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 173-303 WAC
Dangerous Waste Regulations

September 2020
Publication 20-04-042

Publication and Contact Information

This report is available on the Department of Ecology's website at https://fortress.wa.gov/ecy/publications/SummaryPages/2004042.html

For more information, contact:

Hazardous Waste and Toxics Reduction Program
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6700

Washington State Department of Ecology – www.ecology.wa.gov

- Headquarters, Olympia 360-407-6000
- Northwest Regional Office 425-649-7000
- Southwest Regional Office, Olympia 360-407-6300
- Central Regional Office, Union Gap 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

Final Regulatory Analyses

Including the:

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

Chapter 173-303 WAC
Dangerous Waste Regulations

by

Kasia Patora

for the

Hazardous Waste and Toxics Reduction Program
Washington State Department of Ecology
Olympia, Washington

This page intentionally left blank.

Table of Contents

Acronyms

APA	Administrative Procedure Act
CBA	Cost-Benefit Analysis
DEA	Drug Enforcement Agency
DOE	U.S. Department of Energy
EHW	Extremely Hazardous Waste
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
FR	Federal Register
LBA	Least-Burdensome Alternative Analysis
LQG	Large Quantity Generator
MQG	Medium Quantity Generator
NRT	Nicotine Replacement Therapy
OTC	Over-the-counter
POTW	Publicly-Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RFA	Regulatory Fairness Act
SQG	Small Quantity Generator
TSD	Treatment, Storage, and Disposal
TSDR	Treatment, Storage, Disposal, and Recycling
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 RCW and 19.85 RCW, for the amendments to the Dangerous Waste Regulations rule (chapter 173-303 WAC; the "rule"). This includes the:

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

Ecology is adopting amendments to the Dangerous Waste Regulations rule to meet federal requirements, clarify rule requirements, streamline compliance, and ensure that generators properly and safely manage dangerous waste. Washington State adoption of these federal regulations will help promote compliance and safe management practices. Washington State's healthcare stakeholders requested that we adopt the new federal pharmaceutical waste rules as soon as possible, in order to help them better manage their waste streams, reduce confusion, and simplify compliance with the dangerous waste regulations.

Under federal law, Ecology is required to adopt certain federal hazardous waste rules to maintain its authorization by the U.S. Environmental Protection Agency (EPA) and remain consistent with EPA regulations. Other new federal hazardous waste rules are optional for the state to adopt. Adopting the required as well as optional federal rules will promote better waste management, environmental protection, and consistency with the federal rules.

The rule amendments will make the following changes:

- Updating management standards for pharmaceutical and nicotine replacement wastes to meet federal requirements and include state-only pharmaceutical dangerous wastes.
- Updating requirements for the E-Manifest Hazardous Waste Management System to match federal requirements.
- Updating requirements for safe management of recalled and removed airbags.
- Adding a five-year documentation retention period for records related to the solvent contaminated wipes exclusion.
- Increasing the amount of dangerous waste that Medium Quantity Generators (MQGs) are allowed to accumulate on-site.
- Adding recordkeeping requirements for the use of alternate tank inspection schedules.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels where inadvertently omitted in past rulemaking.
- Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events, with central notification to Ecology.

- Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic waste generation rule.
- Expanding Ecology's ability to request additional reports from a generator.

The rule amendments also make several changes that have no material impact, such as re-wording, clarifications and additional cross-references, updating references, and deleting obsolete and irrelevant language. This includes clarifying requirements for professional engineer certification of permit engineering documents.

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.

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

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

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

Costs

- Adding recordkeeping requirements for the use of alternate tank inspection schedules: $36 to $39 per facility using an alternate schedule.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels: $0.08 per label removed, necessitating at least 1,216 labels removed and destroyed (rather than moved or replaced, as implied by baseline labeling requirements) to incur $100 of compliance cost. High numbers of label removals are unlikely, due to the requirement existing in other sections of the rule, as well as past requirements only being revised with the accidental omission very recently.
- Increasing records retention for two types of records, by three to five years: Zero or near-zero cost relative to baseline space already retained and minimal management, and consistency with all other records retention requirements in the rule.

Benefits

- Flexibility for three SQG healthcare facilities generating only state-only dangerous waste to:
    - Conditionally send their pharmaceutical waste to a MQG or LQG.
    - Use the conditional options of the pharmaceutical rule.
    - Manage their pharmaceutical waste as they already manage other dangerous waste under the baseline.
- For one MQG healthcare facility generating only state-only dangerous waste, streamlining benefits or avoided costs of adopted inclusion of state-only pharmaceutical waste in the pharmaceutical rule, allowing for the following while setting requirements largely similar to baseline requirements for general dangerous waste management.
    - Differentiation between creditable and non-creditable dangerous waste pharmaceuticals, allowing for easier management of pharmaceuticals.
    - Flexibility in demonstration of how long non-creditable dangerous waste pharmaceuticals have accumulated.
    - Protocols for managing and reporting rejected shipments of non-creditable dangerous waste pharmaceuticals.
    - Protocols for managing creditable versus non-creditable dangerous waste pharmaceutical spills.
    - Allowances for accepting potentially creditable dangerous waste pharmaceuticals from SQG healthcare facilities without a permit or interim status.
    - Specifications for take-back programs for controlled substances or household waste pharmaceuticals.
    - Allowance of additional combustion and incineration disposal options for state-only dangerous waste pharmaceuticals, at a non-RCRA permitted combustor or incinerator.
    - Protocols for shipping to creditable pharmaceutical waste to reverse distributors.
    - Avoided annual reporting under other sections of the rule for non-creditable and creditable dangerous waste.
    - Exclusion of empty stock small containers (ampules, foil packs, etc.), syringes, IV bags from total dangerous waste generation.
    - Use of other documentation in place of uniform manifests for conditionally exempt state-only dangerous waste.
- Avoided separation of federal and state-only pharmaceutical waste streams for 158 healthcare facilities.
- Potential avoided increase in generator status for accumulators of removed recalled airbags, resulting in various avoided costs of additional levels of compliance requirements and restrictions.
- Additional historic records for solvent-contaminated wipes, useful in the event of past mismanagement.

- Avoided shipping costs or avoided costs of RCRA storage permits for MQGs accumulating near 2,200 lbs. up to 6,600 lbs. of waste on site per month.
- Ensuring facilities align alternate tank inspection schedules with workplace practices, and document this.
- Consistency in container labeling requirements for MQGs and LQGs meeting conditional exemptions for managing dangerous waste.
- Streamlining notification of planned episodic events.
- Correcting omitted labeling exemptions for small containers.
- Improved access to additional information in enforcement actions.

After considering alternatives to the amended rule's contents, within the context of the goals and objectives of the authorizing statute, we determined that the adopted rule represents the least-burdensome alternative of possible rule contents meeting the goals and objectives.

As estimated compliance costs (excluding costs associated with providing additional information in cases of noncompliance) are all likely to be less than $100, we determined the rule does not impose more than minor compliance costs on businesses. This rulemaking is therefore not subject to the requirements of the RFA.

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 RCW and 19.85 RCW, for the amendments to the Dangerous Waste Regulations rule (chapter 173-303 WAC; the "rule"). 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. Chapter 6 of this document describes that determination.

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

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

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

1.1.1 Background

Ecology is adopting amendments to the Dangerous Waste Regulations rule to meet federal requirements, clarify rule requirements, streamline compliance, and ensure generators in Washington State properly and safely manage dangerous wastes. Washington State adoption of these federal regulations will help promote compliance and safe management practices. Washington State's healthcare stakeholders requested that we adopt the new federal pharmaceutical waste rules as soon as possible, in order to help them better manage their waste streams, reduce confusion, and simplify compliance with the dangerous waste regulations.

Under federal law, Ecology is required to adopt certain federal hazardous waste rules to maintain its authorization by the U.S. Environmental Protection Agency (EPA) and remain consistent with EPA regulations. Other new federal hazardous waste rules are optional for the state to adopt. Adopting the required as well as optional federal rules will promote better waste management, environmental protection, and consistency with the federal rules.

1.2 Summary of the rule amendments

The rule amendments will make the following changes:

- Updating management standards for pharmaceutical and nicotine replacement wastes to meet federal requirements and include state-only wastes.
- Updating requirements for the E-Manifest Hazardous Waste Management System to match federal requirements
- Updating requirements for safe management of recalled and removed airbags.
- Adding a five-year documentation retention period for records related to the solvent contaminated wipes exclusion.
- Increasing the amount of dangerous waste that Medium Quantity Generators (MQGs) are allowed to accumulate on-site.
- Adding recordkeeping requirements for the use of alternate tank inspection schedules.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels where inadvertently omitted in past rulemaking.
- Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events, with central notification to Ecology.
- Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic waste generation rule.
- Expanding Ecology's ability to request additional reports from a generator.

The rule amendments also make several changes that have no material impact, such as re-wording, clarifications and additional cross-references, updating references, and deleting obsolete and irrelevant language.

1.3 Reasons for the rule amendments

One of the primary motivators for this rulemaking is to update the rule as required by recent federal rulemaking. This includes required updates to management of pharmaceutical waste, nicotine replacement therapy products, and airbags removed from vehicles (including the large recall of Takada airbags). It also includes updates to the Electronic Hazardous Waste Manifest System and the Manifest Regulations. Where federal rulemaking makes rules more stringent, authorized state programs are required to update their rules to match the federal. There are also less-stringent optional amendments that we can make, but are not required. Ecology chose to adopt some of the optional elements of the federal rules as well, to reduce burden on generators.

Other amendments are intended to create uniform regulation across dangerous waste recognized by federal regulations, and dangerous waste recognized by Washington State rules. This will allow generators of various kinds of pharmaceutical wastes to face the same requirements and compliance options for all of their pharmaceutical dangerous waste.

Finally, various other amendments are intended to:

- Create uniform exemptions.
- Reduce burden where it is no longer necessary to meet environmental and public health goals.
- Allow Ecology to gather necessary information at its discretion and with cause, to ensure compliance.
- Improve documentation.
- Improve rule clarity and facilitate understanding of requirements and options available to generators.

1.4 Document organization

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

- **Baseline and the rule amendments (Chapter 2):** Description and comparison of the baseline (what will occur in the absence of the rule amendments) and the rule requirements.
- **Likely costs of the rule amendments (Chapter 3):** Analysis of the types and sizes of costs we expect impacted entities to incur as a result of the rule amendments.
- **Likely benefits of the rule amendments (Chapter 4):** Analysis of the types and sizes of benefits we expect to result from the rule 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 rule amendments.
- **Regulatory Fairness Act Compliance (Chapter 7):** When applicable. Comparison of compliance costs for small and large businesses; mitigation; impact on jobs.

- **APA Determinations (Appendix A):** RCW 34.05.328 determinations not discussed in chapters 5 and 6.

Chapter 2: Baseline and Adopted Rule Amendments

2.1 Introduction

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

2.2 Baseline

The baseline for our analyses generally consists of existing federal and state rules and laws, and their requirements, as well as any other relevant legal requirements such as court rulings. This is what allows us to make a consistent comparison between the state of the world with and without the rule amendments.

For this rulemaking, the baseline includes the:

- Existing rule, Dangerous Waste Regulation – chapter 173-303 WAC
- Authorizing statute, Hazardous Waste Regulation – chapter 70.105 RCW
- **Federal Management Standards for Hazardous Waste Pharmaceutical Rule and Amendment to P075 Nicotine Listing – Vol 84 FR 5816**

  Some pharmaceuticals are regulated as hazardous waste under the Resource Conservation and Recovery Act (RCRA) when discarded. This final rule adds regulations for the management of hazardous waste pharmaceuticals by healthcare facilities and reverse distributors. Healthcare facilities (for both humans and animals) and reverse distributors will manage their hazardous waste pharmaceuticals under this new set of sector-specific standards in lieu of the existing hazardous waste generator regulations.

  Among other things, these new regulations prohibit the disposal of hazardous waste pharmaceuticals down the drain by health care facilities and eliminates the dual regulation of RCRA hazardous waste pharmaceuticals that are also Drug Enforcement Administration (DEA) controlled substances. The new rules also maintain the household hazardous waste exemption for pharmaceuticals collected during pharmaceutical takeback programs and events, while ensuring their proper disposal.

  The new rules codify Environmental Protection Agency (EPA)'s prior policy on the regulatory status of nonprescription pharmaceuticals going through reverse logistics. Additionally, EPA is excluding certain U.S. Food and Drug Administration (FDA) approved over the- counter (OTC) nicotine replacement therapies (NRTs) from regulation as hazardous waste.

- **Federal Hazardous Waste Management System; User Fees for the Electronic Hazardous Waste Manifest system and amendments to Manifest Regulations – Vol. 83 FR 420**
  The Environmental Protection Agency (EPA) is establishing by this regulation the methodology EPA will use to determine and revise the user fees applicable to the electronic and paper manifests to be submitted to the national electronic manifest system (e-Manifest system) that EPA is developing under the Hazardous Waste Electronic Manifest Establishment Act. After the e-Manifest system's implementation date, certain users of the hazardous waste manifest will be required to pay a prescribed fee for each electronic and paper manifest they use and submit to the national system so that EPA can recover the costs of developing and operating the national e-Manifest system.

  This final rule also announces the date when EPA expects the system to be operational and available to users. EPA will begin accepting manifest submissions and collecting the corresponding manifest submission fees on this date. In addition, this action announces final decisions and regulations relating to several non-fee related matters that were included in the rule. This includes modifying the existing regulations to:
    - Allow changes to the transporters designated on a manifest while the shipment is en-route.
    - Describe how data corrections may be made to existing manifest records in the system.
    - Amend the previous e-Manifest regulation (the One Year Rule) to allow the use, in certain instances, of a mixed paper and electronic manifest to track a hazardous waste shipment.
- **Federal Safe Management of Recalled Airbags – Vol. 83 FR 61552**
  The Environmental Protection Agency (EPA) is issuing this interim final rule in response to the urgent public health issue posed by recalled Takata airbag inflators still installed in vehicles. With this rule, EPA is facilitating a more expedited removal of defective Takata airbag inflators from vehicles by dealerships, salvage yards and other locations for safe and environmentally sound disposal by exempting the collection of airbag waste from hazardous waste requirements so long as certain conditions are met. EPA is also seeking comment on this interim final rule.

2.3 Adopted rule amendments

The rule amendments will make the following changes:

- Updating management standards for pharmaceutical and nicotine replacement wastes to meet federal requirements and include state-only wastes.
- Updating requirements for the E-Manifest Hazardous Waste Management System to match federal requirements.
- Updating requirements for safe management of recalled and removed airbags.
- Adding a five-year documentation retention period for records related to the solvent contaminated wipes exclusion.

- Increasing the amount of dangerous waste that Medium Quantity Generators (MQGs) are allowed to accumulate on-site.
- Adding recordkeeping requirements for the use of alternate tank inspection schedules.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels where inadvertently omitted in past rulemaking.
- Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events, with central notification to Ecology.
- Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs.
- Expanding Ecology's ability to request additional reports from a generator.

The amendments also make several changes that have no material impact, such as re-wording, clarifications, updating references, and deleting obsolete and irrelevant language.

2.3.1 Updating management standards for pharmaceutical and nicotine replacement wastes

Baseline

Under the existing rule, generators must manage pharmaceutical dangerous waste under the same dangerous management waste rules applied to other forms of waste. Federal rule revisions require states to update their rules to match more-stringent requirements, and leave less-stringent revisions as optional.

Adopted

The adopted amendments make a number of changes consistent with the federal rule's more-stringent changes for federal hazardous waste pharmaceuticals, including:

- Adding the EPA pharmaceutical rule for federal hazardous waste pharmaceuticals.
- Adding reference to the EPA pharmaceutical rule definitions.
- Clarifying that domestic sewage and other wastes discharged to Publicly Owned Treatment Works (POTWs) are conditionally excluded from most of the rule's requirements, except as prohibited by the new pharmaceutical rule language.
- Adding federal requirements for when containers are empty.
- Clarifying that determinations regarding quantity exclusion limits exclude waste that is managed by the US Drug Enforcement Agency (DEA).
- Subjecting reverse distributors to the pharmaceutical rule.
- Subjecting healthcare facilities to the pharmaceutical rule.
- Requiring storage and disposal permits for reverse distributors not meeting the reverse distributor rule conditions.

- Excluding nicotine replacement therapy products from being classified as "P" listed wastes

As these adopted changes are part of the baseline federal requirement, they will not result in costs or benefits for this analysis.

The amendments also make some changes in which Ecology had discretion (was not specifically required to adopt) in terms of pharmaceutical waste:

- Adding an option for disposal of state-only non-creditable dangerous waste pharmaceuticals at a non-RCRA permitted combustor or incinerator.
- Providing a definition for state-only dangerous waste pharmaceuticals that are also covered under the new pharmaceutical rules.

This will mean health care facility generators (except for those SQG HCFs who chose not to follow the pharmaceutical rules) of state-only pharmaceutical waste will be able to use the same disposal methods available for federal pharmaceutical waste, given they meet the requirements of the pharmaceutical rule. Any SQG HCF can send their non-creditable pharmaceuticals to one of two other types of HCFs:

- To any size HCF with a specific contract/business relationship (as described in the rule), or
- As allowed under the generator improvements rule.

MQGs and LQGs generating state-only pharmaceutical waste (though counting all of their dangerous waste) will be able to:

- Dispose of state-only non-creditable dangerous waste pharmaceuticals at a non-RCRA permitted combustor or incinerator.
- Avoid annual reporting under other sections of the rule for non-creditable and potentially creditable dangerous waste pharmaceuticals.
- Receive dangerous waste from related SQGs managed by the same person or in a documented business relationship.
- Send potentially creditable dangerous waste pharmaceuticals to reverse distributors.
- Exclude pharmaceutical controlled substances and household pharmaceutical waste in takebacks, from total dangerous waste generation.
- Exclude empty stock small containers (ampules, foil packs, etc.), syringes, IV bags from total dangerous waste generation.
- Use other documentation in place of uniform manifests for conditionally exempt state-only dangerous waste.

In addition, SQGs will be able to:

- Send creditable pharmaceutical state-only dangerous waste to reverse distributors.

- Send pharmaceutical state-only dangerous waste to other healthcare facilities.
- Send pharmaceutical state-only dangerous waste for disposal in DEA on-site collection, if they are long-term care facilities.

Reverse distributors will be able to continue to do business managing potentially creditable pharmaceuticals and pharmaceutical dangerous wastes, with additional management options as long as they manage dangerous wastes according to conditions in the pharmaceutical rule.

All of these preferable options will be conditional on compliance with the pharmaceutical rule's relevant requirements, including:

- Notification.
- Training.
- Container labeling and handling requirements.
- Labeling, marking, or inventory of accumulated non-credible pharmaceutical dangerous waste.
- Reporting exceptions.
- Retaining records for five years.
- Cleaning up spills of non-creditable dangerous waste pharmaceuticals and managing cleanup material as non-creditable dangerous waste.
- Cleaning up spills of creditable dangerous waste pharmaceuticals and managing cleanup material as non-creditable dangerous waste.
- Not discharging pharmaceutical waste to publicly-owned treatment works (POTWs) or on-site sewer.
- Managing and destroying pharmaceutical controlled substances and collected household pharmaceutical waste per DEA requirements.

Note that while MQGs and LQGs of pharmaceutical dangerous waste will need to comply with these requirements, they will only need to be met by SQGs of pharmaceutical dangerous waste if they chose to comply with the pharmaceutical rule in lieu of managing pharmaceuticals the same way as other dangerous waste under other parts of the baseline rule.

Expected impact

The rule amendments are likely to result in net benefits for generators managing state-only non-creditable dangerous waste pharmaceuticals, by giving them new conditional options for disposal. If SQGs choose to use the lowest-cost pathway for compliance by using the pharmaceutical rule, they will incur the costs of meeting the conditions for following the pharmaceutical rule, but avoid costs associated with counting their state-only pharmaceutical waste toward their generator status.

MQGs and LQGs of pharmaceutical dangerous waste will benefit by being able to use the management options of the pharmaceutical rule by meeting the rule conditions. MQGs and LQGs that generate both federal and state-only pharmaceutical wastes will also benefit from being able to manage all of their wastes the same way, rather than separate wastes and manage some under the federal pharmaceutical rule while managing state-only wastes under the baseline Dangerous Waste rule.

2.3.2 Updating requirements for the E-Manifest Hazardous Waste Management System

Baseline

The EPA requires states to update their rules to be consistent with recent revisions to the federal Manifest Hazardous Waste Management System.

Adopted

Ecology is only adopting amendments that correspond to requirements set by the EPA. These include amendments to:

- Physical and electronic signatures
- Emergency conditions, post-receipt manifest data collections
- Paper manifest submission requirements

Expected impact

We do not expect the amendments to result in costs or benefits as compared to the baseline, as Ecology is only adopting required elements of the federal rule.

2.3.3 Updating requirements for safe management of airbags

Baseline

Under the baseline rule, generators are required to manage airbag waste with other dangerous waste. The EPA's recalled airbag exclusion is a less stringent rule, giving states the option of amending their rules to match.

Adopted

The rule amendments adopt the federal rule in full, including:

- Adding a waste exclusion for recalled airbags, given management conditions are met:
    - Accumulating no more than 250 airbag modules or airbag inflators and for no longer than 180 days, whichever comes first.
    - Packaging the waste in a container designed to address the hazard posed by the airbag waste and labeled "Airbag Waste – Do Not Reuse".
    - Sending the waste directly to either:
        - An airbag waste collection facility in the United States under the control of a vehicle manufacturer or other authorized party.

        - A permitted dangerous waste treatment, storage, disposal, or recycling (TSDR) facility.
    - Complying with federal U.S. Department of Transportation requirements during transit.
    - Maintaining five years of records of shipments and receipt confirmations.
- Clarifications that may have no material impact, but improve rule structure and generator knowledge about waste management options available to them, including:
    - Clarification that accumulation is not to exceed 250 airbag modules or airbag inflators and for no longer than 180 days, whichever comes first.
    - Explicit clarification that generators can manage airbag waste under the new exclusion and exclude it from generation totals.
    - Clarification that reinstallation of recalled and other removed recalled defective airbags is considered sham recycling.

Expected impact

The amendments are likely to result in net benefits to airbag waste generators that choose to use the exclusion, as well as to public health and the environment. Airbag waste generators, such as dealerships and automotive maintenance shops will be able to choose the least-cost compliance pathway to appropriately manage airbag waste, and potentially avoid becoming Medium Quantity Generators or Large Quantity Generators due to their airbag waste.

2.3.4 Adding a five-year documentation retention period for solvent-contaminated wipes

Baseline

Under the baseline, generators of solvent-contaminated wipe waste do not have a specified period for retaining documentation.

Adopted

The adopted amendments will require generators of solvent-contaminated wipes to retain records for five years.

Expected impact

Retention of records for five years is not likely to result in significant impacts to recordkeeping practices. All other record retention requirements in the rule require generators to keep records for five years. Moreover, additional retention time is likely to take up existing used space (physical or electronic). We expect these costs to be minimal as the initial storage space is already necessary under the baseline, particularly those in electronic format. It will also generate benefits of additional documentation available in the event of management errors or discrepancies that result in increased risk to public health or the environment, related to solvent-contaminated wipes.

2.3.5 Increasing the amount of dangerous waste that MQGs are allowed to accumulate on-site

Baseline

Under the baseline rule, Medium Quantity Generators (MQGs) are allowed to accumulate 2,200 lbs. of dangerous waste on site in a month. MQGs that accumulate more than this limit are required to obtain a RCRA storage permit.

Adopted

The adopted amendments will increase the limit for on-site MQG dangerous waste accumulation from 2,200 lbs. to 6,600 lbs. The existing rule requires a MQG that accumulates greater than 2,200 lbs. to obtain a RCRA storage permit. Increasing the threshold amount of MQG dangerous waste accumulated on-site to 6,600 lbs. means that a MQG who regularly generates and stores close to 2,200 lbs. every month will have more time before they must ship their dangerous waste off-site. This gives MQGs the benefit of avoiding costs of frequent dangerous waste shipments, and reduction in amount of waste shipments over the roadways.

Expected impact

The ability to accumulate more dangerous waste on site before needing to either ship it off site, or obtain a RCRA storage permit, is likely to generate benefits for some MQGs. This benefit can come in the form of less-frequent shipment of dangerous waste off site for generators that accumulate close to the current cap of 2,200 lbs. per month. It can also come in the form of avoided costs of acquiring and complying with a RCRA storage permit for generators that currently accumulate between 2,200 lbs. and 6,600 lbs. on site per month. We do not expect this amendment to result in costs as compared to the baseline.

2.3.6 Adding recordkeeping requirements for the use of alternate tank inspection schedules

Baseline

Under the baseline, MQGs accumulating dangerous waste and meeting conditional exemption requirements using alternate tank inspection schedules are not required to perform additional RCRA recordkeeping of the alternate schedule and its procedures. This is due to an omission in past rulemaking.

Adopted

The adopted amendments will require MQGs accumulating dangerous waste and meeting conditional exemption requirements using alternate tank inspection schedules to perform RCRA recordkeeping tasks. These tasks are:

- Documenting use of the alternate tank inspection schedule in the operating record.
- Including a description of workplace practices.

Expected impact

Additional documentation associated with the voluntary use of alternate tank inspection schedules will result in additional recordkeeping costs, and potentially benefit public and environmental health by ensuring documentation of procedures, which prevents errors and improves planning to prevent public and environmental exposure to dangerous waste.

2.3.7 Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels

Baseline

Under the existing rule, MQGs and Large Quantity Generators (LQGs) accumulating dangerous waste and meeting certain conditional exemption requirements must label containers of dangerous waste with:

- The date accumulation began.
- The words "dangerous waste" or "hazardous" waste, legible from a distance of 25 feet (or 0.5 inches high).
- Indication of the hazards posed by the contents, including pictograms.

Adopted

The adopted amendments will add requirements for MQGs and LQGs accumulating dangerous waste and meeting certain conditional exemption requirements to also:

- Affix labels when transferring wastes between containers.
- Destroy or remove labels from empty containers.
- Ensure labels are not obscured, removed, or otherwise unreadable.

Expected impact

Additional labeling requirements can generate minor costs of label transfer or removal at MQGs and LQGs accumulating dangerous waste and meeting conditional exemption requirements, but because of the extent of the existing labeling requirements under the baseline, we do not expect this adopted amendment to result in more than minor time costs and environmental or public health protection benefits. Label transfer or removal is implied by the existing baseline requirement to legibly and appropriately label dangerous waste. This means MQGs and LQGs will already need to transfer the label or affix a new identical label and remove the label on the container from where they are transferring the waste from.

2.3.8 Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events

Baseline

Under the baseline, generators are required to notify Ecology's regional Hazardous Waste and Toxics Reduction office about planned episodic events.

Adopted

The adopted amendments will remove the regional component of this requirement, changing it to Ecology's Hazardous Waste and Toxics Reduction program.

Expected impact

We expect this amendment to result in a minor benefit of centralizing information and streamlining records management.

2.3.9 Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic waste generation rule

Baseline

Under the existing rule, MQGs must label containers of episodic generation of dangerous waste with:

- The date accumulation began.
- The words "dangerous waste" or "hazardous" waste, legible from a distance of 25 feet (or 0.5 inches high).
- Indication of the hazards posed by the contents, including pictograms.

Adopted

The adopted amendments will exempt containers of episodic waste one gallon (or four liters) and under from the legibility requirements.

Expected impact

Reduced labeling requirements will result in a benefit (avoided cost) of labeling on some containers at MQGs generating episodic waste.

2.3.10 Expanding Ecology's ability to request additional reports from a generator.

Baseline

The existing rule requires generators to submit:

- Annual reports
- Exception reports
- Upon request, additional reports about quantities and disposition of dangerous waste, including:
    - Engineering reports
    - Plans

- Specifications

Adopted

The amendments clarify that engineering reports, plans, and specifications are only examples of the types of additional reports generators must provide when requested by Ecology. We also expanded Ecology's ability to require generators to furnish additional reports concerning the generator's compliance with any part of the dangerous waste regulations. Ecology will request reports in the context of enforcing the rule.

Expected impact

If requested to do so, generators will potentially incur costs of furnishing additional reports or information in reports about dangerous waste disposition and compliance. Under this amendment, they will incur the costs of submitting additional reports to Ecology, in enforcement cases of noncompliance. This amendment is likely to result in costs only to those facilities Ecology requests additional reports from in enforcement cases. Public health and the environment will potentially benefit from generators being brought into compliance with the rule and minimizing likelihood of releasing dangerous waste.

This page intentionally left blank.

Chapter 3: Likely Costs of the Adopted Rule Amendments

3.1 Introduction

We analyzed the likely costs associated with the adopted rule amendments, as compared to the baseline. The amendments and the baseline are discussed in detail in Chapter 2 of this document.

3.2 Cost analysis

The rule amendments will make the following changes:

- Updating management standards for pharmaceutical and nicotine replacement wastes to meet federal requirements and include state-only wastes.
- Updating requirements for the E-Manifest Hazardous Waste Management System to match federal requirements
- Updating requirements for safe management of recalled and removed airbags.
- Adding a five-year documentation retention period for records related to the solvent contaminated wipes exclusion.
- Increasing the amount of dangerous waste that Medium Quantity Generators (MQGs) are allowed to accumulate on-site.
- Adding recordkeeping requirements for the use of alternate tank inspection schedules.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels where inadvertently omitted in past rulemaking.
- Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events, with central notification to Ecology.
- Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic waste generation rule.
- Expanding Ecology's ability to request additional reports from a generator.

3.2.1 Updating management standards for pharmaceutical and nicotine replacement wastes

The amendments are not likely to result in any net costs for healthcare facilities managing state-only non-creditable dangerous waste pharmaceuticals, because they:

- Give all state-only pharmaceutical waste generator healthcare facilities new management requirements designed specifically for pharmaceutical management, allowing for similar or lesser net requirements and costs of waste management.
- Streamline disposal options and conditions for federal and state pharmaceutical wastes for generators of both types of wastes. They will be able to manage all of their wastes the same way, rather than separate wastes and manage some under the federal

pharmaceutical rule while managing state-only wastes under the baseline Dangerous Waste rule.

- Give healthcare facility SQGs more options, including:
    - Conditionally sending their pharmaceutical waste to a MQG or LQG.
    - Using the conditional options of the pharmaceutical rule.
    - Managing their pharmaceutical waste as they already manage other dangerous waste under the baseline.

We identified 49 generators of state-only dangerous waste that are *not* also generators of federal dangerous wastes, as well as 162 healthcare facilities that will be covered by the pharmaceutical rule.[1] Across these generator groups:

- 158 (98 percent) were healthcare facilities generating *both* federal and state-only waste.
- Four (2 percent) were healthcare facilities generating *only* state-only waste.

Of the four healthcare facilities generating only state-only pharmaceutical dangerous waste:

- Three were SQGs (and will be able to choose to comply with the pharmaceutical rule, or count their waste toward their generator status).
- One facility in the state was identified as a MQG generating only state-only dangerous waste.[2]

SQG healthcare facilities

While the pharmaceutical rule is a requirement for MQG and LQG healthcare facilities, it is optional for SQG healthcare facilities. Assuming SQG healthcare facilities choose to use the lowest-cost pathway for compliance by using the pharmaceutical rule, they will:

- Incur the costs of meeting the conditions for following the pharmaceutical rule.
- Avoid costs associated with counting their state-only pharmaceutical waste toward their generator status.

If using the pharmaceutical rule to exclude state-only pharmaceutical waste from counting toward their generators status will *not* result in a net benefit, we do not expect SQG healthcare facilities to choose this option. They will instead incur the same costs as they do under the baseline, through compliance with the rest of the Dangerous Waste Management rule.

MQG healthcare facilities generating only state-only dangerous waste

The single MQG healthcare facility we identified as generating *only* state-only pharmaceutical dangerous waste will be required to comply with the pharmaceutical rule

[1] WA Department of Ecology, 2020. TurboWaste database.
[2] Ibid.

in lieu of the remainder of the Dangerous Waste Management rule, for its pharmaceutical waste. It will be required to meet requirements including:

- Notification.
- Training.
- Container labeling and handling requirements.
- Labeling, marking, or inventory of accumulated non-credible pharmaceutical dangerous waste.
- Reporting exceptions.
- Retaining records for five years.
- Cleaning up spills of non-creditable dangerous waste pharmaceuticals and managing cleanup material as non-creditable DW.
- Cleaning up spills of creditable dangerous waste pharmaceuticals and managing cleanup material as non-creditable DW.
- Not discharging pharmaceutical waste to publicly-owned treatment works (POTWs) or on-site sewer.
- Managing and destroying pharmaceutical controlled substances and collected household pharmaceutical waste per DEA requirements.

These requirements are similar to the general requirements in the remainder of the baseline Dangerous Waste Management rule, with context and descriptions designed specifically for healthcare facilities. These specifications include:

- Differentiation between creditable and non-creditable dangerous waste pharmaceuticals, allowing for easier management of pharmaceuticals.
- Flexibility in demonstration of how long non-creditable dangerous waste pharmaceuticals have accumulated.
- Protocols for managing and reporting rejected shipments of non-creditable dangerous waste pharmaceuticals.
- Protocols for managing creditable versus non-creditable dangerous waste pharmaceutical spills.
- Allowances for accepting potentially creditable dangerous waste pharmaceuticals from SQG healthcare facilities without a permit or interim status.
- Specifications for take-back programs for controlled substances or household waste pharmaceuticals.
- Allowance of additional combustion and incineration disposal options for state-only dangerous waste pharmaceuticals.
- Protocols for shipping to reverse distributors of pharmaceuticals.

Under the baseline, these state-only dangerous waste pharmaceuticals will be managed with other types of dangerous waste, under the baseline rule. This will entail similar requirements for activities such as notification, reporting, and waste management, without the above elements tailored to the types of pharmaceutical waste and industry structure.

We do not, therefore, expect this facility to incur net costs under these amendments.

LQG healthcare facilities generating only state-only dangerous waste

We did not identify any LQGs that will incur costs under the pharmaceutical rule, relative to the baseline.

Healthcare facilities managing federal and state-only wastes

The 158 healthcare facilities generating both federal and state-only dangerous waste pharmaceuticals will need to meet the requirements of the pharmaceutical rule under the baseline, for their federal dangerous waste pharmaceuticals. We do not expect these facilities to incur net costs under the amendments. (See discussion of facilities by generator status, above.)

3.2.2 Updating requirements for the E-Manifest Hazardous Waste Management System

We do not expect the rule amendments to result in costs as compared to the baseline, as Ecology is only adopting required elements of the federal rule. See Chapter 2 for discussion.

3.2.3 Updating requirements for safe management of airbags

The amendments are not likely to result in any net costs for generators airbag dangerous waste, because they give these generators new conditional options for excluding these wastes from generation totals that determine generator status. If they choose to use the lowest-cost pathway for compliance by excluding airbag waste from generation totals:

- Incur the costs of meeting the conditions for the exclusion.
- Avoid costs associated with counting their airbag dangerous waste toward their generator status.

If using the exclusion will not result in a net benefit, we do not expect generators to choose this option. They will instead incur the same costs as they do under the baseline.

Exclusion of airbag waste from dangerous waste generation totals will be conditioned on:

- Accumulating no more than 250 airbag modules or airbag inflators and for no longer than 180 days, whichever comes first.
- Packaging the waste in a container designed to address the hazard posed by the airbag waste and labeled "Airbag Waste – Do Not Reuse".
- Sending the waste directly to either:

    - An airbag waste collection facility in the United States under the control of a vehicle manufacturer or other authorized party.
    - A permitted dangerous waste treatment, storage, disposal, or recycling (TSDR) facility.
- Complying with federal U.S. Department of Transportation requirements during transit.
- Maintaining five years of records of shipments and receipt confirmations.

We identified 95 potential accumulators of airbag dangerous waste:[3]

- 2 SQGs
- 86 MQGs
- 7 LQGs

Airbag accumulators (particularly MQGs and LQGs) will benefit from the new option of excluding their airbag dangerous waste from their total generation, and potentially reducing their compliance obligations under the rule by avoiding becoming part of a larger-quantity generator category.

Since the conditional exclusion for airbag waste is optional, generators will only choose to do so if they will see a net benefit (lower net costs). They will incur the costs of meeting relevant conditions discussed above, and in exchange will potentially reduce or avoid higher compliance obligations from being included in a higher-quantity generation category (see Chapter 2 or Chapter 4 for discussion). If they do not expect a net benefit, they will choose to behave the same as they will under the baseline. Therefore, in all, we do not expect this rule amendment to result in net costs, whether the 95 airbag waste generators take advantage of the conditional exclusion or not.

3.2.4 Adding a five-year documentation retention period for solvent-contaminated wipes

Retention of records for five years for documentation related to solvent-contaminated wipes is not likely to result in significant impacts to recordkeeping practices. All other record retention requirements in the rule require records to be kept five years. Moreover, additional retention time is likely to take up existing used space (physical or electronic). We expect these costs to be minimal as the initial storage space is already necessary, particularly those in electronic format. See Chapter 2 for discussion.

3.2.5 Increasing the amount of dangerous waste that MQGs are allowed to accumulate on-site

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

[3] WA Department of Ecology, 2020. TurboWaste database.

3.2.6 Adding recordkeeping requirements for the use of alternate tank inspection schedules

Additional documentation associated with the voluntary use of alternate tank inspection schedules will result in additional recordkeeping costs. The amendments will require MQGs accumulating dangerous waste and meeting conditional exemption requirements using alternate tank inspection schedules to perform RCRA recordkeeping tasks. These tasks are:

- Documenting use of the alternate tank inspection schedule in the operating record.
- Including a description of workplace practices.

Ecology data does not identify whether a MQG is using an alternate tank inspection schedules. Using an alternate schedule is part of the baseline rule as a flexibility option to better fit inspection schedules to a generator's operations. The amendments will add some documentation costs to using this option.

Based on the type of content that this rule amendment will require adding to the operating record, we conservatively assumed it will take one hour for each task. While these tasks may seem simple, assuming an hour for each task allows MQGs time for any managerial review and document management (such as proofreading or printing) that might be needed.

MQGs operate in a wide variety of industries, reflecting 190 unique 6-digit North American Industry Classification System (NAICS) codes, or 124 bundled 4-digit NAICS codes. They also likely vary as to the type of position that will add the two elements to their operating record. We therefore considered a range of median hourly wages (central estimates better reflecting wages that are not outliers), between:[4]

- The median hourly wage across all materials transport occupations in Washington State, $18.05 per hour.
- The median hourly wage across all production occupations in Washington State, $19.74 per hour.

Two hours spent on additional tasks at these wages will result in a cost of between $36 and $39 per generator. Ecology data does not provide relevant information to be able to multiply this to a total cost, though as an unlikely highest possible estimate, if we multiply this range by all 610 MQGs[5] (which will imply they *all* use alternate tank inspection schedules), total costs of this rule amendment will range between $22,021 and $24,083.

[4] US Bureau of Labor Statistics, 2019. May 2018 Wages by Area and Occupation.
[5] WA Department of Ecology, 2020. TurboWaste database.

3.2.7 Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels

Label transfer or removal is implied by the existing baseline requirement to legibly and appropriately label dangerous waste, meaning MQGs and LQGs will already either need to transfer the label or affix a new identical label and remove the label on the container being transferred from. These additional labeling requirements are likely to generate very minor costs of label transfer or removal that may be part of baseline behavior complying with the labeling requirement without having to create as many new labels, so we do not expect this rule amendment to result in more than minor time costs.

In addition, prior to the last amendments to this rule (in January 2019), generators were all required to affix, transfer, destroy, and ensure readability of labels. When the rule was reorganized under those amendments, this language was accidentally omitted from requirements for MQGs and LQGs meeting conditional exemptions for accumulating dangerous waste, while it was kept for sections of the rule addressing containers in general. Given their historic practice, generators are likely still behaving in compliance with the previous rule, and this amendment adding the requirement back to the rule is not likely to have significant impacts.

The number of labels used by MQGs and LQGs accumulating dangerous waste and meeting conditional exemption requirements is unknown and highly variable, and the frequency of transferring dangerous waste to different containers is also not reflected in data.

As a potential illustration, we assumed label transfer was implied and incentivized under the baseline, and this amendment resulted in an increase in removal of labels that are not being transferred from empty containers. If we assume removing one label takes 15 seconds, and use the $18.05 to $19.74 per hour range of wages representing potential median wages across a variety of industries and occupations (used above),[6] this amendment will result in a cost of approximately eight cents per label removed. To incur an equivalent cost of $100, a facility will need to remove 1,216 to 1,330 labels.

Considering all of the above factors, we therefore expect MQGs and LQGs accumulating dangerous waste and meeting conditional exemption requirements will only incur less than minor costs from this amendment, relative to the baseline.

3.2.8 Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events

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

[6] US Bureau of Labor Statistics, 2019. May 2018 Wages by Area and Occupation.

3.2.9 Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic generation rule

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

3.2.10 Expanding Ecology's ability to request additional reports from a generator.

If requested to do so, generators will potentially incur costs of furnishing additional reports or information in reports about dangerous waste disposition and compliance. Under this rule amendment, they will incur the costs of submitting additional reports to Ecology, in enforcement cases of noncompliance. This amendment is likely to result in costs only to those facilities Ecology requests additional reports from in enforcement cases.

We expect that generators potentially failing to comply with the rule, and requiring additional enforcement action by Ecology that necessitates reports, will be infrequent. Moreover, for economic analyses, we must assume compliance to be able to compare behavior under the adopted amendments as compared to the baseline. If a generator is avoiding compliance costs through noncompliance, they may incur additional costs under this amendment to come into compliance. Those costs will be highly specific to the generator, their waste, and the type of noncompliance.

Chapter 4: Likely Benefits of the Rule Amendments

4.1 Introduction

We analyzed the likely benefits associated with the rule amendments, as compared to the baseline. The rule amendments and the baseline are discussed in detail in Chapter 2 of this document.

4.2 Benefits analysis

The rule amendments will make the following changes:

- Updating management standards for pharmaceutical and nicotine replacement wastes to meet federal requirements and include state-only wastes.
- Updating requirements for the E-Manifest Hazardous Waste Management System to match federal requirements
- Updating requirements for safe management of recalled and removed airbags.
- Adding a five-year documentation retention period for records related to the solvent contaminated wipes exclusion.
- Increasing the amount of dangerous waste that Medium Quantity Generators (MQGs) are allowed to accumulate on-site.
- Adding recordkeeping requirements for the use of alternate tank inspection schedules.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels where inadvertently omitted in past rulemaking.
- Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events, with central notification to Ecology.
- Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs. Expanding Ecology's ability to request additional reports from a generator.

4.2.1 Updating management standards for pharmaceutical and nicotine replacement wastes

The amendments are likely to result in net benefits for healthcare facilities managing state-only non-creditable dangerous waste pharmaceuticals, as well as maintaining protection for public health and the environment, because they:

- Give all state-only pharmaceutical waste generator healthcare facilities new management requirements designed specifically for pharmaceutical management, allowing for similar or lesser net requirements and costs of waste management.
- Streamline disposal options and conditions for federal and state pharmaceutical wastes for generators of both types of wastes. They will be able to manage all of their wastes the same way, rather than separate wastes and manage some under the federal

pharmaceutical rule while managing state-only wastes under the baseline Dangerous Waste rule.

- Give healthcare facility SQGs more options, including:
    - Conditionally sending their pharmaceutical waste to a MQG or LQG.
    - Using the conditional options of the pharmaceutical rule.
    - Managing their pharmaceutical waste as they already manage other dangerous waste under the baseline.

We identified 49 generators of state-only dangerous waste that are *not* also generators of federal dangerous wastes, as well as 162 healthcare facilities that will be covered by the pharmaceutical rule.[7] Across these generator groups:

- 158 (98 percent) were healthcare facilities generating *both* federal and state-only waste.
- Four (2 percent) were healthcare facilities generating *only* state-only waste.

Of the four healthcare facilities generating only state-only pharmaceutical dangerous waste:

- Three were SQGs (and will be able to choose to comply with the pharmaceutical rule, or count their waste toward their generator status).
- One facility in the state was identified as a MQG generating only state-only dangerous waste.[8]

SQG healthcare facilities

While the pharmaceutical rule is a requirement for MQG and LQG healthcare facilities, it is optional for SQG healthcare facilities. Assuming SQG healthcare facilities choose to use the lowest-cost pathway for compliance by using the pharmaceutical rule, they will:

- Incur the costs of meeting the conditions for following the pharmaceutical rule.
- Avoid costs associated with counting their state-only pharmaceutical waste toward their generator status.

If using the pharmaceutical rule to exclude state-only pharmaceutical waste from counting toward their generators status will *not* result in a net benefit, we do not expect SQG healthcare facilities to choose this option.

MQG healthcare facilities generating only state-only dangerous waste

The single MQG healthcare facility we identified as generating *only* state-only pharmaceutical dangerous waste will be required to comply with the pharmaceutical rule in lieu of the remainder of the Dangerous Waste Management rule, for its pharmaceutical waste. It will be required to meet requirements similar to the general requirements in the

[7] WA Department of Ecology, 2020. TurboWaste database.
[8] Ibid.

remainder of the baseline Dangerous Waste Management rule, with context and descriptions designed specifically for healthcare facilities. These specifications include:

- Differentiation between creditable and non-creditable dangerous waste pharmaceuticals, allowing for easier management of pharmaceuticals.
- Flexibility in demonstration of how long non-creditable dangerous waste pharmaceuticals have accumulated.
- Protocols for managing and reporting rejected shipments of non-creditable dangerous waste pharmaceuticals.
- Protocols for managing creditable versus non-creditable dangerous waste pharmaceutical spills.
- Allowances for accepting potentially creditable dangerous waste pharmaceuticals from SQG healthcare facilities without a permit or interim status.
- Specifications for take-back programs for controlled substances or household waste pharmaceuticals.
- Allowance of additional combustion and incineration disposal options for state-only dangerous waste pharmaceuticals, at a non-RCRA permitted combustor or incinerator.
- Protocols for shipping to creditable pharmaceutical waste to reverse distributors.
- Avoided annual reporting under other sections of the rule for non-creditable and creditable dangerous waste.
- Exclusion of empty stock small containers (ampules, foil packs, etc.), syringes, IV bags from total dangerous waste generation.
- Use of other documentation in place of uniform manifests for conditionally exempt state-only dangerous waste.

Under the baseline, these state-only dangerous waste pharmaceuticals will be managed with other types of dangerous waste, under the baseline rule. This will entail similar requirements for activities such as notification, reporting, and waste management, without the above elements tailored to the types of pharmaceutical waste and industry structure. We, therefore, expect this facility to incur net zero or positive benefits, and potentially see a cost-savings from better fitting management of creditable dangerous waste pharmaceuticals, under these rule amendments.

LQG healthcare facilities generating only state-only dangerous waste

We did not identify any LQGs that will incur costs under the pharmaceutical rule, relative to the baseline.

Healthcare facilities managing federal and state-only wastes

The 158 healthcare facilities generating both federal and state-only dangerous waste pharmaceuticals will need to meet the requirements of the pharmaceutical rule under the

baseline, for their federal dangerous waste pharmaceuticals. Without these rule amendments allowing for state-only dangerous waste pharmaceuticals to be managed with the same requirements and allowances, these facilities will need to manage their wastes in two different waste streams with different requirements and disposal options. These facilities will benefit from the amendments by being able to manage all their dangerous waste pharmaceuticals in the same way.

Reverse distributors

Reverse distributors will be able to continue to do business managing creditable pharmaceuticals and pharmaceutical dangerous wastes, with additional management requirements as long as dangerous wastes are managed according to conditions in the pharmaceutical rule.

4.2.2 Updating requirements for the E-Manifest Hazardous Waste Management System

We do not expect these rule amendments to result in benefits as compared to the baseline. See Chapter 2 for discussion.

4.2.3 Updating requirements for safe management of airbags

The amendments are likely to result in net benefits to airbag waste generators that choose to use the exclusion, meeting the conditions for exclusion to exclude their airbag waste from the waste total used to determine generator status. Airbag waste generators, such as dealerships and automotive maintenance shops will be able to choose the least-cost compliance pathway to appropriately manage airbag waste, and potentially avoid becoming Medium Quantity Generators or Large Quantity Generators due to their airbag waste.

We identified 95 potential accumulators of airbag dangerous waste:[9]

- 2 SQGs
- 86 MQGs
- 7 LQGs

Airbag accumulators (particularly MQGs and LQGs) will benefit from the new option of excluding their airbag dangerous waste from their total generation, and potentially reducing their compliance obligations under the rule by avoiding becoming part of a larger-quantity generator category.

Since the conditional exclusion for airbag waste is optional, generators will only choose to do so if they will see a net benefit (lower net costs). They will incur the costs of meeting relevant conditions (see Chapter 2), and in exchange will potentially reduce or avoid higher compliance obligations from being included in a higher-quantity generation category. If they do not expect a net benefit, they will choose to behave the same as they

[9] WA Department of Ecology, 2020. TurboWaste database.

will under the baseline. In and of itself, use of the exclusion will allow airbag waste generators an option that can be less costly than managing the waste as part of their overall generation. Therefore, in all, we expect this rule amendment to result in only net benefits, for airbag accumulators that choose to use the conditional exclusion.

The table below summarizes many of the requirements that have differed across sizes of generator.[10, 11]

Table 1: Example differences in requirements for different size generators

Large Quantity Generators	Medium Quantity Generators	Small Quantity Generators
File Dangerous Waste Site Identification Form	File Dangerous Waste Site Identification Form	n/a
Label with "Hazardous Waste" or "Dangerous Waste", accumulation start date, and risks	Label with "Hazardous Waste" or "Dangerous Waste", accumulation start date, and risks	Major risk labels required by L&I/DOSH, local health department
Generate more than 2,200 lbs./mo. dangerous waste, or more than 2.2 lbs./mo. Acute Hazardous Waste or Extremely Hazardous Waste	Generate between 220 lbs./mo. and 2,200 lbs./mo.	Generate less than 220 lbs./mo. dangerous waste and less than 2.2 lbs./mo. Acute Hazardous Waste or Extremely Hazardous Waste
No waste accumulation limit	6,600 lb. waste accumulation limit	2,200 lb. waste accumulation limit
90 day accumulation limit	180 day accumulation limit	no accumulation time limit
Accumulation area and general inspections must be scheduled, documented, deficiencies corrected	Accumulation area and general inspections must be scheduled, documented, deficiencies corrected	n/a
Written training plan	Familiarize employees with	n/a

[10] WA Department of Ecology, 2016. Guide for Dangerous Waste (DW) Generators in Washington State. Quick Reference Guide. Publication #98-1252 – HWTR. Revised November 2016

[11] Table is meant for illustration only. It does not reflect more recent changes in requirements for different sizes of generator. This table should not be used to plan or determine compliance.

Large Quantity Generators	Medium Quantity Generators	Small Quantity Generators
	waste handling and emergency procedures	
Preparedness and Prevention: • Minimize fire, explosion, and release. • Communication systems (internal and external), fire control. • Test/maintain communication and control equipment. • Access to communications or alarm system. • Adequate aisle space. • Arrangements with local authorities	Preparedness and Prevention: • Minimize fire, explosion, and release. • Communication systems (internal and external), fire control. • Test/maintain communication and control equipment. • Access to communications or alarm system. • Adequate aisle space. • Arrangements with local authorities	Preparedness and Prevention: n/a
Contingency Plan and Emergency Procedures: • Written plan. • Arrangements with local emergency response agencies (ER). • Emergency coordinator (EC) (phone, address). • Emergency equipment list. • Evacuation plan. • Plan distribution to police, fire departments, hospitals, and local agencies.	Contingency Plan and Emergency Procedures: • Emergency coordinator (EC) onsite/on call. • Post: EC name and phone number. • Post: Location of fire extinguishers/spill control/fire alarm. • Post: Fire department phone. • Familiarize employees with proper waste handling and emergency procedures.	Contingency Plan and Emergency Procedures: n/a

Large Quantity Generators	Medium Quantity Generators	Small Quantity Generators
• Plan must be amended if it fails in an emergency or there are changes in the facility, equipment, or personnel. • EC must respond.	• EC must respond.	
Containers must be: • Good condition. • Non-leaking. • Compatible with waste. • Closed/protected. • 30" aisle space. • Response to spills. • Leaks, emergencies. • Inspect containers at least once every seven days. • Ignitable, reactive, incompatible waste. • Containment system.	Containers must be: • Good condition. • Non-leaking. • Compatible with waste. • Closed/protected. • 30" aisle space. • Response to spills. • Leaks, emergencies. • Inspect containers at least once every seven days. • Ignitable, reactive, incompatible waste. • Containment system.	Containers must be: Managed waste in a way that does not pose a threat.
Exception reporting required	Exception reporting required	n/a
Waste minimization: • For generators > 2,640 lbs./yr.: plan to minimize waste required. • Written plan and program in place to minimize hazardous waste volume, toxicity. • Submit executive summary to Ecology. • 5 year updates.	Waste minimization: • Good faith effort to minimize waste and selected best waste management method. • For generators > 2,640 lbs./yr.: Plan to minimize waste required. • Submit executive summary to Ecology.	Waste minimization: n/a

Large Quantity Generators	Medium Quantity Generators	Small Quantity Generators
	• 5 year updates	

4.2.4 Adding a five-year documentation retention period for solvent-contaminated wipes

Retention of records related to solvent-contaminated wipes for five years ensures additional documentation is available in the event of management errors or discrepancies that result in increased risk to public health or the environment. This is especially important if mismanagement of dangerous waste is discovered after a longer time period, as records may not be available to identify and correct the original problems and determine cause.

4.2.5 Increasing the amount of dangerous waste that MQGs are allowed to accumulate on-site

The ability to accumulate more dangerous waste on site before needing to either ship it off site, or obtain a RCRA storage permit, is likely to generate benefits for some MQGs. This benefit can come in the form of:

- Less-frequent shipment of dangerous waste off site for generators that accumulate close to the current cap of 2,200 lbs. per month.
- Avoided costs of acquiring and complying with a RCRA storage permit for generators that currently accumulate between 2,200 lbs. and 6,600 lbs. on site per month.

While Ecology data does not reflect accumulation amounts, we were able to identify 610 MQGs, of which:[12]

- Some may not benefit from the amendments unless their needs change:
  - 175 generated (and therefore accumulated at any point) less than 2,200 lbs. in the last year reported.
- Depending on timing of accumulation and shipping, some might benefit from being able to accumulate more waste each month without a RCRA storage permit.
  - 240 generated between 2,200 and 6,600 lbs. in the last year reported.
  - 195 generated more than 6,600 lbs. in the last year reported.
- One is highly likely to benefit from the additional flexibility offered by this amendment:
  - One MQG reported generating more than 26,400 lbs. of dangerous waste in the last year reported. This means they had to have at least one month in which they accumulated more than 2,200 lbs., and likely required a RCRA storage permit.

4.2.6 Adding recordkeeping requirements for the use of alternate tank inspection schedules

Additional documentation associated with the voluntary use of alternate tank inspection schedules will potentially benefit public and environmental health by ensuring

[12] Ecology, 2020. TurboWaste database.

documentation of procedures, which prevents errors and improves planning to prevent public and environmental exposure to dangerous waste. It will achieve this in two ways:

- Ensuring facilities carefully assess how the tank inspection schedules match up with their workplace practices.
- Creating documentation of practices in the event they lead to mismanagement of waste, allowing for faster and/or better remediation of the issue.

4.2.7 Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels

Due to the extent of existing labeling requirements under the baseline, the additional label-related requirements are likely to generate minor environmental or public health protection benefits, by ensuring containers are accurately and consistently labeled at all facilities.

Label transfer or removal is implied by the existing baseline requirement to legibly and appropriately label dangerous waste, meaning MQGs and LQGs will already either need to transfer the label or affix a new identical label and remove the label on the container being transferred from. The benefits created by these additional labeling requirements, as compared to the baseline, are likely to be minor, but bring these labelling requirements into consistency with requirements for other containers. (This amendment was accidently omitted from two sections in a past rulemaking.)

In addition, prior to the last amendments to this rule (in January 2019), generators were all required to affix, transfer, destroy, and ensure readability of labels. When the rule was reorganized under those amendments, this language was accidentally omitted from requirements for MQGs and LQGs meeting conditional exemptions for accumulating dangerous waste, while it was kept for sections of the rule addressing containers in general. Given their historic practice, generators are likely still behaving in compliance with the previous rule, and this rule amendment adding the requirement back to the rule is not likely to have significant impacts.

4.2.8 Replacing the requirement to notify Ecology's regional Hazardous Waste and Toxics Reduction office of planned episodic events

There were 28 episodic events last year, and most of these were planned.[13] Centralizing notifications to Ecology will streamline and simplify management of these notifications.

[13] Communication with Tom Cusack, Ecology. Email 02/10/2020

4.2.9 Adding a labeling legibility exemption for containers one gallon (or four liters) and under at MQGs using the episodic waste generation rule

Reduced labeling requirements will result in a benefit (avoided cost) of labeling on some containers at MQGs generating episodic waste. During a 2019 Dangerous Waste Regulations rulemaking, stakeholders indicated that:[14]

- Thousands of small containers are used by some generators.
- Labeling legibility requirements will be difficult or impossible to meet on each small container.
- Small containers are typically placed in larger containers that can comply more easily with the legibility requirements.

Consequently, Ecology intended to exempt containers that are one gallon (or four liters) and under from the labeling legibility requirements. By accidental omission, this exemption was not included in all relevant parts of the rule during that rulemaking. We expect that as a result of the amendment:

- MQGs with small containers of episodic waste that are not grouped into larger containers will avoid labeling costs associated with the specific legibility requirements (see Chapter 2).
- MQGs grouping larger small containers (e.g., one gallon bottles) of episodic waste into larger containers will need to do so less frequently, as suits their operating practices.

We also note that episodic waste includes events like cleanup of spills, which may not use small containers at all. For example, a dangerous waste spill contaminating soil will not be likely to collect large quantities of soil into small containers. Nonetheless, if MQGs place some episodic waste in small containers, they will benefit from this rule amendment.

4.2.10 Expanding Ecology's ability to request additional reports from a generator.

The amendments will expand Ecology's ability to request additional reports that generators must provide in compliance with the regulations. These reports will be requested in the context of enforcement actions.

This rule amendment will likely not affect most generators. For generators that Ecology requests reports from, this rule amendment will result in the benefit of additional information available in the event of noncompliance, and that in turn appropriate corrective action is taken quickly. This reduces risk to the public and the environment of being exposed to dangerous wastes, which can affect public health directly, and

[14] Rule record for Ecology rulemaking AO# 16-03, Dangerous Waste Regulations, adopted 01/28/2019.

contaminate waters, soils, and sediments, increasing risk of impacts to public and environmental health through exposure to those media.

We expect that generators in noncompliance will be infrequent. Moreover, for economic analyses, we must assume compliance to be able to compare behavior under the amendments as compared to the baseline.

Chapter 5: Cost-Benefit Comparison and Conclusions

5.1 Summary of costs and benefits of the rule amendments

Costs

In Chapter 3, we identified the following potential costs resulting from the amendments.

- Adding recordkeeping requirements for the use of alternate tank inspection schedules: $36 to $39 per facility using an alternate schedule.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels: $0.08 per label removed, necessitating at least 1,216 labels removed and destroyed (rather than moved or replaced, as implied by baseline labeling requirements) to incur $100 of compliance cost. High numbers of label removals are unlikely, due to the requirement existing in other sections of the rule, as well as past requirements only being revised with the accidental omission very recently.
- Increasing records retention for two types of records, by three to five years: Zero or near-zero cost relative to baseline space already retained and minimal management, and consistency with all other records retention requirements in the rule.

Benefits

In Chapter 4, we identified the following potential benefits of the amendments.

- Flexibility for three SQG healthcare facilities generating only state-only dangerous waste to:
    - Conditionally send their pharmaceutical waste to a MQG or LQG.
    - Use the conditional options of the pharmaceutical rule.
    - Manage their pharmaceutical waste as they already manage other dangerous waste under the baseline.
- For one MQG healthcare facility generating only state-only dangerous waste, streamlining benefits or avoided costs of inclusion of state-only pharmaceutical waste in the pharmaceutical rule, allowing for the following while setting requirements largely similar to baseline requirements for general dangerous waste management.
    - Differentiation between creditable and non-creditable dangerous waste pharmaceuticals, allowing for easier management of pharmaceuticals.
    - Flexibility in demonstration of how long non-creditable dangerous waste pharmaceuticals have accumulated.
    - Protocols for managing and reporting rejected shipments of non-creditable dangerous waste pharmaceuticals.
    - Protocols for managing creditable versus non-creditable dangerous waste pharmaceutical spills.
    - Allowances for accepting potentially creditable dangerous waste pharmaceuticals from SQG healthcare facilities without a permit or interim status.

- Specifications for take-back programs for controlled substances or household waste pharmaceuticals.
- Allowance of additional combustion and incineration disposal options for state-only dangerous waste pharmaceuticals, at a non-RCRA permitted combustor or incinerator.
- Protocols for shipping to creditable pharmaceutical waste to reverse distributors.
- Avoided annual reporting under other sections of the rule for non-creditable and creditable dangerous waste.
- Exclusion of empty stock small containers (ampules, foil packs, etc.), syringes, IV bags from total dangerous waste generation.
- Use of other documentation in place of uniform manifests for conditionally exempt state-only dangerous waste.

- Avoided separation of federal and state-only pharmaceutical waste streams for 158 healthcare facilities.
- Potential avoided increase in generator status for accumulators of removed recalled airbags, resulting in various avoided costs of additional levels of compliance requirements and restrictions.
- Additional historic records for solvent-contaminated wipes, useful in the event of past mismanagement.
- Avoided shipping costs or avoided costs of RCRA storage permits for MQGs accumulating near 2,200 lbs. up to 6,600 lbs. of waste on site per month.
- Ensuring facilities align alternate tank inspection schedules with workplace practices, and document this.
- Consistency in container labeling requirements for MQGs and LQGs meeting conditional exemptions for managing dangerous waste.
- Streamlining notification of planned episodic events.
- Correcting omitted labeling exemptions for small containers.
- Improved access to additional information and reports in enforcement actions.

5.2 Conclusion

We conclude, based on a reasonable understanding of the quantified and qualitative costs and benefits likely to arise from the rule amendments, as compared to the baseline, that the benefits of the rule amendments are greater than the costs.

Chapter 6: Least-Burdensome Alternative Analysis

6.1 Introduction

RCW 34.05.328(1)(c) 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 will 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 final cost-benefit analysis is available. The final 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 final 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, we are 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).

We assessed alternative rule content, and determined whether they met the goals and objectives of the authorizing statute(s). Of those that meet the goals and objectives, we determined whether those chosen for inclusion in the rule amendments were the least burdensome to those required to comply with them. For additional alternatives that were suggested during the public comment period, and Ecology's response, see the associated Concise Explanatory Statement for this rulemaking.

6.2 Goals and objectives of the authorizing statute

The authorizing statute for this rule is chapter 70.105 RCW, Hazardous Waste Management. Its goals and objectives are:

- To establish a comprehensive statewide framework for the planning, regulation, control, and management of hazardous waste which will prevent land, air, and water pollution and conserve the natural, economic, and energy resources of the state.

- To provide broad powers of regulation to the department of ecology relating to management of hazardous wastes and releases of hazardous substances.
- To promote waste reduction and to encourage other improvements in waste management practices.
- To promote cooperation between state and local governments by assigning responsibilities for planning for hazardous wastes to the state and planning for moderate-risk waste to local government.
- To provide for prevention of problems related to improper management of hazardous substances before such problems occur.
- To assure that needed hazardous waste management facilities may be sited in the state, and to ensure the safe operation of the facilities.

6.3 Alternatives considered and why they were excluded

We considered the following alternative rule content, and did not include it in the rule amendments for the reasons discussed in each subsection below.

- Exempting long-term care facilities with less than 20 beds.
- Clarifying the types of engineering documents covered by rule.
- Clarifying the applicability of a "federal employee exemption" as described in the engineering regulations.
- Raising the quantity threshold level for toxic extremely hazardous waste (EHW).
- Allowing research facilities to manage controlled substances under the US Drug Enforcement Administration (DEA) exemption.

6.3.1 Exempting long-term care facilities with less than 20 beds

The federal pharmaceutical rule exempts long-term care facilities with less than 20 beds, and this was an option for Ecology to include in the amendments. This alternative would not have clearly reduced burden on covered parties in a way that continued to consistently and equitably protect public health and the environment.

It is not equitable for all other health care facilities to have to count their dangerous wastes on a monthly basis in determining rule applicability, while creating a special category of generator who does not have to comply with this basic generator requirement. It is also difficult to equate a number of beds with how much dangerous waste may be generated by the long-term care facilities, and this would potentially exempt facilities that generate more waste than a Small Quantity Generator.

6.3.2 Clarifying the types of engineering documents covered by rule

US Department of Energy contractors indicated they believe final facility permit regulations do not require all engineering documents to be certified by a professional

engineer. They asked that we clarify the types of engineering documents covered by the amendments. This alternative would not have further met the goals and objectives of the authorizing statute, as the referenced engineering regulations are clear.

The scope of the referenced engineering regulations is applicability to engineers and land surveyors. We believe the rule language is sufficient to communicate this, and no further clarification is needed. The amendments do clarify the types of documents that must be certified by a professional engineer, and make the regulations more consistent.

6.3.3 Clarifying the applicability of a "federal employee exemption"

US Department of Energy contractors asked that we clarify the applicability of a “federal employee exemption” as described in the engineering regulations. This alternative would not have met the protectiveness goals and objectives of the authorizing statute. Ecology does not believe this exemption is applicable to permit application materials submitted to Ecology.

6.3.4 Raising the quantity threshold level for toxic extremely hazardous waste

Toxic EHW has a 2.2 lb. per month generation and accumulation limit. Many facilities exceed this limit, and are required to operate under the more stringent Large Quantity Generator (LQG) rules. US Department of Energy (DOE) contractors indicated that threshold levels should be raised so that fewer facilities are required to operate under the stringent LQG rules.

This alternative would not have met the goals and objectives of the authorizing statute, as it would have treated state-only EHW as though it was less toxic and dangerous. Ecology maintains that toxic EHW is especially dangerous and requires greater control. This alternative would also have complicated regulations by creating another regulatory tier. In addition, a result of raising the toxic EHW limit to 22 lbs., as suggested by DOE contractors, would mean SQGs could divert more toxic EHW waste to the local municipal solid waste landfills, increasing risk to the environment.

6.3.5 Allowing research facilities to manage controlled substances under the DEA exemption

Ecology had stakeholder interest in allowing drug research facilities to manage pharmaceuticals that are controlled substances, and are collected in a take-back program, under the DEA exemption of the rule. This alternative would not have necessarily met the public and environmental protection goal of the authorizing statute.

A research facility that is a DEA authorized collector could use this exemption, but authorized collectors are likely to be pharmacies or clinics ordinarily open to the public for take-back of unwanted pharmaceuticals. Ecology maintains that this provides effective protection.

6.4 Conclusion

After considering alternatives to the rule's contents, within the context of the goals and objectives of the authorizing statute, we determined that the rule represents the least-burdensome alternative of possible rule contents meeting the goals and objectives.

Chapter 7: Regulatory Fairness Act Compliance

The Regulatory Fairness Act (RFA; RCW 19.85.070) requires Ecology to perform a set of analyses and make certain determinations regarding the rule amendments, if they impose more than minor compliance costs on businesses. Based on the costs discussed in Chapter 3, we identified the following compliance costs:

- Adding recordkeeping requirements for the use of alternate tank inspection schedules: $36 to $39 per facility using an alternate schedule.
- Adding container-labeling instructions for affixing, destroying, and ensuring readability of labels: $0.08 per label removed, necessitating at least 1,216 labels removed and destroyed (rather than moved or replaced, as implied by baseline labeling requirements) to incur $100 of compliance cost. High numbers of label removals are unlikely, due to the requirement existing in other sections of the rule, as well as past requirements Ecology recently revised with the accidental omission.
- Increasing records retention for two types of records, by three to five years: Zero or near-zero cost relative to baseline space already retained and minimal management, and consistency with all other records retention requirements in the rule.

We also identified costs in Chapter 3 related to noncompliance, which are excluded from consideration as compliance costs:

- Expanding the scope of kinds of reports that Ecology may request from a generator

For Ecology, the RFA defines minor costs as "a cost per business that is less than three-tenths of one percent of annual revenue or income, or one hundred dollars, whichever is greater, or one percent of annual payroll." This means minor costs are less than either:

- The larger of:
    - $100
    - 0.03 percent of annual revenue or income
- 1 percent of annual payroll

As costs are likely less than $100, and are not necessarily imposed on the same businesses, they are less than minor costs, because regardless of annual revenue or income of potentially affected businesses:

- If $100 is larger than 0.03 percent of annual revenue or income, likely costs are less than $100.
- If $100 is less than 0.03 percent of annual revenue or income, and likely costs are less than $100, then likely compliance costs are less than 0.03 percent of annual revenue or income.

Due to the diverse set of industries covered by the rule, and uncertainty as to which businesses are using various existing flexible compliance options, we did not compare estimated compliance costs to payroll or revenue as industry averages would not have reflected facility-specific attributes in the comparisons. RFA requirements therefore do not apply to this rulemaking.

References

US Bureau of Labor Statistics, 2019. May 2018 Wages by Area and Occupation.

WA Department of Ecology, 2016. Guide for Dangerous Waste (DW) Generators in Washington State. Quick Reference Guide. Publication #98-1252 – HWTR. Revised November 2016.

WA Department of Ecology, 2019. Rule record for Ecology rulemaking AO# 16-03, Dangerous Waste Regulations, adopted 01/28/2019.

WA Department of Ecology, 2020. TurboWaste database. Data for 2018.

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.

This rulemaking will implement Hazardous Waste Management Chapter 70.105 RCW.

The goals and objectives of this law are:

- Establish a comprehensive statewide framework for planning, regulating, controlling, and managing dangerous wastes to prevent land, air, and water pollution, and conserve the state's natural, economic, and energy resources.
- Give Ecology authority to enact and enforce regulations related to managing dangerous wastes and releases of hazardous substances.
- Provide for prevention of problems related to improper management of hazardous substances.
- Ensure dangerous waste management facilities are operated safely, and located to minimize harm to people and the environment.
- Promote waste reduction and encourage other improvements by generators in waste management practices.
- Authorizes Ecology to implement the federal hazardous waste program.

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.

Ecology is required to adopt certain federal hazardous waste rules to maintain its authorization by the U.S. Environmental Protection Agency (EPA) and remain consistent with EPA regulations. This includes the hazardous waste pharmaceutical rule, which will help to ensure proper management of Washington state dangerous waste pharmaceuticals at healthcare facilities. Ecology is also required to adopt the e-Manifest rule, which improves the tracking of dangerous wastes from cradle to grave. Ecology is adopting the optional recalled airbag exclusion to provide regulatory relief and help expedite the collection of unsafe and defective recalled airbags. Other rules are state-only technical corrections or clarifications. The updated Biological Test Methods for Designating Dangerous Waste (publication 80-12) helps increase the accuracy of dangerous waste determinations. We have determined these rules are needed to meet the goals and objectives of the statute.

See chapters 1 and 2.

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

Ecology is required to adopt EPA's hazardous waste pharmaceutical rule and e-Manifest rule to stay consistent with RCRA and to maintain EPA hazardous waste program funding and authorization. Washington does not have the option to take other alternative measures.

The recalled airbag rule is less stringent than RCRA and generally provides regulatory relief to generators. If we did not adopt this rule, human health risks increase because it becomes more difficult for generators of airbag waste to remove, collect, and manage unsafe, defective, and recalled airbags.

State-initiated amendments, including corrections and clarifications, are necessary to ensure the regulations are accurate and understandable. We clarified professional engineer certification requirements in WAC 173-303-806. We considered relying on a straightforward reading of the current regulation as adequate to obtain compliance. After discussion with affected parties, we have decided to clarify the rule to ensure professional engineers properly certify engineering documents. The update to the Biological Test Methods publication should increase efficiencies for labs and lower costs for fish bioassay testing. This could increase the use of the fish bioassay test, leading to improved quality of dangerous waste designations. Not updating the publication may have the opposite effect.

We based our decisions for adopting or not adopting specific rules on reducing risks from waste mismanagement and making the rules easier to understand and comply with.

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 final cost-benefit analysis was made available.

When filing a rule proposal (CR-102) under RCW 34.05.320, Ecology provides notice that a final 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.

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.

Most of the rules we have adopted are federal hazardous waste regulations which have been determined by EPA not to conflict with other federal regulations and laws. Other rules unique to Washington State have been either reviewed by other Ecology programs or evaluated by dangerous waste rule writers to ensure they don't violate requirements of another state law.

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 dangerous waste regulations generally apply equally to private and public entities. None of the revisions will impact private entities more stringently than public entities.

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. [If checked, provide the citation included quote of the language.]

☒ (ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated in Chapter 6.

Washington's dangerous waste regulations, and some of these revisions, differ from federal hazardous waste regulations because of unique circumstances within the state. For example, we have extensive manufacturing adjacent to the Salish Sea, making it necessary to have different or more stringent standards. The Hazardous Waste Management Act gives Ecology broad rulemaking powers to ensure human health and the environment are protected, which can include adopting regulations that are more stringent or broader in scope than federal requirements.

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.

Ecology has kept EPA informed about our rulemaking efforts, and provided drafts and formal rule proposals for its review. We will continue to communicate and coordinate with EPA throughout the process. The Hazardous Waste and Toxics Reduction program has also coordinated with other Ecology programs during the rulemaking process, and included them in review of draft language and throughout the rulemaking process.

Ecology will work closely with other interested state and local government agencies and encourage them to provide input in development of rule language. Prior to rule proposal, we asked for stakeholder input on draft rule language and offered informational meeting opportunities.