



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 173-230 WAC

*Certification of Operators of Wastewater
Treatment Plants*

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-

Chapter 173-230 WAC

*Certification of Operators of Wastewater
Treatment Plants*

by

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for the

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Table of Contents

LIST OF TABLES.....	VII
LIST OF ACRONYMS.....	VIII
EXECUTIVE SUMMARY.....	1
CHAPTER 1: BACKGROUND AND INTRODUCTION.....	7
1.1 INTRODUCTION.....	7
1.1.1 <i>Reasons for this rulemaking</i>	7
1.2 SUMMARY OF THE RULE AMENDMENTS.....	8
1.3 DOCUMENT ORGANIZATION.....	9
CHAPTER 2: BASELINE AND THE RULE AMENDMENTS.....	11
2.1 INTRODUCTION.....	11
2.2 BASELINE.....	11
2.3 RULE AMENDMENTS.....	11
2.3.1 <i>Definitions</i>	12
2.3.2 <i>Application required</i>	13
2.3.3 <i>Fees</i>	13
2.3.4 <i>Education and experience requirements for Groups I – IV</i>	14
2.3.5 <i>Education and experience requirements for Groups I – IV Operator in Training (OIT)</i>	15
2.3.6 <i>Reciprocity</i>	15
2.3.7 <i>Certificate</i>	16
2.3.8 <i>Professional growth</i>	16
2.3.9 <i>Renewal requirements</i>	17
2.3.10 <i>Temporary certificate</i>	17
2.3.11 <i>Revocation of a certificate</i>	19
2.3.12 <i>Clarifications and reorganization without material impact</i>	19
CHAPTER 3: LIKELY COSTS OF THE RULE AMENDMENTS.....	21
3.1 INTRODUCTION.....	21
3.2 COST ANALYSIS.....	21
3.2.1 <i>Definitions</i>	21
3.2.2 <i>Application required</i>	21
3.2.3 <i>Fees</i>	21
3.2.4 <i>Education and experience requirements for Groups I – IV</i>	24
3.2.5 <i>Education and experience requirements for Groups I – IV OIT</i>	25
3.2.6 <i>Reciprocity</i>	25
3.2.7 <i>Certificate</i>	25
3.2.8 <i>Professional growth</i>	25
3.2.9 <i>Renewal requirements</i>	25
3.2.10 <i>Temporary certificate</i>	26
3.2.11 <i>Revocation of a certificate</i>	26
3.2.12 <i>Clarifications and reorganization without material impact</i>	26
CHAPTER 4: LIKELY BENEFITS OF THE RULE AMENDMENTS.....	27
4.1 INTRODUCTION.....	27
4.2 BENEFIT ANALYSIS.....	27
4.2.1 <i>Definitions</i>	27
4.2.2 <i>Application required</i>	27
4.2.3 <i>Fees</i>	28
4.2.4 <i>Education and experience requirements for Groups I – IV</i>	28
4.2.5 <i>Education and experience requirements for Groups I – IV OIT</i>	29
4.2.6 <i>Reciprocity</i>	30
4.2.7 <i>Certificate</i>	30
4.2.8 <i>Professional growth</i>	30

4.2.9 <i>Renewal requirements</i>	31
4.2.10 <i>Temporary certificate</i>	31
4.2.11 <i>Revocation of a certificate</i>	31
4.2.12 <i>Clarifications and reorganization without material impact</i>	31
CHAPTER 5: COST-BENEFIT COMPARISON AND CONCLUSIONS.....	33
5.1 SUMMARY OF THE COSTS AND BENEFITS OF THE RULE AMENDMENTS.....	33
5.2 CONCLUSION.....	35
CHAPTER 6: LEAST-BURDENSOME ALTERNATIVE ANALYSIS.....	37
6.1 INTRODUCTION.....	37
6.2 GOALS AND OBJECTIVES OF THE AUTHORIZING STATUTE: CHAPTER 70.95B RCW.....	37
6.3 ALTERNATIVES CONSIDERED AND WHY THEY WERE NOT INCLUDED.....	38
6.3.1 <i>Certification exams only in order</i>	38
6.3.2 <i>Inverted fee structure</i>	38
6.3.3 <i>Flat fee structure</i>	38
6.3.4 <i>Scholarship program</i>	38
6.3.5 <i>Exemption for oil refineries</i>	38
6.3.6 <i>Reinstatement for temporary breaks</i>	38
6.3.7 <i>Expanded suspension in lieu of revocation</i>	39
6.3.8 <i>Probation in lieu of revocation</i>	39
6.3.9 <i>Small system LOSS certification</i>	39
6.3.10 <i>Graduated fees</i>	39
6.3.11 <i>Fewer relevant experience options</i>	39
6.4 CONCLUSION.....	39
CHAPTER 7: REGULATORY FAIRNESS ACT COMPLIANCE.....	41
7.1 INTRODUCTION.....	41
7.2 EXEMPTION FROM RFA REQUIREMENTS.....	41
REFERENCES.....	43
APPENDIX A ADMINISTRATIVE PROCEDURE ACT (RCW 34.05.328).....	44

List of Tables

Table 1: Application and renewal fees for certification.....	14
Table 2: Number of applications, by year and group.....	22
Table 3: 2017 total cost of fee increases for two initial years, by group.	22
Table 4: 2018 total cost of fee increases for two initial years, by group.	23
Table 5: Number of renewals, by year.....	23
Table 6: Total cost of fee increases for two initial years.	24
Table 7: WWTP operator wage distribution in Washington, 2017.	25
Table 8: Assumed avoided reapplications, by certification level.	28
Table 9: Initial certifications, by certification level.....	30

List of Acronyms

APA	Administrative Procedure Act
CBA	Cost Benefit Analysis
CEU	Continuing Education Units
GED	General Education
LBA	Least-Burdensome Analysis
LOSS	Large Onsite Sewage Systems
MBR	Membrane Bioreactor
OIT	Operator in Training
RCW	Revised Code of Washington
RFA	Regulatory Fairness Act
SBR	Sequencing Batch Reactor
WAC	Washington Administrative Code
WWTP	Wastewater Treatment Plant

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 amendments to the Certification of Operators of Wastewater Treatment Plants rule (chapter 173-230 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.”

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

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

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

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

Legislation passed in 2018 amending Chapter 70.95B RCW (Chapter 213, Laws of 2018) directing Ecology, with the advice of an advisory committee, to establish an initial fee schedule in rule. This rulemaking does this as well as other necessary updates to modernize and clarify the requirements and the procedures for obtaining and maintaining an operator certification in Washington State.

As part of this rulemaking we have focused on the following changes:

- Establishing a new fee schedule as directed by the Legislature in 2018.
- Providing for an Operator in Training (OIT) and respective education and experience qualifications for groups II-IV.
- Updating rule language to acknowledge new technologies in wastewater treatment.

- Reorganizing the rule to create standalone sections where more information and clarity are needed.
- Clarifying and adding rule language to align with existing program practices.

The costs and benefits listed here are based on a comparison of the amended rule to the baseline existing rule language and authorizing statute.

Except for the addition of the new fees, most of these changes are current practice. We expect minimal change to occur to program processes.

Costs

Likely costs of the rule amendments include:

- **Application fees:** Estimated total 20-year present value cost of increased application fees of between \$144 thousand and \$190 thousand.
- **Renewal fees:** Estimated total 20-year present value cost of increased application fees of between \$3.0 million and \$3.1 million.¹
- **Education and experience for Groups I – IV:** For operators using experience gained without the direction or supervision of a fully certified operator, potential delay in wage increases between \$4 and \$7 per hour.
- **Education and experience for OIT Groups I – IV:** For OITs using experience without the direction or supervision of a fully certified operator, potential delay in wage increases between \$4 and \$7 per hour.
- **Reciprocity:** Cost of needing to retake exams if seeking certification by reciprocity, of \$1,800 in 20-year present value.
- **Professional growth:** Delay in meeting professional growth requirements, for those planning to pass a drinking water or collections certification exam instead of through wastewater training.

Benefits

Likely benefits of the rule amendments include:

- **Fees:** The increased cost of the fees is equivalent to the likely value of the work performed. While fees only increase as compared to the baseline (there are no fee cost savings), these fee increases generate the benefit of fully funding the certification program per statutory requirements. Full funding of the work needed to administer the certification program means Ecology avoids displacing funds from other funding sources, resulting in potential reduced services from other Ecology programs.
- **Education and experience for Groups I – IV:**

¹ Note that the cost of fee changes for renewals is significantly higher than the cost for the change in application fees. This is because of the combined effects of the size of the increase in renewal fees, and the larger number of renewals than applications each year.

- Limiting operating experience to be gained under the direction or supervision of a certified operator maintains and improves the credibility of the certification program, and ensures operators are properly trained.
- Allowing relevant experience to substitute for a high school diploma or General Educational Development (GED) benefits operators who need to use this substitution, freeing up their operating experience to meet operating experience requirements.
- **Education and experience for Groups I – IV OIT:**
 - The creation of Group II, III, and IV OIT levels will benefit operators prepared to take exams for higher certification levels, as well as Wastewater Treatment Plants (WWTPs) that need to have a succession plan for the retirement or other turnover of their operators.
 - Allowing three months relevant experience for Group I OIT increases the types of experience sufficient for experience substitution, benefitting Group I OITs.
 - Limiting OIT experience to be gained under the direction or supervision of a certified operator maintains and improves the credibility of the certification program, and ensures OITs are properly trained.
- **Reciprocity:** Requiring certified operators seeking reciprocal certification to retest if their exam results are more than ten years old, benefits the state and WWTPs by making sure these operators are current in their knowledge as reflected by the current exam.
- **Certificate:**
 - Estimated 20-year present value cost savings of \$61 thousand in avoided renewal costs.
 - Operators achieving initial certification after September 30 do not have to pay the renewal fee due December 31 of the same year. Their certification is valid until December 31 of the following year.
- **Professional growth:**
 - Ensuring operators are comprehensively up to date in knowledge helps maintain the credibility of the certification program.
 - Protecting the credibility of the program by closing the loophole that could allow operators to receive multiple credits for the same course during a professional growth cycle or carryover Continuing Education Units (CEUs) from one professional growth period to the next.
 - Allowing trainers to earn credits for administering trainings will create benefits in two ways:
 - Expanding the types of activities that earn credits toward professional development.
 - Encouraging more operators to create and provide training for others.
- **Renewal requirements:** Making it clear we are counting business days and not calendar days (a potential interpretation under the baseline), allows between four and

six more calendar days before we revoke an operator's certificate for not paying renewal fees. This allows operators facing revocation more time to pay renewal fees, and allows WWTPs more time to plan for a substitute operator to maintain continuous operations.

- **Temporary certificate:**
 - Allowing WWTPs to request a temporary certificate for the lead operator of a shift Ecology will give them the capability to stay in compliance with their permit requirements.
 - Allowing six months for the operator to meet the education and experience requirements enables WWTPs to fill the required operator vacancy.
- **Revocation of a certificate:**
 - Improving the credibility of the certification program by allowing certificates to be revoked for an amount of time appropriate for the violations that led to the revocation.
 - Closing the loophole that could allow an operator whose certification is revoked, to become certified in another state before their designated revocation period ends and use that certification to apply for reciprocity in Washington.
- **Clarification and reorganization:** Improving the clarity and readability of the Rule.

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

Least-burdensome alternative

After considering alternatives to the rule's contents, as well as the goals and objectives of the authorizing statute, Ecology determined that the amended rule represents the least-burdensome alternative of possible rule contents meeting these goals and objectives.

Regulatory Fairness Act compliance

Based on the analysis in chapters 1-5 of this document, the amendments only impose compliance costs on operators. Those costs are:

- Increased application fees.
- Increased renewal fees.
- Potential time costs for operators and OITs with experience not under the direction or supervision of a fully certified operator.

Operators are private individuals, though they may be currently employed by WWTPs. Certifications, however, do not belong to the WWTP, but to the operator or OIT. Based on analysis of the rule amendments, we do not expect WWTPs to incur compliance costs under the amendments, as compared to the baseline.

The RFA states: “In the adoption of a rule under chapter 34.05 RCW, an agency shall prepare a small business economic impact statement: (i) If the proposed rule will impose more than minor costs on businesses in an industry; or (ii) if requested to do so by a majority vote of the joint administrative rules review committee within forty-five days of receiving the notice of proposed rule making under RCW 34.05.320(1)(a).”² The entities that will incur compliance costs are not businesses, so we conclude there are no businesses incurring additional costs under the amendments. Ecology is therefore exempt from the requirements of the RFA for this rulemaking.

² RCW 19.85.030

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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 amendments to the Certification of Operators of Wastewater Treatment Plants rule (chapter 173-230 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 (RCW 34.05.328(1)(d)). 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 provides the documentation for these determinations.

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

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

1.1.1 Reasons for this rulemaking

Legislation passed in 2018 amending chapter 70.95B RCW (chapter 213, Laws of 2018) directing Ecology, with the advice of an advisory committee, to establish an initial fee schedule in rule. This rulemaking does this as well as other necessary updates to modernize and make more clear the requirements and the procedures for obtaining and maintaining an operator certification in Washington State.

As part of this rulemaking we have focused on the following changes:

- Establishing a new fee schedule as directed by the Legislature in 2018.

- Providing for an Operator in Training (OIT) and respective education and experience qualifications for groups II-IV.
- Updating rule language to acknowledge new technologies in wastewater treatment.
- Reorganizing rule to create standalone sections where more information and clarity are needed.
- Clarifying and adding the rule language to align with existing program practices.

1.2 Summary of the rule amendments

The rule sets fees, and education and experience requirements, for different levels (level I through level IV) of WWTP operator certification, as well as for OITs.

The rule amendments make the following changes:

- Definitions:
 - Adding or amending definitions based on new and updated rule requirements.
- Application required:
 - Removing obsolete language about written exams.
 - Specifying application approvals are for one year.
 - Removes limit to the number of allowable exam retakes.
- Fees:
 - Increasing application fees for Operator groups II, III, and IV:
 - \$9 increase in 2020
 - \$17 increase in 2021
 - Establishing application fees for OIT groups II, III, and IV:
 - \$59 in 2020
 - \$67 in 2021
 - Increasing renewal fees:
 - \$34 increase in 2020
 - \$68 increase in 2021
- Education and experience requirements for Operator groups I – IV:
 - Requiring that operating experience be gained by working under the direction or supervision of a fully certified operator.
 - Allowing relevant experience to substitute for a high school diploma or General Education Development (GED).
- Education and experience requirements for OIT groups I – IV:
 - Establishing additional OIT groups II, III, and IV.
 - Allowing substitution of three months relevant experience for operating experience for Group I OIT.

- Requiring that OIT experience be gained by working under the direction or supervision of a fully certified operator.
- Reciprocity
 - Requiring certified operators seeking reciprocal certification to retest if their exam results are more than ten years old.
- Certificate
 - Allowing initial certification achieved after September 30 to expire at the end of the following year.
- Professional growth:
 - Removing achieve certification by exam or advance to a higher level by exam in drinking water and collections certifications.
 - Limiting receiving professional growth credits for the exact same course during a professional growth period to one time.
 - Allowing trainers to earn Continuing Education Units (CEUs) for administering training one time per professional growth period.
 - Not allowing CEUs to carryover from one professional growth period to the next.
- Renewal requirements:
 - Specifying that revocation occurs ten business days, rather than calendar days, after the revocation notice is sent.
- Temporary certificate:
 - Adding that a lead operator of a shift position may be filled for up to one year using a temporary certificate when the operator unexpectedly vacates the position.
 - Allowing six months for an operator to meet certification requirements to apply for a temporary certification.
 - Specifying the information that must be included to request temporary certification.
- Revocation of a certificate:
 - Expanding revocation periods beyond one year.
 - Eliminating the ability to apply for certification by reciprocity with a certificate received before or during a revocation period.
- Clarifications and reorganization without material impact.

1.3 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 would occur in the absence of the rule amendments) and the adopted changes to 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 size 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 to small and large businesses; mitigation; impact on jobs.
- RCW 34.05.328 determinations not discussed in Chapter 5 or 6 (Appendix A).

Chapter 2: Baseline and the Rule Amendments

2.1 Introduction

We analyzed the impacts of the rule amendments relative to the baseline of 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 would face if the amended rule were not adopted. It is discussed in Section 2.2, below.

2.2 Baseline

The baseline for our analyses generally consists of existing rules and laws, and their requirements. 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, but is not limited to:

- The existing Certification of Operators of Wastewater Treatment Plants rule (chapter 173-230 WAC).
- The authorizing statute, Domestic Wastewater Treatment Plants – Operators (chapter 70.95B RCW).
- Other rules or laws applicable to WWTP operators and WWTP operation.
- Existing permits classification of WWTPs.

The baseline for this rule in analysis under the APA does not include current practice that is not required. We note, however, that requirements of most of the amendments are already being met due to current practice, either through administration of the certification program, or development in exam technologies and practices.

2.3 Rule amendments

The rule amendments make changes to the following areas:

- Definitions
- Application required
- Fees
- Education and experience requirements for Groups I – IV
- Education and experience requirements for OIT groups I – IV
- Reciprocity
- Certificate
- Professional growth
- Renewal requirements
- Temporary certificate

- Revocation of a certificate
- Clarifications and reorganization without material impact

2.3.1 Definitions

Baseline

The baseline is the set of existing definitions in the rule.

Adopted

The amendments add definitions for:

- Biennium
- Effective date of a revocation order
- Exam
- Exam cycle
- Full certificate
- Membrane bioreactor (MBR)
- Operating Shift
- Operator in training (OIT) certificate
- Professional growth
- Professional growth reporting period
- Provisional certificate
- Reclaimed water
- Reclaimed water facility
- Revocation
- Routine
- Sequencing batch reactor (SBR)
- Suspension
- Standardized exam

They also change existing definitions for:

- Activated sludge process
- Continuing education unit (CEU)
- College credit
- Lagoon
- Lead operator of a shift
- Operator in responsible charge
- Operator in training (OIT)
- Primary wastewater treatment
- Reciprocity

- Tertiary
- Wetland treatment

Expected impact

Added or amended definitions do not have an impact on their own, separate from the sections of the rule in which they're used. New definitions and changes to existing definitions are needed to help clarify requirements and accurately describe current technology.

We do not expect costs or benefits from the amendments to definitions in and of themselves. Where impacts are likely from the amendments in conjunction with a new or changed definition, we discuss those costs or benefits in the relevant section of the rule.

2.3.2 Application required

Baseline

The existing rule allows an examinee to take the same exam up to three times in a year. This was based on the availability of the written exam when the rule was first adopted in 1973, and retained in revisions to the rule through 1999. The existing rule also requires an applicant to submit an application for each re-examination.

While the requirements above are the regulatory baseline for this analysis, we note that in current practice, electronic exams, which are available more frequently, are used, and exam applications are approved for one year.

Adopted

The amendments remove obsolete language about written exams, specifies exam application approvals are for one year, and does not limit the number of exam retakes.

Expected impact

Compared to the regulatory baseline (not compared to current practice), applicants will benefit under the amended rule because their application is approved for one year and they no longer have to apply and pay an application fee for each exam retake during their one year approval period.³

2.3.3 Fees

Baseline

The existing rule sets \$50 fees for applications and \$30 fees for renewals.

Adopted

The amendments establish different fees by certification level and for renewals, for Fiscal Years 2020 and 2021. They also establish a public process for setting fees in Fiscal Year 2022 and beyond, based on expected program costs.

³ Note that, in addition to application fees, exam fees are paid for each examination. This change only saves the application fee when operators retake the exam during their one year approval period.

Table 1: Application and renewal fees for certification.

Certification Category	Fiscal Year 2020 Fee	Fiscal Year 2021 Fee
Applications for: Group I Group I OIT	\$50	\$50
Applications for: Groups II – IV Groups II – IV OIT	\$59	\$67
Renewals	\$64	\$98

Expected impact

We expect the amendments to result in costs to WWTP operators from increased fees, and benefits of fully funding the certification program per statutory requirements.

2.3.4 Education and experience requirements for Groups I – IV

Baseline

The existing rule requires operators to meet education and experience requirements to achieve certification, with allowable substitutions for education and experience.

A detailed list of other related work experience is stated in the existing rule.

Excess operating experience can be used to substitute for a high school diploma or GED.

Adopted

The amendments require operators to gain operating experience by working under the direction or supervision of a fully certified operator.

They remove the detailed list of other related work experience and leave the language other related fields will be considered on a case-by-case basis.

Finally, they allow relevant experience to substitute for a high school diploma or GED, instead of only operating experience.

Expected impact

Requiring operators to gain their operating experience under a certified operator may extend the time needed to achieve experience requirements, but improves the credibility of the certification program, and ensures operators are properly trained.

Removing the detailed list of other related work experience benefits operators who want to use other experience that provides required knowledge to substitute for certification requirements.

Allowing relevant experience to substitute for a high school diploma or GED benefits operators who need to use this substitution for education; allowing them to use their operating experience towards the experience requirement.

2.3.5 Education and experience requirements for Groups I – IV Operator in Training (OIT)

Baseline

The existing rule includes only Group I OIT. The only substitution allowed for operating experience is with education.

Adopted

The amendments establish additional OIT groups II, III, and IV. These allow operators with half of the required operating experience to apply for and take the exam for a higher certification level.

The amendments also allow substitution of three months of relevant experience for the operating experience for Group I OIT.

Finally, they require that OITs gain operating experience by working under the direction or supervision of a fully certified operator.

Expected impact

The creation of Group II, III, and IV OIT will benefit operators prepared to take exams for higher certification levels, and WWTPs that need to succession plan for the retirement or turnover of their operators. This will come at the cost of applications by Group II – IV OITs, though this is not a cost as compared to the baseline, since the opportunity for these OIT categories does not exist under the baseline.⁴

Allowing three months of relevant experience for Group I OIT increases the substitution allowance, benefitting Group I OITs.

Limiting OITs to gain operating experience under a certified operator may extend the time needed to achieve experience requirements, but improves the credibility of the certification program, and ensures OITs are properly trained.

2.3.6 Reciprocity

Baseline

Under the existing rule, certified operators may seek reciprocal certification in Washington with exam results that are more than ten years old.

Adopted

The amendments require certified operators seeking reciprocal certification to retest if their exam results are more than ten years old.

⁴ Operators who hold both a full certification and an OIT certification must only meet the professional growth and renewal requirements for their full certification and are only required to pay one renewal fee as described in WAC 173-230-040.

Expected impact

The requirement for certified operators seeking reciprocal certification to retest if their exam results are more than ten years old is likely to result in costs for operators in that circumstance. It is also likely to benefit the state and WWTPs by making sure these operators are current in their knowledge as reflected by the current exam.

2.3.7 Certificate

Baseline

Under the existing rule (though not under current practice), certificates expire every year on December 31.

Adopted

The amendments allow initial certification achieved after September 30 to expire at the end of the following calendar year.

Expected impact

Not needing to renew certification up to three months after it is achieved is beneficial to operators achieving certification after September 30 of each year, because they do not have to pay the renewal fee due December 31 of the same year. Their certification is valid until December 31 of the following year.

2.3.8 Professional growth

Baseline

As part of existing professional growth allowances, operators who achieve certification or advance to a higher level of certification by exam in the waterworks certification program administered by the Washington Department of Health in the water treatment plant operator, water distribution manager, or the cross connection control specialist classifications or in Washington's voluntary wastewater collection system operator's certification program can meet their professional growth requirement.

The current rule does not limit receiving professional growth credits for the exact same course during a professional growth period, allow trainers to earn credits for providing training, or allow carrying over credits from one professional growth cycle to the next. However, we do all of these things in our current process.

Adopted

The amendments remove the option to meet professional growth by passing a drinking water or collections exam, and maintain the existing requirement to:

- Accumulate at least three CEUs or college credits in approved wastewater courses or training.
- Advance by exam to a higher wastewater operator certification level.

The amendments also:

- Limit receiving professional growth credits to one time for the same course during a professional growth period.

- Allow trainers to earn CEUs for administering training one time per professional growth period.
- Do not allow operators to carry over CEUs from one professional growth period to the next.

Expected impact

Requiring operators to meet their professional growth requirements through wastewater training instead of by passing a drinking water or collections certification exam may limit operators' options to meet their professional growth, however it improves the credibility of the certification program and ensures operators are receiving training in wastewater operations and maintenance.

The certification program will also protect its credibility by closing the loophole that allows operators to receive multiple credits for the exact same course during a professional growth cycle as well as carrying over CEUs from one professional growth period to the next.

Allowing trainers to earn credits for administering trainings will benefit operators who want to receive credit for providing training and may encourage operators to train others.

2.3.9 Renewal requirements

Baseline

When an operator's certification needs to be renewed, we notify them of the fee amount and due date. If they don't meet the renewal deadline, their certification is suspended. If they don't pay their renewal fee during the suspension period, we send them a revocation notice. The existing rule sets the number of days (ten) for when we can revoke a certification due to non-payment. The clock starts after we send the operator the revocation notice. The existing rule does not specify when the ten days start or the type of days.

Adopted

The rule specifies that we will revoke an operator's certification ten *business* days after we send the revocation notice.

Expected impact

Making it clear we are counting business days and not calendar days (a potential interpretation under the baseline), allows between four and six more calendar days before we revoke an operator's certificate for not paying renewal fees. This allows operators facing revocation more time to pay renewal fees, and allows WWTPs more time to plan for a substitute operator to maintain continuous operations.

2.3.10 Temporary certificate

Baseline

A temporary certificate is issued upon written request from a WWTP when their designated certified operator unexpectedly vacates a position. A temporary certificate may not exceed a one-year period, is nonrenewable, and cannot be transferred to another individual.

The rule gives Ecology broad discretion to issue temporary certificates and does not specify that the applicant must meet the requirements for the needed temporary certification level.

However, since the rule requires that an application is submitted with the request, Ecology's current practice has meant that a temporary certification will not be issued to an operator that did not meet the education and experience requirements at the time of the request.

Adopted

The amendments clarify that a WWTP owner can request a certification for an operator in responsible charge and lead operator of a shift.

The amendments specify the discretion that Ecology has in issuing a temporary certificate. They allow Ecology the ability to issue a temporary certificate to an operator that is within six months of meeting the necessary temporary certification requirements.

Finally, they specify the information that must be included to request temporary certification. This includes:

- A cover letter explaining the need for the temporary certificate.
- The facility name.
- The name of the operator who will receive the temporary certification.

Expected impact

We do not believe these amendments will generate costs, as Ecology currently does not issue temporary certificates to operators who are not operators in responsible charge or lead operators of a shift or to operators who do not meet the education and experience requirements for the temporary certification level.

Compared to the regulatory baseline (not compared to current practice), a WWTP owner will benefit under the amended rule because Ecology is giving WWTP more opportunities to stay in compliance with their permit requirements because more operators could be eligible for a temporary certificate.

In including a specific timeframe that is likely to meet requirements (note that under the baseline or amendments, WWTPs are not guaranteed approval of their request for temporary certification), the amendments protect the credibility of the certification program, without material effect on costs.

While the amendments require specific information in the written request for temporary certification, the information specified is minimal and is not likely to differ from the minimum that would be submitted in writing under the baseline.

2.3.11 Revocation of a certificate

Baseline

Under the existing rule, revocation periods are limited to one year (per offense), and it is unclear that an operator may not seek recertification through reciprocity.

Adopted

The amendments allow for revocation periods beyond one year, as appropriate for the circumstance.

They also eliminate the ability to recertify by reciprocity with a certification received before or during a revocation period.

Expected impact

These amendments will improve the credibility of the certification program, by allowing certificates to be revoked for an amount of time appropriate for the violations that led to the revocation. Similarly, the certification program will protect its credibility by closing the loophole that could allow an operator whose certification is revoked to become certified in another state before their designated revocation period ends and use that certification to apply for reciprocity in Washington.

2.3.12 Clarifications and reorganization without material impact

Baseline

The existing rule is, in some places, worded or organized in ways that could be misinterpreted. In other cases, terminology or descriptions are not in line with current practices or technologies.

Adopted

The amendments replace the baseline rule language with a reorganized version of most of the same requirements, aside from the amendments discussed previously in this chapter. Some wording is changed to be clearer in definitions or requirements.

Clarifications include, but are not limited to:

- Adding “or filtration” to the definition of “Activated sludge process”.
- Definitions of the existing relationship between college credits, hours, and CEUs.
- Adding “lined” to the description of lagoons. Lagoons are required to be lined under the baseline.
- Adding “maintenance” to the definition of an operator. This is consistent with the authorizing statute.
- Clarification of the concepts of primary versus preliminary.
- Table reorganization and separation without changes other than those discussed elsewhere in this chapter.
- Expanded language making the terms of professional growth more understandable.

- Adding SBR and MBR to treatment plant classification criteria. WWTPs are classified in their wastewater permits, according to plant characteristics. The baseline rule and amendments note that there are circumstances under which plants may be classified differently than the table to which SBR and MBR are included. The addition of the terms to the WWTP classification criteria table provides a likely classification that determines the minimum operator certification required, but the WWTP's permit specifies the plant classification.
- Adding abilities authorized explicitly under the authorizing statute, without adding specificity or changes, such as the ability to charge late fees.

Expected impact

Except the amendments discussed in the remainder of section 2.3 of this document, the reorganization and clarifications are not expected to have costs or benefits, since they do not change requirements from the baseline. We reviewed the baseline, the authorizing statute, descriptions of technologies currently used, and the amended rule language. We determined these amendments will not result in costs or benefits, aside from the benefit of improved clarity.

Chapter 3: Likely Costs of the Rule Amendments

3.1 Introduction

We estimated the likely costs 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.

3.2 Cost analysis

The rule amendments make changes to the following areas:

- Definitions
- Application required
- Fees
- Education and experience requirements for Groups I – IV
- Education and experience requirements for Groups I – IV OIT
- Reciprocity
- Certificate
- Professional growth
- Renewal requirements
- Temporary certificate
- Revocation of a certificate
- Clarifications and reorganization without material impact

3.2.1 Definitions

We do not expect the amendments to definitions to result in costs or benefits, in and of themselves. Where changes in definitions are represented in changes to requirements that may result in costs or benefits, they are discussed in the relevant section.

3.2.2 Application required

We do not expect amendments to application requirements to create costs. See Chapter 2 for discussion.

3.2.3 Fees

The amended fees will create costs for operators renewing their certification. They will also create costs for anyone applying for an exam or certification.

Application costs

To estimate the cost of application fees, compared to baseline fees, we used past numbers of applicants by certification group, and forecast fee increases over time. The number of

applications varies by year and certification level. Two years of application data was available, summarized in the table below.⁵

Table 2: Number of applications, by year and group.

Group	2017	2018
I	132	108
II	80	86
III	57	47
IV	38	27
OIT I	132	97

Note that OIT II – IV do not exist under the baseline, so no application data was available for them. Costs for the new OIT categories are discussed in a separate section below.

The amendments establish fees for Fiscal Years 2020 and 2021. We will develop future fees using a public process, as specified in RCW 70.95B.095, that bases fees on projected program costs. In our rule analyses, we estimate the 20-year present value of quantifiable costs and benefits.⁶ This means we needed to forecast fees for 2022 through 2038.⁷ Since we cannot be certain of potential future changes in the fee structure, we assumed the relative fees across groups will remain constant, and all fees will uniformly grow by the amount the program budget increases. Based on past potential wage growth for state employees, and consistent with assumptions made for other fee rulemakings, we assumed fees will uniformly grow by three percent each year.

For each year, we then multiplied the number of applications in each group by the difference between the applicable fee forecast and the current fee (\$50). We performed this calculation based on 2017 and 2018 application numbers, to generate low and high potential costs for each group and year. For the two years for which fees are explicitly set under the amendments, we summarized the costs below.

Table 3: 2017 total cost of fee increases for two initial years, by group.

Group	Based on 2017 applications	
	2020	2021
I	\$0	\$0
II	\$720	\$1,360
III	\$513	\$969
IV	\$342	\$646
OIT I	\$0	\$0

⁵ WA Department of Ecology (2017, 2018). Operator certification records data.

⁶ Present values account for the current equivalent of future flows of value, adjusting for inflation and opportunity cost.

⁷ The current year, 2019, is the first year of the present value calculation, but there is zero change in fees for the current year.

Table 4: 2018 total cost of fee increases for two initial years, by group.

Group	Based on 2018 applications	
	2020	2021
I	\$0	\$0
II	\$774	\$1,462
III	\$423	\$799
IV	\$243	\$459
OIT I	\$0	\$0

We then converted each group-year's estimated cost to present value, using a historic average inflation-adjusted rate of return.⁸ By summing across groups and years, we calculated an estimated total 20-year present value cost of increased application fees of between \$144 thousand and \$190 thousand.

Renewal costs

To estimate the cost of renewal fees, compared to baseline fees, we used past numbers of renewals, and forecast fee increases over time. Because renewal fees are the same regardless of certification level, we used total numbers of renewals by year. The number of renewals varies by year. For the two years of renewal data that was available, we summarized the cost below.⁹

Table 5: Number of renewals, by year.

Year	Renewals
2017	1951
2018	1867

Note that OIT II – IV do not exist under the baseline, so renewal data was not available for them. Costs for the new OIT categories are discussed in a separate section below.

The amendments establish renewal fees for Fiscal Years 2020 and 2021. We will develop future fees using a public process that bases fees on projected program costs. In our rule analyses, we estimate the 20-year present value of quantifiable costs and benefits.¹⁰ This means we needed to forecast renewal fees for 2022 through 2038.¹¹ Since we cannot be certain of potential future changes in the fee structure, we assumed the relative fees across applications and renewals will remain constant, and all fees will uniformly grow by the amount the program budget increases. Based on past potential wage growth for state employees, and consistent with assumptions made for other fee rulemakings, we assumed fees will uniformly grow by three percent each year.

⁸ The historic average rate of return on US Treasury Department I Bonds, for 1998 to present, is currently 1.03 percent (0.0103). New bond rates are issued in March and November of each year. US Treasury Department (2018).

⁹ WA Department of Ecology (2017, 2018). Operator certification records data.

¹⁰ Present values account for the current equivalent of future flows of value, adjusting for inflation and opportunity cost.

¹¹ The current year, 2019, is the first year of the present value calculation, but there is zero change in fees for the current year. Note that fees are set for fiscal years, so our references to "years" throughout this document refer to fiscal years.

For each year, we then multiplied the number of renewals by the difference between the applicable renewal fee forecast and the current fee (\$30). We performed this calculation based on 2017 and 2018 application numbers, to generate low and high potential renewal costs for each year. For the two years for which renewal fees are explicitly set under the amendments, we summarized these costs below.

Table 6: Total cost of fee increases for two initial years.

Year	Based on 2017 applications	Based on 2018 applications
2020	\$63,478	\$66,334
2021	\$126,956	\$132,668

We then converted each year’s estimated cost to present value, using a historic average inflation-adjusted rate of return.¹² By summing across years, we calculated an estimated total 20-year present value cost of increased renewal fees of between \$3.0 million and \$3.1 million.¹³

OIT Groups II – IV costs

Because OIT levels II, III, and IV do not exist under the baseline, we could not determine how many applications or future renewals will occur for them. Similarly, there is no baseline fee for these levels. Under the baseline, the opportunity for OIT levels II-IV would not be available to them at all. We can assume operators will only choose to pay the application fee (\$59 in 2020, and \$67 in 2021; likely growing in 2022 and beyond) if they see a net benefit from paying for the ability to take certification exams ahead of their experience level (and paying associated exam fees). Benefits will include making additional progress toward professional advancement.

3.2.4 Education and experience requirements for Groups I – IV

The restriction to only gain applicable operating experience under a fully certified operator potentially costs operators more time to achieve certification. It is not clear how many operators, or to what extent, will otherwise intend to use operating experience gained without the direction or supervision of a fully certified operator (or to what extent such circumstances are available, given existing operator certification requirements for operators to operate WWTPs).

To the extent this circumstance exists, and operating experience becomes inapplicable to achieving certification, some operators may need to spend more time gaining experience. This could potentially cost them the difference in wages between their existing certification level, and the level they are hoping to achieve. Wages were only available for Water and Wastewater Treatment Plant and System Operators as a whole, so we could not differentiate in the data between different levels of certification, but for illustrative purposes, we present the distribution of wages in this occupation in Washington State.¹⁴

¹² The historic average rate of return on US Treasury Department I Bonds, for 1998 to present, is currently 1.03 percent (0.0103). New bond rates are issued in March and November of each year. US Treasury Department (2018).

¹³ Note that the cost of fee changes for renewals is significantly higher than the cost for the change in application fees. This is because of the combined effects of the size of the increase in renewal fees, and the larger number of renewals than applications each year.

¹⁴ US Bureau of Labor Statistics (2017). May 2017 Wages by Area and Occupation. Washington State.

Table 7: WWTP operator wage distribution in Washington, 2017.

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	\$13.42	\$17.10	\$22.19	\$28.33	\$35.30

The difference in wage across percentile groups ranges between \$4 and \$7 per hour.

3.2.5 Education and experience requirements for Groups I – IV OIT

Similarly to the possible costs of changes to education and experience requirements for fully certified operators, the restriction to only gain applicable OIT experience under a fully certified operator could potentially cost OITs more time to gain required levels of experience. It is also similarly unclear how many existing or potential OITs, or to what extent, will otherwise intend to use OIT experience gained without the direction or supervision of a fully certified operator. It is not clear to what extent this circumstance is available, given existing certification requirements for WWTPs.

To the extent this circumstance exists, and OIT experience becomes inapplicable, some operators may need to spend more time gaining experience. This could potentially cost them the difference in wages between their existing level, and the OIT level they are hoping to achieve. Wages were only available for Water and Wastewater Treatment Plant and System Operators as a whole, so we could not differentiate in the data between different levels of certification, but for illustrative purposes, see Table 7 in the previous section.

3.2.6 Reciprocity

The amendment requiring operators seeking certification by reciprocity, but with exam results that are more than ten years old, could result in some operators needing to retake the exam. Based on staff experience, we assumed one such operator will need to retake the exam each year. The price charged for Washington operator certification exams by the current contractor is \$100.¹⁵ The equivalent 20-year present value of a \$100 cost in each year is approximately \$1,800.¹⁶

3.2.7 Certificate

Amendments to certificate allowances are not likely to create costs. See Chapter 2 for discussion.

3.2.8 Professional growth

Amendments to professional growth requirements may create a cost for operators that will otherwise meet professional growth requirements by passing a drinking water or collections certification exam, instead of through wastewater training, under the baseline.

3.2.9 Renewal requirements

Amendments to renewal requirements are not likely to create costs. See Chapter 2 for discussion.

¹⁵ PSI (2018). Washington Wastewater Treatment Plant Operator Examination Registration Form. ABC-WA Wastewater Submission Form.

¹⁶ Using a historic average (1998 to present) 1.03 percent real discount rate. US Treasury Department (2018).

3.2.10 Temporary certificate

Amendments to temporary certification are not likely to create costs. See Chapter 2 for discussion.

3.2.11 Revocation of a certificate

Amendments to revocation requirements are not likely to create costs. See Chapter 2 for discussion.

3.2.12 Clarifications and reorganization without material impact

Amendments that reorganize or clarify rule language without material impact are not likely to create costs. See Chapter 2 for discussion.

Chapter 4: Likely Benefits of the Rule Amendments

4.1 Introduction

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

4.2 Benefit analysis

The rule amendments make changes to the following areas:

- Definitions
- Application required
- Fees
- Education and experience requirements for Groups I – IV
- Education and experience requirements for Groups I – IV OIT
- Reciprocity
- Certificate
- Professional growth
- Renewal requirements
- Temporary certificate
- Revocation of a certificate
- Clarifications and reorganization without material impact

4.2.1 Definitions

We do not expect the amendments to definitions to result in costs or benefits, in and of themselves. Where changes in definitions are represented in changes to requirements that may result in costs or benefits, they are discussed in the relevant section.

4.2.2 Application required

Compared to the regulatory baseline (though not compared to current practice), applicants will benefit under the amended rule, by saving the cost of reapplying to retake an exam within a one-year period. Comparing rule language only, this cost savings will be a benefit for anyone retaking the exam more than once in a one-year period. We do not have reexamination frequency data, but this data covers a period of current practice in examinations, which allows for multiple exam retakes not limited to the total of three in a year. Not all operators need to retake the exam, however, so we applied the reexamination rate from the available data to the number of applications received by certification group.

Examination data indicates approximately 28 percent of applicants retake exams.¹⁷ We assumed 28 percent of applications result in exam retakes within a one-year period. Table 2 summarizes the numbers of applications by certification level, received in 2017 and 2018. This resulted in the number of assumed reapplications avoided under the amendments, below.¹⁸

Table 8: Assumed avoided reapplications, by certification level.

Group	Based on 2017 applications	Based on 2018 applications
I	37	30
II	22	24
III	16	13
IV	11	8
OIT I	37	27

Using the corresponding fees for each certification level (see Table 1), and assumed three percent annual growth in application fees based on potential growth in program costs due to wage increases,¹⁹ we estimated potential cost savings for applicants retaking the exam in each year 2020 – 2038. We then converted each group-year’s estimated benefit to present value using a 1.03 percent real discount rate.²⁰ This resulted in total 20-year present value cost savings across all certification levels of between \$128 thousand and \$152 thousand.²¹

Note also that the above estimates do not include potential OIT II – IV cost savings, as no data was available for these groups that do not exist under the baseline.

4.2.3 Fees

While fees only increase as compared to the baseline (there are no fee cost savings), these fee increases generate the benefit of fully funding the certification program per statutory requirements. Full funding of the work needed to administer the certification program means Ecology avoids displacing funds from other funding sources, resulting in potential reduced services from other Ecology programs.

4.2.4 Education and experience requirements for Groups I – IV

Limiting operating experience to be gained under the direction or supervision of a certified operator will maintain and improve the credibility of the certification program, and ensures operators are properly trained. Experience gained under someone other than a fully certified operator increases the risk that experience is insufficient. This would be inconsistent with the purpose of the Operator Certification program, to ensure WWTPs are operated by individuals

¹⁷ WA Department of Ecology (2019) Email from Poppy Carre to Sam Wilson. “RE: remaining questions about op cert”. 2/2/2019 1:59PM.

¹⁸ Summed values may not correspond to totals due to rounding.

¹⁹ See forecasting discussion in section 3.2.3.

²⁰ See discussion of present values in section 3.2.3.

²¹ Note that this cost savings includes only avoided application fees. Renewal fees would be paid under the baseline and amendments regardless of whether exams had to be retaken to achieve certification.

with the knowledge and experience to comply with regulations that protect environmental wellbeing and public health.

Removing the detailed list of other related work experience benefits operators who want to use other experience that provides required knowledge to substitute for certification requirements. The baseline details a list of specific types of other related work experience. But it potentially excludes other types of experience that also provide this information (particularly as wastewater technologies develop further over time). Removing the detailed list of other related work experience could allow some operators to use experience that might not have been considered to achieve certification with the required levels and types of knowledge and experience, in less time.

Expanding allowed substitution for a high school diploma or GED to relevant experience is beneficial to operators seeking to use this substitution for certification. The baseline requirement for operating experience certainly provides the knowledge and experience necessary to substitute for education, but other types of experience potentially provide the same elements of knowledge and experience. Adding other types of experience will allow some operators to achieve certification with required levels and types of knowledge and experience, in less time.²²

4.2.5 Education and experience requirements for Groups I – IV OIT

The creation of Group II, III, and IV OIT levels will benefit operators prepared to take exams for higher certification levels, as well as WWTPs that need to succession plan for the retirement or other turnover of their operators. Under the baseline, the opportunity for OIT would not be available to them at all, so we can assume operators will only choose to pay the application fees if they see a net benefit to be gained from paying for the ability to take certification exams ahead of their experience level, if experience and education levels meet the requirements. Benefits of this will include career advancement before the ability to become fully certified at a higher level.

Allowing three months of relevant experience for Group I OIT increases the types of experience sufficient for experience substitution, benefitting Group I OITs. This allows Group I OITs with otherwise insufficient education but ample relevant experience to achieve OIT certification sooner than they would under the baseline.

Limiting OIT experience to be gained under the direction or supervision of a certified operator maintains and improves the credibility of the certification program, and ensures OITs are properly trained. Experience gained under someone other than a fully certified operator increases the risk that experience is insufficient. This would be inconsistent with the purpose of the Operator Certification program, to ensure WWTPs are operated by individuals with the knowledge and experience to comply with regulations that protect environmental wellbeing and public health.

²² Note that, as compared to the baseline, the amendments' clarified wording of this substitution technically reduces the rate of substitution between experience and grade school education. We discussed this with program staff, and based on their experience, they do not expect this change to affect any operators. While substitution for secondary education does occur, modern operators do not tend to lack grade school education.

4.2.6 Reciprocity

Requiring certified operators seeking reciprocal certification to retest if their exam results are more than ten years old, benefits the state and WWTPs by making sure these operators are current in their knowledge as reflected by the current exam. While ongoing experience provides operators with knowledge about the changing wastewater and regulatory environment, a current exam for operators that have not taken an exam in over ten years, and are seeking certification by reciprocity, ensures they are comprehensively up to date in knowledge required for certification in Washington. This helps maintain the credibility of the certification program.

4.2.7 Certificate

Allowing initial certifications achieved after September 30 to expire at the end of the following year is beneficial to operators because they do not have to pay a renewal fee. This benefit is the savings of one renewal fee for each of the operators in this group. For example, under the baseline rule language, if an operator achieves initial certification in November 2019, they would be required to pay a renewal fee by December 31, 2019, for the next calendar year. Under the amendments, they will not pay a renewal fee until December 2020.

We based calculations on initial certifications October through December, 2017 and 2018, as summarized below. Both years had a total of 29 initial certifications, resulting in a single estimate (rather than a range).

Table 9: Initial certifications, by certification level.

Group	October – December 2017	October – December 2018
I	14	11
II	3	3
III	2	2
IV	2	0
OIT I	8	13

Using the renewal fees (see Table 1), and assumed three percent annual growth in fees based on potential growth in program costs due to wage increases,²³ we estimated potential cost savings for operators achieving initial certification in the last quarter of each year 2020 – 2038. We then converted each year’s estimated benefit to present value using a 1.03 percent real discount rate.²⁴ This resulted in total 20-year present value cost savings of \$61 thousand.

4.2.8 Professional growth

In development of this rule, Ecology determined that it was inconsistent with the goals of professional growth criteria for wastewater treatment to allow the baseline drinking water and voluntary wastewater collections certifications to be used to meet professional growth requirements. The amendments maintain baseline requirements for wastewater training and examination, finding these are sufficient to meet the professional growth goals of the program.

²³ See discussion of forecasting in section 3.2.3.

²⁴ See discussion of present values in section 3.2.3.

This requirement ensures operators are comprehensively up to date in knowledge, helps maintain the credibility of the certification program, and ensures operators are receiving training in wastewater operations and maintenance.

The credibility of the program will also be protected by closing the loophole that could allow operators to receive multiple credits for the same course during a professional growth cycle or carryover CEUs from one professional growth period to the next. While these changes are in a sense a clarification – since the intent of the baseline rule is to guarantee that operators are properly and comprehensively trained – the changes ensure different courses are used to meet professional growth requirements.

The amendment allowing trainers to earn credits for administering trainings will create benefits in two ways:

- Expanding the types of activities that earn credits toward professional development.
- Encouraging more operators to create and provide training for others.

4.2.9 Renewal requirements

Making it clear we are counting business days and not calendar days (a potential interpretation under the baseline), allows between four and six more calendar days before we revoke an operator's certificate for not paying renewal fees. This allows operators facing revocation more time to pay renewal fees, and allows WWTPs more time to plan for a substitute operator to maintain continuous operations.

4.2.10 Temporary certificate

Allowing WWTPs to request a temporary certification for the lead operator of a shift is giving them the capability to stay in compliance with their permit requirements. Allowing six months for the operator to meet the education and experience requirements enables WWTPs to fill required operator vacancies and gives operators time to prepare for and take the exam. In including a specific timeframe that is likely to meet requirements (note that under the baseline or amendments, WWTPs are not guaranteed approval of their request for temporary certification), the amendments protect the credibility of the certification program. This is not, however, likely to affect the requests for temporary certifications that are approved or denied.

4.2.11 Revocation of a certificate

These amendments will improve the credibility of the certification program, by allowing certificates to be revoked for an amount of time appropriate for the violations that led to the revocation. Similarly, the certification program will protect its credibility by closing the loophole that could allow an operator whose certification is revoked and becomes certified in another state before their designated revocation period ends, use that certification to apply for reciprocity in Washington.

4.2.12 Clarifications and reorganization without material impact

Amendments that reorganize or clarify rule language without material impact are not likely to create benefits beyond regulatory clarity. See Chapter 2 for discussion.

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Chapter 5: Cost-Benefit Comparison and Conclusions

5.1 Summary of the costs and benefits of the rule amendments

The costs and benefits listed here are based on a comparison of the amended rule to the baseline existing rule language and authorizing statute.

Except for the addition of the new fees, most of these changes are current practice. We expect minimal change to occur to program processes.

Costs

Likely costs of the rule amendments include:

- **Application fees:** Estimated total 20-year present value cost of increased application fees of between \$144 thousand and \$190 thousand.
- **Renewal fees:** Estimated total 20-year present value cost of increased application fees of between \$3.0 million and \$3.1 million.²⁵
- **Education and experience for Groups I – IV:** For operators using experience gained without the direction or supervision of a fully certified operator, potential delay in wage increases between \$4 and \$7 per hour.
- **Education and experience for OIT Groups I – IV:** For OITs using experience without the direction or supervision of a fully certified operator, potential delay in wage increases between \$4 and \$7 per hour.
- **Reciprocity:** Cost of needing to retake exams if seeking certification by reciprocity, of \$1,800 in 20-year present value.
- **Professional growth:** Delay in meeting professional growth requirements, for those planning to pass a drinking water or collections certification exam instead of through wastewater training.

Benefits

Likely benefits of the rule amendments include:

- **Application required:**
 - Total 20-year present value cost savings across all certification levels of between \$128 thousand and \$152 thousand.²⁶

²⁵ Note that the cost of fee changes for renewals is significantly higher than the cost for the change in application fees. This is because of the combined effects of the size of the increase in renewal fees, and the larger number of renewals than applications each year.

²⁶ Note that this cost savings includes only avoided application fees. Renewal fees would be paid under the baseline and amendments regardless of whether exams had to be retaken to achieve certification.

- Approving exam applications for 1 year. Applicants no longer have to apply and pay an application fee for each exam retake.
- **Fees:** The increased cost of the fees is equivalent to the likely value of the work performed. While fees only increase as compared to the baseline (there are no fee cost savings), these fee increases generate the benefit of fully funding the certification program per statutory requirements. Full funding of the work needed to administer the certification program means Ecology avoids displacing funds from other funding sources, resulting in potential reduced services from other Ecology programs.
- **Education and experience for Groups I – IV:**
 - Limiting operating experience to be gained under the direction or supervision of a certified operator maintains and improves the credibility of the certification program, and ensures operators are properly trained.
 - Allowing relevant experience to substitute for a high school diploma or GED benefits operators who need to use this substitution, freeing up their operating experience to meet operating experience requirements.
- **Education and experience for Groups I – IV OIT:**
 - The creation of Group II, III, and IV OIT levels will benefit operators prepared to take exams for higher certification levels, as well as WWTPs that need to succession plan for the retirement or other turnover of their operators.
 - Allowing three months relevant experience for Group I OIT expands the types of experience sufficient for experience substitution, benefitting Group I OITs.
 - Limiting OIT experience to be gained under the direction or supervision of a certified operator maintains and improves the credibility of the certification program, and ensures OITs are properly trained.
- **Reciprocity:** Requiring certified operators seeking reciprocal certification to retest if their exam results are more than ten years old, benefits the state and WWTPs by making sure these operators are current in their knowledge as reflected by the current exam.
- **Certificate:**
 - Estimated 20-year present value cost savings of \$61 thousand in avoided renewal costs.
 - Operators achieving initial certification after September 30 do not have to pay the renewal fee due December 31 of the same year. Their certification is valid until December 31 of the following year.
- **Professional growth:**
 - Ensuring operators are comprehensively up to date in knowledge helps maintain the credibility of the certification program.
 - Protecting the credibility of the program by closing the loophole that could allow operators to receive multiple credits for the same course during a professional growth cycle or carryover CEUs from one professional growth period to the next.

- Allowing trainers to earn credits for administering trainings will create benefits in two ways:
 - Expanding the types of activities that earn credits toward professional development.
 - Encouraging more operators to create and provide training for others.
- **Renewal requirements:** Making it clear we are counting business days and not calendar days (a potential interpretation under the baseline), allows between four and six more calendar days before we revoke an operator’s certificate for not paying renewal fees. This allows operators facing revocation more time to pay renewal fees, and allows WWTPs more time to plan for a substitute operator to maintain continuous operations.
- **Temporary certificate:**
 - Allowing WWTPs to request a temporary certificate for the lead operator of a shift Ecology will give them the capability to stay in compliance with their permit requirements.
 - Allowing six months for the operator to meet the education and experience requirements enables WWTPs to fill the required operator vacancy and gives the operator time to prepare for and take the exam.
- **Revocation of a certificate:**
 - Improving the credibility of the certification program by allowing certificates to be revoked for an amount of time appropriate for the violations that led to the revocation.
 - Closing the loophole that could allow an operator whose certification is revoked, to become certified in another state before their designated revocation period ends and use that certification to apply for reciprocity in Washington.

5.2 Conclusion

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

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Chapter 6: Least-Burdensome Alternative Analysis

6.1 Introduction

RCW 34.05.328(1)(e) requires Ecology to “...[d]etermine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that 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 rulemaking and the consequences of not adopting the rule;
- (c) Provide notification in the notice of proposed rulemaking under RCW 34.05.320 that a preliminary cost-benefit analysis is available. The preliminary cost-benefit analysis must fulfill the requirements of the cost-benefit analysis under (d) of this subsection. If the agency files a supplemental notice under RCW 34.05.340, the supplemental notice must include notification that a revised preliminary cost-benefit analysis is available. A final cost-benefit analysis must be available when the rule is adopted under RCW 34.05.360;
- (d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented;

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

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

6.2 Goals and objectives of the authorizing statute: Chapter 70.95B RCW

The goals and objectives of the authorizing statute are:

- Competent operation of wastewater treatment plants plays an important part in the protection of the environment of the state and therefore it is of vital interest to the public.
- Protecting the public health and conserving and protecting the water resources of the state.

- Providing for classification of all domestic WWTPs.
- Requiring the examination and certification of the persons responsible for the operation and maintenance of WWTPs.
- Establishing fees for the issuance and renewal of WWTP operator certificates.

6.3 Alternatives considered and why they were not included

6.3.1 Certification exams only in order

Ecology considered allowing certification examination only for one level higher than an operator's current certification. This alternative would have imposed more burden on operators seeking to advance their careers, by adding additional costs and steps to reach a certification they are qualified for.

6.3.2 Inverted fee structure

Ecology considered alternative fee structures in which application fees were higher, and renewal fees were lower. This would impose higher burden on most operators, as the fee structure in the amendments reduces the increase in fees for all categories of certification and OIT, while maintaining a uniform renewal fee for all operators.

6.3.3 Flat fee structure

Ecology considered setting the same application fee for all group levels. This would have imposed higher burden on some operators. The fee structure in the amendments was able to reduce fee increases for Group I and Group I OIT applications.

6.3.4 Scholarship program

Ecology considered establishing a scholarship program to help pay fees for lower group levels and others with hardships. This would not have been consistent with the goals and objectives of the authorizing statute, as no authority is given to Ecology to give away funds collected, only to collect fees to cover the cost of the program.

6.3.5 Exemption for oil refineries

Ecology considered exempting oil refineries from the operator certification requirements. This alternative would not have been consistent with the goals and objectives of the authorizing statute. Facilities are required by law to have certified operators for domestic wastewater treatment if they treat wastewater, even if that water is combined with an industrial wastewater flow.

6.3.6 Reinstatement for temporary breaks

Ecology considered including an option to reinstate operators that need a temporary break from certification, such as retirees. This alternative would not have been consistent with the goals and objectives of the authorizing statute, as the statute does not give Ecology the authority to provide such an option.

6.3.7 Expanded suspension in lieu of revocation

Ecology considered expanding options for suspension of certification, in place of revocation. This alternative would not have been consistent with the goals and objectives of the authorizing statute, as the statute does not give Ecology the authority to replace revocation.

6.3.8 Probation in lieu of revocation

Ecology considered allowing probation for operators needing corrective actions instead of revocation. This alternative would not have been consistent with the goals and objectives of the authorizing statute, as the statute does not give Ecology the authority to replace revocation.

6.3.9 Small system LOSS certification

Ecology considered adding a certification level for small system large onsite sewage systems (LOSS). This alternative would not have been consistent with the goals and objectives of the authorizing statute, as the statute requires certification of operators of WWTPs, and defines WWTPs as excluding LOSS.

6.3.10 Graduated fees

Ecology considered graduated fees for each certification level. This would have increased burden on some operators and reduced it for others, compared to the amendments, but would also not have met the goals and objectives of the authorizing statute. This alternative would not have generated sufficient additional funds to warrant such a change. It would have been administratively prohibitive to manage without additional staff and/or generation of sufficient funds to justify this fee distribution. It would have required an update of the database, as well as other administrative hurdles without significantly increasing collection amounts.

6.3.11 Fewer relevant experience options

During this rulemaking, Ecology initially proposed a more limited list of relevant experience types. The proposed amendments *did not* include:

- Environmental or operations consultant.
- Wastewater treatment plant designer and/or builder.

During the public comment period, Ecology determined that including the above types of work as relevant experience would still meet the goals and objectives of the authorizing statute, and would reduce burden on operators. These additional types of relevant experience are included in the final adopted amendments.

6.4 Conclusion

After considering alternatives to the amended rule's contents, as well as the goals and objectives of the authorizing statute, Ecology determined that the rule represents the least-burdensome alternative of possible rule contents meeting these goals and objectives.

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Chapter 7: Regulatory Fairness Act Compliance

7.1 Introduction

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.

This chapter presents the:

- Results of the analysis of relative compliance cost burden.
- Consideration of lost sales or revenue.
- Cost-mitigating action taken by Ecology, if required.
- Small business and local government consultation.
- Industries likely impacted by the amendments.
- Expected net impact on jobs statewide.

A small business is defined by the RFA as having 50 or fewer employees. Estimated costs are determined as compared to the existing regulatory environment—the regulations in the absence of the rule amendments. The RFA only applies to costs to “businesses in an industry” in Washington State. This means that impacts, for this document, are not evaluated for non-profit or government agencies.

7.2 Exemption from RFA requirements

Based on the analysis in chapters 1-5 of this document, the amendments only impose compliance costs on operators. Those costs are:

- Increased application fees.
- Increased renewal fees.
- Potential time costs for operators and operators in training (OITs) with experience not under the direction or supervision of a fully certified operator.

Operators are private individuals, though they may be currently employed by WWTPs. Certifications, however, do not belong to the WWTP, but to the operator or OIT. Based on analysis of the rule amendments, we do not expect WWTPs to incur compliance costs under the amendments, as compared to the baseline.

The RFA states: “In the adoption of a rule under chapter 34.05 RCW, an agency shall prepare a small business economic impact statement: (i) If the proposed rule will impose more than minor costs on businesses in an industry; or (ii) if requested to do so by a majority vote of the joint administrative rules review committee within forty-five days of receiving the notice of proposed rule making under RCW 34.05.320(1)(a).”²⁷ The entities that will incur compliance costs are not

²⁷ RCW 19.85.030

businesses, so we conclude there are no businesses incurring additional costs under the amendments. Ecology is therefore exempt from the requirements of the RFA for this rulemaking.

References

RCW 34.05.272 requires Ecology to categorize sources of information used in significant agency actions made in the Water Quality Program.

Independent peer review: Review is overseen by an independent third party.

n/a

Internal peer review: Review by staff internal to Ecology.

n/a

External peer review: Review by persons that are external to and selected by Ecology.

n/a

Open review: Documented open public review process that is not limited to invited organizations or individuals.

n/a

Legal and policy documents: Documents related to the legal framework for the significant agency action, including but not limited to: federal and state statutes, court and hearings board decisions, federal and state administrative rules and regulations, and policy and regulatory documents adopted by local governments.

n/a

Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under independent, internal, or external peer review.

PSI (2018). Washington Wastewater Treatment Plant Operator Examination Registration Form. ABC-WA Wastewater Submission Form.

US Bureau of Labor Statistics (2017). May 2017 Wages by Area and Occupation. Washington State.

US Treasury Department (2018). Forecast inflation and rates of return for US Treasury I Bonds.

WA Department of Ecology (2017, 2018). Operator certification records data.

WA Department of Ecology (2019) Email from Poppy Carre to Sam Wilson. "RE: remaining questions about op cert". 2/2/2019 1:59PM.

Records of the best professional judgment of Ecology employees or other individuals.

n/a

Other: Sources of information that do not fit into other categories.

n/a

Appendix A

Administrative Procedure Act (RCW 34.05.328)

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

See Chapter 6.

- B. RCW 34.05.328(1)(b) –**

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

See chapters 1 and 2.

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

The funding and operations of the Wastewater Operator Certification program is dependent upon establishing a fee schedule and collecting those fees. Without these fee changes, the Wastewater Operator Certification program would be under funded and this would have an adverse impact on program implementation.

The other changes are necessary to adapt and improve the Wastewater Operator Certification program to align with changing technologies, expand professional growth and training opportunities, and make rule language changes to address issues we've encountered implementing the program for nearly two decades. Without the additional changes made, the program may continue on as it has, but these procedures would go uncodified and would be subject to change and have less certainty for the regulated community.

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

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

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

- D. RCW 34.05.328(1)(d) – Determine that probable benefits of this rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.**

See Chapters 1 – 5.

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

Please see Chapter 6.

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.

Ecology is the only agency that regulates Wastewater Operator Certification in Washington State. There are no requirements in this rule that are not consistent with our authority under 70.95B or that violate requirements of another federal or state laws.

We consulted with Department of Health's drinking water certification program to align our rule requirements where it made sense and was practicable. We also reached out to the Environmental Protection Agency to ensure that there were no federal requirements for Operator Certification that might conflict. They responded that there were none.

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.

Same requirements regardless of ownership of treatment facilities.

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.

No, Ecology is the only agency that regulates Wastewater Operator Certification in Washington State.

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

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

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.

There are no other laws to coordinate with on this same subject matter, although Ecology worked with the State Department of Health Drinking water program to confirm consistency with their certification program where it made sense to do so. Rule writer and content expert worked with permit policy folks and enforcement staff to ensure any edits to this rule were consistent with permitting programs, procedures, including for enforcement, for wastewater treatment plants.