



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## **Final Regulatory Analyses**

Including the:

- Final Cost-Benefit Analysis
  - Least-Burdensome Alternative Analysis
  - Administrative Procedure Act Determinations
  - Regulatory Fairness Act Compliance
- 

*Chapter 173-405 WAC, Kraft Pulping Mills,  
Chapter 173-410 WAC, Sulfite Pulping Mills, and  
Chapter 173-415 WAC, Primary Aluminum Plants*

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*Chapter 173-405 WAC, Kraft Pulp Milling Mills,  
Chapter 173-410 WAC, Sulfite Pulp Milling Mills, and  
Chapter 173-415 WAC, Primary Aluminum Plants*

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## List of Acronyms

|           |   |
|-----------|---|
| 1. APA    | Administrative Procedure Act            |
| 2. CAA    | Clean Air Act                           |
| 3. CBA    | Cost Benefit Analysis                   |
| 4. CFR    | Code of Federal Regulation              |
| 5. COMS   | Continuous opacity monitoring systems   |
| 6. CWPB   | Centerwork Prebake                      |
| 7. EPA    | Environmental Protection Agency         |
| 8. FIP    | Federal Implementation Plan             |
| 9. LBA    | Least-Burdensome Alternative            |
| 10. NAAQS | National Ambient Air Quality Standards  |
| 11. PSD   | Prevention of Significant Deterioration |
| 12. RCW   | Revised Code of Washington              |
| 13. RFA   | Regulatory Fairness Act                 |
| 14. SIP   | State Implementation Plan               |
| 15. SSM   | Startup, shutdown, and malfunction      |
| 16. SWPB  | Side Work Prebake                       |
| 17. TF    | Total fluoride                          |
| 18. VOC   | Volatile Organic Compounds              |
| 19. WAC   | Washington Administrative Code          |

# Executive Summary

This report presents the determinations made by the Washington State Department of Ecology (Ecology) as required under chapters 34.05 and 19.85 RCW for adopted amendments to the Kraft Pulping Mills, Sulfite Pulping Mills, and Primary Aluminum Plants air quality rules (chapters 173-405, 173-410, and 173-415 WAC, respectively; the “rules”). This includes the:

- Final Cost-Benefit Analysis (CBA)
- Least-Burdensome Alternative Analysis (LBA)
- Administrative Procedure Act Determinations
- Regulatory Fairness Act Compliance

The Washington Administrative Procedure Act (APA; RCW 34.05.328(1)(d)) requires Ecology to evaluate significant legislative rules 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 law being implemented.”

The APA also requires Ecology to “determine, after considering alternative versions of the rule...that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives” of the governing and authorizing statutes (RCW 34.05.328(1)(d)).

The APA also requires Ecology to make several other determinations (RCW 34.05.328(1)(a) – (c) and (f) – (h)) about the rule or rules, including authorization, need, context, and coordination.

The Washington Regulatory Fairness Act (RFA; chapter 19.85 RCW) requires Ecology to evaluate the relative impact of rules that impose costs on small businesses. It compares the relative compliance costs to small businesses to the largest businesses affected.

All determinations are based on the best available information at the time of publication.

The amendments focus on the three rules covering kraft pulping mills, sulfite pulping mills, and primary aluminum plants, and revising the State Implementation Plan (SIP) to reflect the language amended in each of the three rules.

In response to a rulemaking petition filed by Sierra Club, the US Environmental Protection Agency (EPA) has officially notified Washington (and 35 other states) to amend their startup, shutdown, and malfunction (SSM) rules and update their SIPs to correct identified deficiencies (a SIP call).

The baseline rules allow companies to:

- Avoid enforcement actions for exceeding the emissions standards during startup, shutdown, scheduled maintenance, and malfunction, provided that they reported the excess emissions in a timely manner, and demonstrate the excess emissions were unavoidable.

- Exceed emission standards during soot-blowing and grate cleaning of boilers.

EPA interprets the baseline rule language as limiting EPA and other parties from enforcing applicable requirements in the federal courts. In the baseline rule, unavoidable excess emissions from specific activities, or excess emissions determined unavoidable by the permitting authority, are exempt from emission standards and not considered violations.

The primary purpose of the adopted amendments is to align the rules with the General Regulations for Air Pollution Sources (chapter 173-400 WAC), the federal Clean Air Act (CAA), and the Environmental Protection Agency (EPA) startup, shutdown and malfunction (SSM) policy. The current interpretation of the federal Clean Air Act in federal court decisions and EPA SSM policy require emission standards apply at all times, even during periods of SSM, and without automatic or discretionary exemptions.

On August 16, 2018, Ecology amended the primary air quality rule covering SSM (chapter 173-400 WAC, General Regulations for Air Pollution Sources) to align with the SSM SIP Call, EPA SSM policy and the federal Clean Air Act (CAA). This rulemaking is adopting amendments that align chapters 173-405, 173-410, and 173-415 WAC with the August 2018 adopted chapter 173-400 WAC to:

- Remove impermissible provisions that excuse excess emissions from enforcement actions.
- Establish new alternative standards for opacity during startup or shutdown, soot-blowing and grate cleaning, and refractory curing.
- Establish processes to set facility-specific alternative emission limits for existing sources that exceed an emissions standard in the SIP.
- Simplify excess emissions notification and reporting requirements.

Other amendments include:

- Revising the time limit for submitting source testing reports.
- Correcting typos and clarifying rule language without changing its effect.
- Updating references.

### **Summary of the adopted amendments:**

Amendments applicable to all covered facilities (kraft and sulfite pulping mills and primary aluminum plants):

- Create a process to establish facility-specific permit limits that exceed an emissions standard in the SIP.
- Simplify excess emissions notification and reporting requirements.
- Extend the time allowed for submission of source testing reports to 60 days.

Amendments applicable to only kraft or sulfite pulping mills:

- Remove the shield from penalties for excess emissions during startup, shutdown and scheduled maintenance, and replace it with opacity standards for refractory curing, and startup and shutdown of wood-fired or hog-fuel boilers.
- Remove the exemption from the opacity emission standard during soot blowing and grate cleaning, and replace it with an opacity standard.

### **Costs summary**

- Potential training or process change for existing certified staff to read opacity during shutdown, startup, refractory curing and soot blowing/grate cleaning at one pulping mill.
- Time cost of staff performing readings during SSM, of \$12 to \$193 per event at one pulping mill.
- We do not expect additional costs to arise from the amendments at seven of the other covered pulping mills, due to their existing monitoring technology.

### **Benefits summary**

- Rule compliance with U.S. Environmental Protection Agency requirements and federal court decisions, allowing comprehensive enforcement of applicable requirements.
- Avoided emissions violations and penalties that would occur without the alternative emissions standards.
- Potential pathway for facilities to receive site-specific emissions limits under certain circumstances. This allows facilities to continue to operate without significant capital investments.
- Clear and consistent regulatory requirements across air emissions rules.
- Time efficiencies and potential improved information in notifications and reporting of excess emissions.
- Report deadlines that better reflect the time it takes to develop them, allowing facilities to avoid late reporting.

Ecology concludes, based on a reasonable understanding of the quantified and qualitative costs and benefits likely to arise from the adopted amendments, that the benefits of the amendments are greater than the costs.

After considering alternatives to the contents of the amendments, as well as the goals and objectives of the authorizing statute, Ecology determined that the amendments represent the least-burdensome alternative of possible rule contents meeting these goals and objectives. Based on our employment research, none of the existing facilities covered by the amendments are small businesses as defined in the RFA. Consequently, Ecology is not required to prepare a Small Business Economic Impact Statement under the RFA (RCW 19.85.025(4)).



# Chapter 1: Background and Introduction

## 1.1 Introduction

This report presents the determinations made by the Washington State Department of Ecology (Ecology) as required under chapters 34.05 and 19.85 RCW, for adopted amendments to the Kraft Pulping Mills, Sulfite Pulping Mills, and Primary Aluminum Plants air quality rules (chapters 173-405, 173-410, and 173-415 WAC, respectively; the “rules”). This includes the:

- Final Cost-Benefit Analysis (CBA)
- Least-Burdensome Alternative Analysis (LBA)
- Administrative Procedure Act Determinations
- Regulatory Fairness Act Compliance

The Washington Administrative Procedure Act (APA; RCW 34.05.328(1)(d)) requires Ecology to evaluate significant legislative rules 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 law being implemented.” chapters 1 – 5 of this document describe that determination.

The APA also requires Ecology to “determine, after considering alternative versions of the rule...that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives” of the governing and authorizing statutes (RCW 34.05.328(1)(d)). Chapter 6 of this document describes our determinations for these rules.

The APA also requires Ecology to make several other determinations (RCW 34.05.328(1) (a) – (c) and (f) – (h)) about the rule or rules, including authorization, need, context, and coordination. Appendix A provides the documentation for these determinations.

The Washington Regulatory Fairness Act (RFA; chapter 19.85 RCW) requires Ecology to evaluate the relative impact of rules that impose costs on small businesses. It compares the relative compliance costs to small businesses to the largest businesses affected. Chapter 7 documents that analysis, when applicable.

All determinations are based on the best available information at the time of publication.

### 1.1.1 Background

The state legislature first enacted The Washington Clean Air Act (chapter 70.94 RCW; “The Act”) in 1957. The legislature has periodically amended The Act since that time. The most significant amendments occurred in 1965, 1971, and 1991.

The Act directs Ecology to implement the programs and requirements in the state by adopting rules. It is the intent of the Act that the implementation of programs and rules to control air pollution shall be the primary responsibility of Ecology and the local air agencies.

This statute generally covers the control of emissions from four types of sources – stationary sources; wood stoves; agricultural, silvicultural and open burning; and emissions from motor vehicles through the use of commute trip reduction strategies and programs. In this context, the general goal and objective of the statute is to control air pollution to protect human health and the environment.

The statute directs Ecology to:

- Establish rules to attain and maintain the national ambient air quality standards.
- Limit emissions from sources of air pollutants by rule and by permit.
- Protect and improve general air quality.
- Establish a statewide renewable permit program that assembles all air quality requirements in one permit.
- Take all actions necessary to secure the benefits of the federal Clean Air Act.

This rulemaking focuses on the requirements for specific types of stationary sources. The three rules Ecology is amending are among those that implement The Act. The following three rules that Ecology is amending are statewide rules enacted according to RCW 70.94.395 to attain the goal of the Washington Clean Air Act.

1. Chapter 173-405 WAC, Kraft Pulping Mills, regulates air pollution from mills that use the kraft process to produce paper pulp or paper from wood fibers. Covered mills use alkaline solution containing sodium hydroxide and/or sodium sulfide, or any other chemical for the pulping process, unless they are covered under chapter 173-410 WAC.
2. Chapter 173-410 WAC, Sulfite Pulping Mills, regulates air pollution from mills that use a cooking liquor consisting of sulfurous acid, a sulfite or bisulfite salt alone or in any combination, with or without additional mechanical refining or delignification to produce pulp, pulp products, or cellulose from wood fibers.
3. Chapter 173-415 WAC, Primary Aluminum Plants, regulates air pollution from primary aluminum reduction plants that manufacture aluminum by electrolytic reduction. These plants use processes that include pitch storage tanks, paste production plants, anode bake furnaces, potlines, and casthouses.

## 1.2 Summary of the amendments

The adopted amendments focus on the three rules covering kraft pulping mills, sulfite pulping mills, and primary aluminum plants, and revising the State Implementation Plan (SIP) to reflect amended language in each of the three rules.

In response to a rulemaking petition filed by Sierra Club, the US Environmental Protection Agency (EPA) has officially notified Washington (and 35 other states) to amend their startup, shutdown, and malfunction (SSM) rules and update their SIPs to correct identified deficiencies (a SIP call).<sup>1</sup>

The existing rules allow companies to:

- Avoid enforcement actions for exceeding the emissions standards during startup, shutdown, scheduled maintenance, and malfunction, provided that they reported the excess emissions in a timely manner, and demonstrate the excess emissions were unavoidable.
- Exceed emission standards during soot-blowing and grate cleaning of boilers.

EPA interprets the existing rule language as limiting EPA and other parties from enforcing applicable requirements in the federal courts. In the existing rules, unavoidable excess emissions from specific activities, or excess emissions determined unavoidable by the permitting authority, are exempt from emission standards and not considered violations.

The primary purpose of the adopted amendments is to align the rules with the General Regulations for Air Pollution Sources (chapter 173-400 WAC), the federal Clean Air Act (CAA), and the Environmental Protection Agency (EPA) startup, shutdown and malfunction (SSM) policy. The current interpretation of the federal Clean Air Act in federal court decisions and EPA SSM policy require emission standards apply at all times, even during periods of SSM, and without automatic or discretionary exemptions.<sup>2</sup>

On August 16, 2018, Ecology amended the primary air quality rule covering SSM (chapter 173-400 WAC, General Regulations for Air Pollution Sources) to align with the SSM SIP Call, EPA SSM policy and the federal Clean Air Act (CAA). This rulemaking adopts amendments that align chapters 173-405, 173-410, and 173-415 WAC with the August 2018 adopted chapter 173-400 WAC:

- Remove impermissible provisions that excuse excess emissions from enforcement actions.
- Establish new alternative standards for opacity during startup or shutdown, soot-blowing and grate cleaning, and refractory curing.

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<sup>1</sup> See State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, Final Action [SSM SIP Call], 80 FR 33839 (June 12, 2015).

<sup>2</sup> NRDC v. EPA, 749 F.3d 1055, 1063 (D.C. Cir. 2014) and Sierra Club v. Johnson, 551 F.3d 1019 (D.C. Cir. 2008). See the settlement agreement based on Sierra Club et al. v. Jackson, No. 3:10-cv-04060-CRB (N.D. Cal.).

- Establish processes to set facility-specific alternative emission limits for existing sources that exceed an emissions standard in the SIP.
- Simplify excess emissions notification and reporting requirements.

Other amendments include:

- Revising the time limit for submitting source testing reports.
- Correcting typos and clarifying rule language without changing its effect.
- Updating references.

### **Summary of the amendments:**

Amendments applicable to all covered facilities (kraft and sulfite pulping mills and primary aluminum plants):

- Create a process to establish facility-specific permit limits that exceed an emissions standard in the SIP.
- Simplify excess emissions notification and reporting requirements.
- Extend the time allowed for submission of source testing reports to 60 days.

Amendments applicable to only kraft or sulfite pulping mills:

- Remove the shield from penalties for excess emissions during startup, shutdown and scheduled maintenance, and replace it with opacity standards for refractory curing, and startup and shutdown of wood-fired or hog-fuel boilers.
- Remove exemption from the opacity emission standard during soot blowing and grate cleaning, and replace it with an opacity standard.

## **1.3 Reasons for the amendments**

The primary reason for this rulemaking is to align the startup, shutdown and malfunction related regulatory requirements in these rules with the August 2018 amendments in chapter 173-400 WAC, and the relevant federal requirements. Without these rule amendments, conflicting regulatory requirements create an uncertain business climate and uncertainties in permit-related decisions.

If Ecology did not make these amendments it would be impossible to enforce the exemptions in these rules, once EPA removes WAC 173-400-107 from the SIP. The existing facilities would not be able to use the alternative emission standards in chapter 173-400 WAC adopted on August 16, 2018.

EPA is reviewing the SSM SIP Call for potential repeal or modification. Ecology crafted the SSM provisions in chapter 173-400 WAC to allow the current provisions to remain in effect until EPA removes WAC 173-400-107 from the SIP, at which point the new alternative opacity standards will become effective.

## **1.3.1 All covered facilities**

### **1.3.1.1 Creating a process to establish facility-specific permit limits that exceed an emissions standard in the SIP**

During the August 2018 rulemaking for chapter 173-400 WAC, Ecology adopted a process that allows a facility to request and receive approval of a short-term emission limit that exceeds a SIP standard.

The adopted amendments align rules covering kraft and sulfite pulping mills and primary aluminum plants with the August 2018 rulemaking. Before a facility can use the new limit, EPA must approve it (in conformance with federal requirements) as a plant specific emission limitation in the SIP.

### **1.3.1.2 Aligning timing of excess emissions notification and reporting**

Ecology is simplifying the timing for when facilities must provide notification of excess emission events that do not threaten human health. Instead of an immediate notification that the facility is having or has discovered an excess emission event, the amendments bring the notification in line with the required timing of a detailed report of the excess emission event.

### **1.3.1.3 Extending the time allowed for submission of source testing reports to 60 days**

Under the baseline, covered facilities have difficulty complying with the existing 15-day requirement for submitting source testing reports. This is due to report development and review periods necessary to submit accurate reports. Extension of the deadline is intended to reflect more realistic 60-day expectations for how long it takes to create a source testing report for the facilities, based on input from Ecology's Industrial Air Quality section, and covered facilities.

## **1.3.2 Only kraft or sulfite pulping mills**

### **1.3.2.1 Removing exemptions from emission standard and excuse from penalties, and replacing with opacity standards**

The amendments remove exemptions from the opacity emission standard during soot blowing and grate cleaning, and remove the shield from penalties for excess emissions during SSM, and replace them with opacity standards.

EPA determined that rules in Washington and 35 other states are inadequate to comply with federal Clean Air Act requirements. EPA requires states to amend their rules and significantly limit the scope of the SSM enforcement discretion provisions.

The baseline rules allow companies to avoid enforcement actions for exceeding the emissions standards during startup, shutdown, scheduled maintenance, and malfunction, provided that the companies reported the excess emissions in a timely manner and demonstrate the excess emissions were unavoidable.

EPA interprets the baseline rule language as limiting EPA and other parties from enforcing applicable requirements in the federal courts. In the baseline rule, unavoidable excess emissions from specific activities, or excess emissions determined unavoidable by the permitting authority, are exempt from emission standards and not considered a violation.

EPA directed states to correct their rule deficiencies and submit them into the SIP by November 22, 2016. Ecology did not meet this deadline. EPA is aware of this and Ecology has informed EPA of current status and progress. Ecology anticipates submitting the amended regulations to EPA as a revision to the SIP during the first quarter of 2019.

## **1.4 Document organization**

The remainder of this document is organized in the following chapters:

- Baseline and the amendments (chapter 2): Description and comparison of the baseline (what would occur in the absence of the amendments) and the adopted changes to rule requirements.
- Likely costs of the amendments (chapter 3): Analysis of the types and sizes of costs we expect impacted entities to incur as a result of the amendments.
- Likely benefits of the amendments (chapter 4): Analysis of the types and size of benefits we expect to result from the amendments.
- Cost-benefit comparison and conclusions (chapter 5): Discussion of the complete implications of the CBA.
- Least-Burdensome Alternative Analysis (chapter 6): Analysis of considered alternatives to the contents of the amendments.
- Small Business Economic Impact Statement (chapter 7, when applicable): Comparison of compliance costs to small and large businesses; mitigation; impact on jobs.
- Appendix A: RCW 34.05.328 determinations not discussed in previous chapters.

# Chapter 2: Baseline and the Amendments

## 2.1 Introduction

We analyzed the impacts of the amendments relative to the baseline of existing rules, within the context of all existing requirements (federal and state laws and rules). This context for comparison reflects the most likely regulatory circumstances that entities would face if the amendments were not adopted. It is discussed in Section 2.2, below.

## 2.2 Baseline

The baseline for our analyses generally consists of requirements in existing rules and laws. This is what allows us to make a consistent comparison between compliance behavior with and without the adopted amendments.

For this rulemaking, the baseline includes, but is not limited to:

- Chapter 173-405 WAC – Kraft Pulping Mills
- Chapter 173-410 WAC – Sulfite Pulping Mills
- Chapter 173-415 WAC – Primary Aluminum Plants
- Chapter 173-400 WAC – General Regulations for Air Pollution (applicable portions)
- Federal Clean Air Act 42 U.S.C. chapter 85
- Washington Clean Air Act, chapter 70.94 RCW

## 2.3 Amendments

### Summary of the amendments:

Amendments applicable to all covered facilities (kraft and sulfite pulping mills and primary aluminum plants):

- Create a process to establish facility-specific permit limits that exceed an emissions standard in the SIP.
- Align timing of excess emissions notification and reporting.
- Extend the time allowed for submission of source testing reports to 60 days.

Amendments applicable to only kraft or sulfite pulping mills:

- Remove the shield from penalties for excess emissions during SSM and replace it with opacity standards for refractory curing, and wood-fired or hog-fuel boilers, during startup and shutdown.
- Remove exemption from the opacity emission standard during soot blowing and grate cleaning, and replace it with an opacity standard.

## 2.3.1 All covered facilities

### 2.3.1.1 Creating a process to establish facility-specific permit limits that exceed an emissions standard in the SIP

#### Baseline

There is no existing process in the rules for a facility to request and receive approval of a short-term emission limit that exceeds a SIP standard. However, the federal and Washington Clean Air Act allows this option.<sup>3</sup> The U.S. Environmental Protection Agency (EPA) will still need to approve higher limits.

#### Adopted

Through reference to chapter 173-400 WAC, the amendments establish a detailed process for a facility to request an alternative emission limit, and for Ecology and EPA to review and approve the request. This process requires a written request that is complete with data and documentation sufficient to:

- Specify which emission unit(s) and specific transient mode(s) of operation the requested alternative emission limit is to cover.
- Demonstrate that the operating characteristics of the emission unit(s) prevent meeting the applicable emission standard during the specific transient mode of operation.
- Demonstrate why it is not technically feasible to use the existing control system or any practicable operating scenario that would enable the emission unit to comply with the SIP emission standard.
- Demonstrate that Prevention of Significant Deterioration (PSD) increments,<sup>4</sup> when applicable, and ambient air quality standards in chapter 173-476 WAC would not be exceeded by emissions from the alternative limit.
- Determine best operational practices for the emission unit(s) involved.
- Demonstrate that the frequency and duration of the specific transient mode of operation is limited to the shortest practicable amount of time.
- Demonstrate the quantity and impact of the emissions resulting from the specific transient mode of operation are the lowest practicably possible.
- Demonstrate that the emissions allowed by the alternative emission limit would not exceed an applicable emission standard in 40 CFR Parts 60, 61, 62, 63, or 72 (in effect on the date in WAC 173-400-025).

#### Expected impact

We do not expect this amendment to result in increased costs as compared to the baseline for those facilities that need an alternative emission limitation above a SIP emission standard. The amendment will provide a potential benefit by allowing a facility with an individual emission unit (or units) that cannot meet an emission standard during a transient mode of operation a chance to continue to operate without incurring significant capital costs. A facility may incur some cost to demonstrate they are minimizing the excess emissions to the lowest practicable

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<sup>3</sup> RCW 70.94.380(1)

<sup>4</sup> See WAC 173-400-116 Increment protection.



level. The facility pursuing an alternative limit under this section will incur the costs to demonstrate the need and appropriateness of an alternative emission limit.

### **2.3.1.2 Aligning timing of excess emissions notification and reporting**

#### **Baseline**

Existing rule language requires facilities to provide immediate notification of all excess emission events, followed by a detailed report, to avoid enforcement action. Existing rule language requires them to notify their permitting authority as soon as possible about those events that would threaten human health.

#### **Adopted**

Through reference to chapter 173-400 WAC, the amendments bring the rules into line with recent amendments to that chapter. For excess emissions events that do not threaten human health, the amendments specify that notification may be concurrent with the submittal of the detailed report on the normal reporting schedule. Facilities must still report excess emissions that threaten human health as soon as possible, but not later than 12 hours after discovery.

#### **Expected Impact**

The amendments are not likely to generate any additional costs as compared to the baseline, as delaying reporting of events with no health impact will not incur a health or environmental cost as compared to the baseline. Allowing for concurrent submittal of the notice and report, however, could generate benefits in the form of time efficiencies, as well as providing more complete information on the causes, resolution, and quantity of excess that occurred compared to the limited information that would be available as the excess emission event is occurring.

### **2.3.1.3 Extending the time allowed for submission of source testing reports to 60 days**

#### **Baseline**

Facilities must submit reports within 15 days (pulp mills) and 30 days (aluminum plants) of the end of each calendar month.

#### **Adopted**

Facilities must submit reports within 60 days of completion of each source testing.

### **Expected impact**

The amendment is likely to result in improved compliance with source testing report deadlines. Current report development and review processes result in difficulty complying with the existing limit. Sixty days is in line with information provided by industry.

## **2.3.2 Only kraft or sulfite pulping mills**

### **2.3.2.1 Removing exemptions from emissions standard and excuse from penalties, and replacing with opacity standards**

#### **Baseline**

The existing rules exempt emissions during specific maintenance activities from having to meet emission limitations and allow a mill to avoid an enforcement action in certain situations. These include:

- Startup, shutdown, scheduled maintenance, and malfunction, provided that the company reported the excess emissions in a timely manner and demonstrate the excess emissions were unavoidable.
- Soot blowing and grate cleaning.

The baseline exemptions apply to the opacity standards in the SIP during certain maintenance activities. The baseline rule excuses excess emissions during startup, shutdown and scheduled maintenance (like refractory curing) that were unavoidable from an enforcement action (specifically penalty), including those from hog-fuel boilers during startup and shutdown, provided that owner/operators safely perform the operations and document them for excess emissions reporting.

#### **Adopted**

The amendments remove exemptions from the opacity emission standard during soot blowing and grate cleaning, and remove the shield from penalties for excess emissions during SSM, and replace them with opacity standards.

Through reference to requirements in WAC 173-400-040(2) for soot blowing or grate cleaning, hog fuel or wood fired boilers, and furnace refractory, the amendments:

- Remove the excuses from enforcement actions provided for startup, shutdown, and scheduled maintenance of emission sources. Instead, it sets alternative opacity standards for some specific actions that the baseline rule does not provide any limitation. The specific actions being adopted (by reference to chapter 173-400 WAC) to have an alternative standards for opacity include:
  - Startup and shutdown of a wood fired boiler with a dry particulate emission control.
  - Initial startup and curing of new refractory materials installed in a boiler or lime kiln.
- Remove all automatic existing exemptions from emission standards during soot-blowing and grate cleaning (scheduled maintenance), and replace them with an alternative emission standard that will be effective when EPA removes WAC 173-400-107 from the SIP. This is a requirement of the SIP call.

## Expected impact

- **Removing of the excuses for excess emission during startup, shutdown and scheduled maintenance:** The SIP call requires Ecology to remove excess emission provisions from the SIP (WAC 173-400-107) because it provides impermissible excuses for planned activities, and it interferes with federal enforcement provisions. Thus, Ecology is removing WAC 173-400-107 and modifying the unavoidable excess emission provisions under WAC 173-400-108 and 109, keeping them as a state-only provision. When EPA approves the removal of WAC 173-400-107 from the SIP, the rule will consider excess emissions during startup, shutdown, scheduled maintenance, and malfunction as violations. The rule will limit excuses from enforcement action to excess emissions during malfunction, if the owners or operators demonstrate that the excess emissions meet the criteria in WAC 173-400-109. Such excuses for unavoidable excess emission during malfunction will be limited to state-level enforcement discretion, while EPA or citizens may exercise their own enforcement discretions at federal level.
- **Opacity requirements:** Alternate opacity standards will cause the owner/operator to pay more attention to the operation of the equipment or modify operating practices to further minimize emissions.
- **Wood-fired boilers:** The alternative opacity standards will result in the need for wood-fired or hog-fuel boiler owners/operators and boiler and kiln owners/operators to pay attention to controlling particulates (which cause opacity) from being emitted at concentrations that would make it difficult to meet the alternate opacity standards. This means more attention to balancing firebox temperatures against overfire air and fuel feed rates when starting the unit. Owners/Operators may need to engage particulate control devices earlier in the startup process or keep control devices operating later in the shutdown process than current practice. They may need to use clean fuel (including dry wood) during startup and shutdown.
- **Refractory curing:** For refractory curing, the facilities with boilers or lime kilns will have to closely monitor both firebox and refractory temperatures (according to manufacturer's instructions) and use clean fuels (including clean dry wood) to have as efficient combustion as attainable while optimizing the curing of the newly installed firebrick. The facilities will have to engage emission controls as soon as possible during the curing process.
- **Soot blowing and grate cleaning:** For soot blowing and grate cleaning, the owners/operators will need to ensure that they implement work practice standards and/or properly operate control devices so they do not overload the particulate control device with particles from the soot blowing and grate cleaning activities. Under the baseline, owners/operators may overload the particulate control device during this operation, but there is no violation since there is no opacity limitation in effect. In some cases, this may require more frequent soot blowing and grate cleaning, or tuning of the boiler.

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# Chapter 3: Likely Costs of the Amendments

## 3.1 Introduction

We estimated the likely costs associated with the adopted amendments, as compared to the baseline. Chapter 2 of this document details the amendments and the baseline.

## 3.2 Cost analysis

### 3.2.1 All covered facilities

#### 3.2.1.1 Creating a process to establish facility-specific permit limits that exceed an emissions standard in the SIP

We do not expect this rule amendment to result in net costs as compared to the baseline. Facilities needing a site specific emission standard will incur the costs of requesting a facility specific limit, including determinations and demonstrations listed in section 2.3.1 of this document. They could also incur potential compliance costs of meeting site specific standards. These short-term emission standards will be higher than standards in the SIP. In the absence of this rule amendment, facilities would be in violation of emission standards in the SIP, due to technical limitations of their existing control systems and operational limitations. We expect this to result in a net cost reduction, giving facilities a lower-cost option of meeting a short-term site specific standard during a transient mode of operation.

#### 3.2.1.2 Aligning timing of excess emissions notification and reporting

We do not expect this amendment to result in costs as compared to the baseline. See chapter 2 for discussion.

#### 3.2.1.3 Extending the time allowed for submission of source testing reports to 60 days

We do not expect this amendment to result in costs as compared to the baseline. See chapter 2 for discussion.

### 3.2.2 Only kraft or sulfite pulping mills

#### 3.2.2.1 Removing exemptions from emissions standard and excuse from penalties, and replacing with opacity standards

The specific actions being adopted by reference to chapter 173-400 WAC have an alternative emission limitation for opacity for:

- Startup and shutdown of a wood fired (hog-fuel) boiler with a dry particulate emission control.
- Initial startup and curing of new (replaced) refractory materials installed in a boiler or lime kiln.
- Soot blowing and grate cleaning of a wood-fired (hog-fuel) boiler.

These amendments will cause the owner/operator to pay more attention to the operation and maintenance of their equipment. There may be circumstances where the owner/operator will choose to install new emission controls or replace the emitting equipment as an easier or less costly option. Such decisions would be site-specific and based on a facility's budget.

### **Startup and shutdown of a wood-fired boiler with a dry particulate emission control**

A facility typically shuts down for planned maintenance at least once per year. Following a shutdown, the wood-fired boiler is started up. There are also times when a wood-fired boiler may have to shut down for unplanned maintenance during the year and will have to startup after that shutdown. Such unplanned outages are unpredictable by nature.

When restarting the wood-fired boiler, the wood-fired boiler operator and environmental staff will need to assure that the facility is meeting the revised standard. This may result in changes to standard operating practices for starting the boiler and the environmental manager or other certified staff performing visual opacity readings at the plant.

Boiler startups will continue to occur regardless of whether the activity is exempt or not. The amendments may require greater care be taken throughout the process and observations by a certified opacity reader. The facility may need to use clean fuel (including dry wood) during startup and shutdown.

### **Initial startup and curing of new refractory materials installed in a wood-fired boiler or lime kiln**

Refractory curing will occur after a major maintenance outage. Not every major maintenance outage requires replacing the firebrick or major repairs. Done well, the firebrick will last five years or more between replacements and repairs. Plant owners likely prefer to avoid the expense of more frequent replacements.

The curing step is part of the restart of the boiler or lime kiln after a maintenance outage. The same staff are involved in refractory curing as are included in startup of this equipment.

The curing occurs regardless of whether the activity is exempt or not, so there will be no additional costs associated with curing. However, the amendments require the operator take greater care throughout the process, use dried hog-fuel or wood, and a certified opacity reader take periodic observations.

### **Soot blowing and grate cleaning**

Boiler facilities generally conduct soot blowing and grate cleaning once per shift. Facility staff do this activity while operating all air pollution controls on a source. Because of this, exceedances of the 20 percent opacity emission standard that applies during normal operations are unlikely. However, the alternative higher standard of 40 percent opacity provides a reasonable margin of error.

The boiler operator perform soot blowing and grate cleaning activities. Opacity reading during these events may involve the environmental manager or certified smoke readers of the facility.

### **Quantifiable Costs**

Paying attention to opacity visually will take less than a minute. We assumed these situations could take longer:

- One hour for wood-fired boiler startup or shutdown.

- Up to four one-hour periods for refractory curing.<sup>5</sup>
- 15 minutes for soot blowing.

At a 2015 hourly wage of \$45.84 for an environmental manager or maintenance manager,<sup>6</sup> updated to \$48.36 in current dollars using 5.5 percent inflation,<sup>7</sup> this overall range would be \$12 to \$193 per soot blowing, boiler, or refractory curing event. If non-managerial staff do the opacity readings, costs would be lower. Because an existing internal employee will do this work, we did not assume additional overhead as part of this cost.

A potential new cost will be the annual cost for certifying the opacity reader. The certification involves a bi-annual, one day testing process done at multiple locations around the state by more than one certification service. Many sources are already required to have certified opacity readers on staff, so those facilities will have no added cost. Facilities that do incur this cost will pay:

- Initial certification cost of \$325 to \$350.
- Annual recertification cost of \$400 to \$450.<sup>8</sup>

Facilities may also comply with the opacity standard for wood-fired boilers by using only clean fuel, as identified in 5.b. in Table 3 in 40 CFR Part 63, subpart DDDDD. Clean fuel includes dry wood, so boiler operators will need to document the use of dry wood, and potentially change practices to ensure wood is dry (no more than 20 percent moisture). Some facilities likely currently cover their wood. Facilities with natural gas could also use natural gas during this period. A source using this additional compliance option may have a lower cost than described above.

During previous rulemaking, we received input regarding the viability of using clean fuel (including clean, dry, woody fuel with less than 20 percent moisture content) as a work practice standard alternative during boiler start up. Specifically, industry expressed concern that existing supplies of dry fuel are inadequate to raise fireboxes and particulate control systems to minimum operating temperatures in time to comply with the requirement of the work practice standard. This includes the requirement to use clean fuel, operate dry particulate control within an hour of using non-clean fuel, and ultimately meet 20 percent opacity within four hours after the boiler starts supplying useful thermal energy. Ecology cannot allow de facto exemptions in such situations. Facilities encountering this issue might have to make some physical/operational changes to comply with the amendments.

Facilities could meet the alternative opacity requirements using facility-specific options, including:

- Drying hog fuel.

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<sup>5</sup> Communication between Shon Kralely and Alan Newman (2017). Email, subject: "RE: Opacity Memo-Draft (002).docx" 7/5/17. See documentation for Regulatory Analyses for chapters 173-400 and -401 WAC, February 2018, Ecology publication number 18-02-003.

<sup>6</sup> US Bureau of Labor Statistics (2015). Wages by Area and Occupation, 2015. Washington State. Median wage for environmental engineers.

<sup>7</sup> US Bureau of Labor Statistics (2017). Consumer Price Index.

<sup>8</sup> Communication with Gary Huitsing (2018). Email 1/11/18. "RE: Cost of opacity certification". Costs reflect prices at Smoke School, Inc. and Northwest Opacity Certification "Smoke School".

- Using natural gas (where possible) for startup.
- Purchasing dry wood fuels specifically for startup of the boiler.
- Providing storage to keep an adequate supply of dry fuel for startups.
- Using auxiliary fuel such as on-road diesel (alone or spread on hog fuel) during unit startup.
- Energizing their particulate control earlier (if technologically feasible).

Since these compliance choices are unique to some facilities with wood-fired boilers with existing dry particulate control technologies attempting to meet the alternative standard of using clean fuels (rather than the 40 percent opacity standard) during boiler startup, we could not confidently assume to what degree facilities will use these compliance options.

### **Applicability to technology and practices at mills in Washington State**

The following pulping mills are covered by the amendments:

- Cosmo Specialty Fibers, Cosmopolis
- Longview Fibre, Longview
- Port Townsend Paper, Port Townsend
- WestRock, Tacoma
- Boise Paper, Wallula
- Nippon Dynawave, Longview

Ecology's permit managers for these facilities indicated that all but one kraft or sulfite pulping mill in the state has continuous opacity monitoring systems (COMS), and so will likely not incur the additional costs described above, under the amendments.

The remaining mill cannot install COMS because of technological limitations applicable to their process. This facility currently uses visual readings of emissions, but not during periods of SSM or soot blowing/grate cleaning activities. This means while they have staff already certified in performing the readings, they may need some additional training or process change to take opacity readings during periods of startup, shutdown, soot blowing, and grate cleaning. Per our estimates above, the additional time spent on these activities would then cost between \$12 and \$193 per event.



# Chapter 4: Likely Benefits of the Amendments

## 4.1 Introduction

We estimated the likely benefits associated with the amendments, as compared to the baseline (both described in chapter 2 of this document).

## 4.2 Benefit analysis

### 4.2.1 All covered facilities

#### 4.2.1.1 Creating a process to establish facility-specific permit limits that exceed an emissions standard in the SIP

The rule amendment will provide a potential benefit by allowing facilities with individual emission units that are unable to comply with a SIP emission standard during a specific operating scenario to get a site-specific limit for that scenario, thus avoiding a violation. The process to approve the higher permit-specific limit will ensure proper evaluation of alternatives to the emission standard and protection of ambient air quality standards.

#### 4.2.1.2 Aligning timing of excess emissions notification and reporting

Allowing for concurrent issuance of the notice and report could generate benefits in the form of time efficiencies in streamlining, as well as better information provided about the excess emissions event. This rule will limit reporting within 12 hours to exceedances that represent a potential threat to human health, so there will be fewer reports written and reviewed.

#### 4.2.1.3 Extending the time allowed for submission of source testing reports to 60 days

Allowing additional time for completion and submission of source testing reports will allow mills and aluminum plants to maintain compliance with reporting requirements. It also acknowledges the time necessary for report development and review. Based on information provided by kraft and sulfite pulping mills, and aluminum plants, 60 days is the amount of time necessary to complete and submit a source test report to Ecology.

### 4.2.2 Only kraft or sulfite pulping mills

#### 4.2.2.1 Removing exemptions from emissions standard and excuse from penalties, and replacing with opacity standards

The amendments will allow certain facilities to startup, shutdown, and perform soot blowing/grate cleaning activities without violations and incurring penalties. This will allow for ongoing operations and cost savings as compared to a more stringent federal plan without alternative opacity standards.

In addition, having a rule that complies with EPA requirements and federal court decisions will allow the EPA and citizens to comprehensively enforce applicable requirements in federal courts. This will prevent potential loss of environmental values for clean air and visibility due to exemption of excess emissions events without comprehensive regulation. The regulations will also then be enforceable by the state, unlike a federal plan not incorporated into rule.

Businesses will also benefit in facing clear and consistent regulatory requirements.

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# Chapter 5: Cost-Benefit Comparison and Conclusions

## 5.1 Summary of the costs and benefits of the amendments

Costs summary:

- Potential training or process change for existing certified staff to read opacity during shutdown, startup, refractory curing and soot blowing/grate cleaning at one pulping mill.
- Time cost of staff performing readings during SSM, of \$12 to \$193 per event at one pulping mill.
- We do not expect additional costs to arise from the amendments, at seven other covered pulping mills, due to existing monitoring technology.

Benefits summary:

- Rule compliance with EPA requirements and federal court decisions, allowing comprehensive enforcement of applicable requirements.
- Avoided emissions violations and penalties that would occur without the alternative emissions standards.
- Potential pathway for facilities to receive site-specific emissions limits under certain circumstances. This allows facilities to continue to operate without significant capital investments.
- Clear and consistent regulatory requirements across air emissions rules.
- Time efficiencies and potential improved information in notifications and reporting of excess emissions.
- Report deadlines that better reflect the time it takes to develop them, allowing facilities to avoid late reporting.

## 5.2 Conclusion

Ecology concludes, based on reasonable understanding of the quantified and qualitative costs and benefits likely to arise from the amendments, that the benefits of the amendments are greater than the costs.

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# Chapter 6: Least-Burdensome Alternative Analysis

## 6.1 Introduction

RCW 34.05.328(1)(e) requires Ecology to “[...]d]etermine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that would achieve the general goals and specific objectives stated under (a) of this subsection.” The referenced subsections are:

- (a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements;
- (b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule;
- (c) Provide notification in the notice of proposed rulemaking under RCW 34.05.320 that a preliminary cost-benefit analysis is available. The preliminary cost-benefit analysis must fulfill the requirements of the cost-benefit analysis under (d) of this subsection. If the agency files a supplemental notice under RCW 34.05.340, the supplemental notice must include notification that a revised preliminary cost-benefit analysis is available. A final cost-benefit analysis must be available when the rule is adopted under RCW 34.05.360;
- (d) 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;

In other words, to be able to adopt the rule, Ecology is required to determine that the contents of the rule are the least burdensome set of requirements that achieve the goals and objectives of the authorizing statute(s).

Ecology assessed alternatives to the content of the amendments, and determined whether they met the goals and objectives of the authorizing statutes. Of those that would meet these goals and objectives, Ecology determined whether those chosen for the amendments were the least burdensome to those required to comply with them.

## 6.2 Goals and objectives of the authorizing statute: chapter 70.94 RCW

Washington’s Clean Air Act authorizes the rules amended by this rulemaking and directs Ecology to:

- Establish rules to attain and maintain the national ambient air quality standards.
- Limit emissions from sources of air pollutants by rule and by permit.
- Protect and improve general air quality for current and future generations.
- Prevent injury to plant, animal life, and property.

- Establish a statewide renewable permit program that assembles all air quality requirements in one permit.
- Take all actions necessary to secure the benefits of the federal Clean Air Act.

In addition, the EPA determined in 2015<sup>9</sup> that rules in Washington and 35 other states are inadequate to comply with federal Clean Air Act requirements. EPA requires states to revise their rules and significantly limit the scope of the SSM provisions. EPA interprets our existing rule as limiting EPA and citizens from seeking enforcing applicable requirements in the federal courts. The baseline rule establishes that during the specific activities listed in the rule, or that may be determined by the permitting authority as unavoidable excess emissions, are exempt from that limit or SIP emission standards and are not a violation.

## **6.3 Alternatives considered and why they were not included**

### **6.3.1 Streamlining the three rules by removing redundant language**

Stakeholders requested that Ecology streamline the three rules in this rulemaking along with their respective permits. This, according to the stakeholders, would reduce their regulatory burden and save resources as they currently follow a number of different federal, state, and local requirements for the same pollutant.

Ecology considered this request and determined that streamlining the rule would require re-scoping the project. Ecology would need to complete a thorough analysis before entering into such rulemaking as federal and state requirements for SSM have different averaging periods, units of measure, and/or compliance requirements.<sup>10</sup> Ecology will consider this for future rulemaking.

The three rules included in this rulemaking define Ecology’s authority to regulate facilities that contribute to air pollution; the rules must be maintained regardless of where final requirements for facilities may reside (federal, local clean air agencies, etc.).

### **6.3.2 Not adopting amendments to the Startup, Shutdown, Malfunction (SSM) rules**

Stakeholders requested that Ecology not adopt amendments to the SSM rules at all. Ecology was unable to accommodate these requests. It is necessary for Ecology to adopt amendments to the SSM rules to bring the three rules included in this rulemaking in line with the August 2018 updates to chapter 173-400 WAC – General Regulations for Air Pollution Sources. The revisions to chapter 173-400 WAC were necessary to comply with the EPA’s 2015 SIP call, which required that Ecology update SSM rules. If Ecology did not revise these three rules, the owners and operators of the pulping mills and aluminum plants would not be able to use the alternative opacity standards of 40 percent; instead they will be required to meet the otherwise applicable opacity standard of 20 percent.

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<sup>9</sup> A copy of EPA’s determination is available at <https://www3.epa.gov/airquality/urbanair/sipstatus/docs/20150522fr.pdf>

<sup>10</sup> For information regarding the scope of this rulemaking, see Ecology’s CR-101 for this rulemaking, published June 20, 2018 (*Washington State Register*, 18-13-113, <http://lawfilesexternal.wa.gov/law/wsr/2018/13/18-13-113.htm>).

### **6.3.3 Incorporating the federal work practice as the alternative standard for startup at aluminum smelters**

Stakeholders suggested that Ecology incorporate by reference federal work practice standards for startup and shutdown periods for aluminum smelters (40 C.F.R. 63.854). This would reduce the facility's need to request alternative emission standards for the startup or shutdown of their processes.

Federal work practice standards are already adopted as an applicable emissions standard in WAC 173-415-015. The work practice standard in 40 C.F.R. 63.854 is set for hazardous air pollutants not relevant to reducing emissions of criteria pollutants such as sulfur dioxide (SO<sub>2</sub>). The SO<sub>2</sub> emissions from the only operating aluminum production facility are periodically exceeding the 1-hour SO<sub>2</sub> National Ambient Air Quality Standard (NAAQS) in the area, while using the same federal work practice standard.

### **6.3.4 Explicitly requiring monthly reporting of total fluoride secondary emissions performance testing at primary aluminum plants**

Ecology initially proposed to explicitly require monthly performance testing of secondary total fluoride emissions at primary aluminum plants. After considering the public comment on the proposed change, Ecology decided not to adopt the amendments in WAC 173-415-030(7) that are related to performance testing frequency for secondary total fluoride (TF) emissions from potlines of primary aluminum plants. We decided this in order to achieve the primary purpose of the rulemaking within our established timeline. The primary purpose of this rulemaking is to align the three rules with the new SSM requirements adopted in the chapter 173-400 WAC, the federal Clean Air Act, and EPA's SSM policy. Ecology will continue to evaluate the options to address fluoride monitoring frequency in a future action in a manner that protects human health and the environment, and meets the needs of the stakeholders.

### **6.3.5 Allowing reductions in frequency for total fluoride secondary emissions performance testing at primary aluminum plants**

Ecology initially proposed allowing primary aluminum plants to request reductions in their secondary total fluoride emissions performance testing, provided that they provided evidence that emissions were consistent and well below the standard. After considering the public comment on the proposed change, Ecology decided not to adopt the amendments in WAC 173-415-030(7) that are related to performance testing frequency for secondary total fluoride (TF) emissions from potlines of primary aluminum plants. We decided this in order to achieve the primary purpose of the rulemaking within our established timeline. The primary purpose of this rulemaking is to align the three rules with the new SSM requirements adopted in the chapter 173-400 WAC, the federal Clean Air Act, and EPA's SSM policy. Ecology will continue to evaluate the options to address fluoride monitoring frequency in a future action in a manner that protects human health and the environment, and meets the needs of the stakeholders.

## **6.4 Conclusion**

After considering alternatives to the contents of the adopted amendments, as well as the goals and objectives of the authorizing statute, Ecology determined that the amendments represent the least-burdensome alternative of possible rule contents meeting these goals and objectives.

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# Chapter 7: Regulatory Fairness Act Compliance

## 7.1 Introduction

Ecology analyzed the compliance costs of the adopted amendments in chapter 3 of this document. We determined that no Small Business Economic Impact Statement is required under the Regulatory Fairness Act (RFA; chapter 19.85 RCW) for the amendments.

Based on our employment research, none of the existing facilities covered by the amendments are small businesses as defined in the RFA.<sup>11</sup> Consequently, Ecology is not required to prepare a Small Business Economic Impact Statement under the RFA (RCW 19.85.025(4)).

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<sup>11</sup> Washington State Employment Security Department (2018); Websites for facility ownership at highest owner/operator level (see References list).

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# **Appendix A**

## **Administrative Procedure Act (RCW 34.05.328)**

### **Determinations**

- A. RCW 34.05.328(1)(a) – Clearly state in detail the general goals and specific objectives of the statute that this rule implements.**

See chapter 6.

- B. RCW 34.05.328(1)(b) –**

- 1. Determine that the rule is needed to achieve the general goals and specific objectives of the statute.**

See chapters 1 and 2.

- 2. Analyze alternatives to rulemaking and the consequences of not adopting this rule.**

Failure to align chapters 173-405, 410, and 415 WAC with the SSM SIP Call-related changes in chapter 173-400 WAC prohibits the 10 major Washington facilities subject to chapters 173-405, 410, and 415 WAC from using the alternative opacity emission standards during startup and shutdown as negotiated during the chapter 173-400 WAC SSM rulemaking.

Please see the Least Burdensome Alternative Analysis, chapter 6 of this document, for discussion of alternative rule content considered.

- C. RCW 34.05.328(1)(c) - A preliminary cost-benefit analysis was made available.**

When filing a rule proposal (CR-102 filing) under RCW 34.05.320, Ecology provides notice that a preliminary cost-benefit analysis is available. At adoption (CR-103 filing) under RCW 34.05.360, Ecology provides notice of the availability of the final cost-benefit analysis.

- D. RCW 34.05.328(1)(d) – Determine that probable benefits of this 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.**

See chapters 1 – 5.

- E. RCW 34.05.328 (1)(e) - Determine, after considering alternative versions of the analysis required under RCW 34.05.328 (b), (c) and (d) that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated in chapter 6.**

Please see chapter 6 and the record for this rulemaking.

**F. RCW 34.05.328(1)(f) - Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.**

The actions required by the amendments in this rulemaking will not require covered parties to violate existing federal or state laws or rules. Where the new requirements diverge from federal requirements, Ecology possesses the authority to affect requirements more stringent than those set by EPA.

**G. RCW 34.05.328 (1)(g) - Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.**

No, it does not. The rules amended by this rulemaking apply to a particular set of private entities (pulp and paper mills and aluminum smelters). There are no public entities operating in Washington State that will be regulated under these rules.

**H. RCW 34.05.328 (1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter.**

Yes.

**If yes, the difference is justified because of the following:**

- (i) A state statute explicitly allows Ecology to differ from federal standards.
- (ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated in chapter 6.

The federal regulation requirement relaxed the performance testing frequency for total fluoride from the secondary emission control system from monthly to semi-annually. The primary aluminum facilities in the state have shown some history of exceedances of the secondary emission standard for total fluoride. Therefore, Ecology is maintaining the monthly testing frequency to avoid undetected exceedances of the emission standard.

**I. RCW 34.05.328 (1)(i) – Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same subject matter.**

To coordinate the rule with existing state, federal, and local regulations, Air Quality staff worked closely with staff from Ecology’s Industrial Section of the Solid Waste Program (formerly known as Waste 2 Resources) as well as EPA Region 10 staff that focus on air quality and the SIP.