury in the womb. In addition, the EPA estimates that one in 1000 people in the United States may be at risk for developing cancer from dioxin, a primary pollutant from incinerators.

I am writing to urge you to protect human health and the environment by prohibiting cement kilns from burning tires, PCB contaminated oil, and other wastes that will result in dioxin, mercury, and PCB pollution. If cement kilns are permitted to burn these wastes, they should be subject to regulations that are equal to or more stringent than regulations all solid waste incinerators must meet.

Eliminating the burning of wastes is an essential step for the health of Washington's people and environment, and should be a key part of Ecology's program to eliminate persistent toxic chemicals.

Thank you for considering this important issue.

## WAC 173-434 Comment Responsiveness Summary

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### Response

Please refer the response to comment #112.

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