

Office of Regulatory Management

Economic Review Form

Agency name	Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals
Virginia Administrative Code (VAC) Chapter citation(s)	18 VAC160-30
VAC Chapter title(s)	Waterworks and Wastewater Works Operators Licensing Regulations (160-30)
Action title	2021 Fee Adjustment
Date this document prepared	

Cost Benefit Analysis

Table 1a must be completed for all actions. Tables 1b and 1c must be completed for actions (or portions thereof) where the agency is exercising discretion, including those where some of the changes are mandated by state or federal law or regulation. Tables 1b and 1c are not needed if **all** changes are mandated, and the agency is not exercising any discretion. In that case, enter a statement to that effect.

- (1) Direct Costs & Benefits: Identify all specific, direct economic impacts (costs and/or benefits), anticipated to result from the regulatory change. (A direct impact is one that affects entities regulated by the agency and which directly results from the regulatory change itself, without any intervening steps or effects. For example, the direct impact of a regulatory fee change is the change in costs for these regulated entities.) When describing a particular economic impact, specify which new requirement or change in requirement creates the anticipated economic impact. Keep in mind that this is the proposed change versus the status quo. One bullet has been provided, add additional bullets as needed.
- (2) Quantitative Factors:
 - (a) Enter estimated dollar value of total (overall) direct costs described above.
 - (b) Enter estimated dollar value of total (overall) direct benefits described above.
 - (c) Enter the present value of the direct costs based on the worksheet.
 - (d) Enter the present value of the direct benefits based on the worksheet.
- (3) Benefits-Costs Ratio: Calculate d divided by c OR enter it from the worksheet.
- (4) Net Benefit: Calculate d minus c OR enter it from the worksheet.
- (5) Indirect Costs & Benefits: Identify all specific, indirect economic impacts (costs and/or benefits), anticipated to result from the regulatory change. (An indirect impact is one that results from responses to the regulatory change, but which are not directly required by the regulation. Indirect impacts of a regulatory fee change on regulated entities could include a change in the prices they charge, changes in their operating procedures or employment levels, or decisions to enter or exit the regulated profession or market. Indirect impacts also include responses by other entities that have close economic ties to the regulated

entities, such as suppliers or partners.) If there are no indirect costs or benefits, include a specific statement to that effect.

- (6) Information Sources: Describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why they are not.
- (7) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)

<p>(1) Direct Costs & Benefits</p>	<ul style="list-style-type: none"> • Reduction of application fee for initial licensure as a waterworks operator or wastewater works operator. Direct Costs: Change reduces the cost of the application fee for an initial license from \$100 to \$85. Other direct costs are unchanged. Direct Benefits: There is no additional direct benefit resulting from the change. Otherwise, the direct benefit is the occupational license. • Increase of application fee for license renewal as a waterworks operator or wastewater works operator. Direct Costs: Change increases the cost of the application fee for renewal of a license from \$80 to \$105. Other direct costs are unchanged. Direct Benefits: There is no additional direct benefit resulting from the change. Otherwise, the direct benefit is the occupational license. • Increase of fee for reinstatement of a waterworks operator or wastewater works operator license. Direct Costs: Change increases the cost of the reinstatement fee from \$25 to \$35. Other direct costs are unchanged. Direct Benefits: There is no additional direct benefit resulting from the change. Otherwise, the direct benefit is the occupational license. 	
<p>(2) Quantitative Factors</p>	<p>Estimated Dollar Amount</p>	<p>Present Value</p>
<p>Direct Costs</p>	<p>(a) \$1,335</p>	<p>(c) \$1,179</p>
<p>Direct Benefits</p>	<p>(b) \$478,900</p>	<p>(d) \$420,767</p>

(3) Benefits-Costs Ratio	356.75	(4) Net Benefit	\$419,587
(5) Indirect Costs & Benefits	<p><u>Indirect Costs:</u> Indirect costs of the regulation are not anticipated to be impacted as a result of this regulatory change.</p> <p><u>Indirect Benefits:</u> The regulatory change will indirectly benefit DPOR because the Board will have sufficient revenue to cover the Board expenses without having to reduce services, obtain a Treasury loan, or obtain general funds. Otherwise, indirect benefits of the regulation are not anticipated to be impacted as a result of this regulatory change.</p>		
(6) Information Sources	<p>Box 2(a): Initial licensure. ABC license examination fee schedule. (http://documents.goamp.com/Publications/candidateHandbooks/ABC-VA-Handbook.pdf)</p> <p>License renewal and license reinstatement. Virginia Tech Water Treatment Plant and Wastewater Treatment Plant Short Courses. (https://www.cpe.vt.edu/wwplant/registration.html)</p> <p>Box 2(b): May 2021 State Occupational Employment and Wage Estimates Virginia, United States Bureau of Labor Statistics (https://www.bls.gov/oes/current/oes_va.htm)</p>		
(7) Optional	<p>Box 2(a):</p> <p>The estimated direct cost to an individual to obtain an initial license is \$187. Direct costs are (i) the application fee (\$85); and (ii) the average license examination fee (\$102).</p> <p>The license examination fee for Class 5 and Class 6 waterworks operator examination is \$82; the examination fee for Class 1, Class 2, Class 3, and Class 4 waterworks and wastewater works examinations is ≈ \$121.</p> <p>The estimated direct cost to renew a license is \$287. Direct costs are (i) the application fee (\$105); and (ii) an estimated cost for completing 12¹ hours of continuing professional education (CPE) at \$15.15 per credit hour ≈ \$182.</p> <p>The Board does not approve CPE courses, so course providers are not required to provide information regarding course fees to the Board. Costs for CPE courses depend various factors including the course provider, length of the course, and method of instruction (e.g. classroom or virtual). Some</p>		

¹ 18VAC160-30-190 provides that Class 1, 2, and 3 operators complete 20 contact hours of CPE each two-year license cycle; Class 4 operators must complete 16 hours CPE each license cycle; Class 5 waterworks operators must complete eight (8) contact hours of CPE; and Class 6 waterworks operators must complete four (4) contact hours of CPE. This averages to 12 hours of CPE in order to renew a license.

	<p>providers, including state agencies such as DEQ, provide training courses for no charge. Other providers, such as Water Otter, have a subscription-based model that charges a flat fee for an unlimited number of courses (current subscription price is \$429 per year). The estimated cost per credit hour above is derived from the fee charged by Virginia Tech to conduct its Short School. Virginia Tech charges \$500 for a 33-hour series of virtual courses.</p> <p>Licenses are valid for a period of two years. Calculation of direct costs includes the direct costs for initial licensure (Year 0), and direct costs for renewal of a license every other year (Years 2, 4, 6, and 8). The calculation assumes that a licensee will complete CPE during a renewal year.</p> <p>Calculation of direct costs does not include the reinstatement fee that would be due if a licensee fails to renew a license within the timeframe required by the regulation.</p> <p>Box 2(b): This is the estimated value for the direct benefit of receiving the occupational license based on the mean annual wage in Virginia for those who are waterworks or wastewater works treatment plant operators (\$47,890).</p>
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Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)

This table addresses current requirements and the implications of not making any changes. In other words, describe the costs and benefits of maintaining the current regulatory requirements as is.

(1) Direct Costs & Benefits	<ul style="list-style-type: none"> Direct costs and benefits of licensure based on current requirements. <p>Direct Costs: Direct costs for an initial license are (i) the application fee; and (ii) the cost of the license examination. Direct costs for renewal of a license are (i) the application fee; and (ii) cost to complete CPE.</p> <p>Direct Benefits: The direct benefit is the occupational license.</p>	
(2) Quantitative Factors	Estimated Dollar Amount	Present Value
Direct Costs	(a) \$1,250	(c) \$1,108
Direct Benefits	(b) \$478,900	(d) \$420,767

(3) Benefits-Costs Ratio	379.75	(4) Net Benefit	\$419,659
(5) Indirect Costs & Benefits	<p><u>Indirect Costs</u></p> <p>Indirect costs include, as applicable:</p> <ul style="list-style-type: none"> • Time costs related to preparing for, and taking, the license examination. • Costs related to preparing for the licensing examination, to include classes and training materials. • Travel and incidental costs to take the license examination. • Time costs to complete the license application and obtain supporting documentation. • Administrative costs to complete the license application, including costs to obtain transcripts (if needed); and obtain verification of experience. • Time costs of third parties, such as those verifying experience or providing transcripts. • Time costs to attend and complete required CPE courses. • Travel and incidental costs to complete required CPE courses. • Administrative costs to submit license renewal. <p>If no change is made, indirect costs to the public could include:</p> <ul style="list-style-type: none"> • Reduction of services to the public, including delays in the processing of license applications, which may affect the ability of individuals to obtain employment for which the occupational license is required. • Supplement agency activities with general funds, which could (i) reduce available funds for other government services funded with general fund revenues; or (ii) create a need for additional general fund revenues to make up for the shortfall. • Obtain a Treasury loan to fund agency operations, which would likely lead to the need for additional revenues to the agency to repay the loan. <p><u>Indirect Benefits</u></p> <p>Indirect benefits include:</p> <ul style="list-style-type: none"> • The value to the public of properly operated waterworks, including clean drinking water. • The value to the public of properly operated wastewater works, including properly treated wastewater. 		

	<ul style="list-style-type: none"> • The reduced risk of environmental damage caused by improperly treated sewage or industrial waste, and associated remediation costs. • The reduced risk of harm to public health resulting from improperly treated drinking water or improperly treated wastewater, and associated mitigation costs.
(6) Information Sources	<p>Box 2(a): Initial licensure. ABC license examination fee schedule. (http://documents.goamp.com/Publications/candidateHandbooks/ABC-VA-Handbook.pdf)</p> <p>License renewal and license reinstatement. Virginia Tech Water Treatment Plant and Wastewater Treatment Plant Short Courses. (https://www.cpe.vt.edu/wwplant/registration.html)</p> <p>Box 2(b): May 2021 State Occupational Employment and Wage Estimates Virginia, United States Bureau of Labor Statistics (https://www.bls.gov/oes/current/oes_va.htm)</p>
(7) Optional	<p>Box 2(a):</p> <p>The estimated direct cost to an individual to obtain an initial license is \$202. Direct costs are (i) the application fee (\$100); and (ii) the average license examination fee (\$102).</p> <p>The license examination fee for Class 5 and Class 6 waterworks operator examination is \$82; the examination fee for Class 1, Class 2, Class 3, and Class 4 waterworks and wastewater works examinations is ≈ \$121.</p> <p>The estimated direct cost to renew a license is \$262. Direct costs are (i) the application fee (\$80); and (ii) an estimated cost for completing 12² hours of continuing professional education (CPE) at \$15.15 per credit hour ≈ \$182.</p> <p>The Board does not approve CPE courses, so course providers are not required to provide information regarding course fees to the Board. Costs for CPE courses depend various factors including the course provider, length of the course, and method of instruction (e.g. classroom or virtual). Some providers, including state agencies such as DEQ, provide training courses for no charge. Other providers, such as Water Otter, have a subscription-based model that charges a flat fee for an unlimited number of courses (current subscription price is \$429 per year). The estimated cost per credit hour above is derived from the fee charged by Virginia Tech to conduct its Short School. Virginia Tech charges \$500 for a 33-hour series of virtual courses.</p>

² 18VAC160-30-190 provides that Class 1, 2, and 3 operators complete 20 contact hours of CPE each two-year license cycle; Class 4 operators must complete 16 hours CPE each license cycle; Class 5 waterworks operators must complete eight (8) contact hours of CPE; and Class 6 waterworks operators must complete four (4) contact hours of CPE. This averages to 12 hours of CPE in order to renew a license.

	<p>Licenses are valid for a period of two years. Calculation of direct costs includes the direct costs for initial licensure (Year 0), and direct costs for renewal of a license every other year (Years 2, 4, 6, and 8). The calculation assumes that a licensee will complete CPE during a renewal year.</p> <p>Calculation of direct costs does not include the reinstatement fee that would be due if a licensee fails to renew a license within the timeframe required by the regulation.</p> <p>Box 2(b): This is the estimated value for the direct benefit of receiving the occupational license based on the mean annual wage in Virginia for those who are waterworks or wastewater works treatment plant operators (\$47,890).</p>
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Table 1c: Costs and Benefits under an Alternative Approach

This table addresses an alternative approach to accomplishing the objectives with different requirements. These alternative approaches may include the use of reasonably available alternatives in lieu of regulation, or information disclosure requirements or performance standards instead of regulatory mandates.

<p>(1) Direct Costs & Benefits</p>	<ul style="list-style-type: none"> <p>• No change in the application fee for initial licensure as a waterworks operator or wastewater works operator.</p> <p>Direct Costs: Application fee for an initial license remains \$100. Other direct costs are unchanged.</p> <p>Direct Benefits: The direct benefit is the occupational license.</p> <p>• Increase of application fee for license renewal as a waterworks operator or wastewater works operator.</p> <p>Direct Costs: Change increases the cost of the application fee for renewal of a license from \$80 to \$100. Other direct costs are unchanged.</p> <p>Direct Benefits: There is no additional direct benefit resulting from the change. Otherwise, the direct benefit is the occupational license.</p> <p>• Increase of fee for reinstatement of a waterworks operator or wastewater works operator license.</p> <p>Direct Costs: Change increases the cost of the reinstatement fee from \$25 to \$35. Other direct costs are unchanged.</p>
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	Direct Benefits: There is no additional direct benefit resulting from the change. Otherwise, the direct benefit is the occupational license.		
(2) Quantitative Factors	Estimated Dollar Amount	Present Value	
Direct Costs	(a) \$1,330	(c) \$1,177	
Direct Benefits	(b) \$478,900	(d) \$420,767	
(3) Benefits-Costs Ratio	357.45	(4) Net Benefit	\$419,590
(5) Indirect Costs & Benefits	<p><u>Indirect Costs:</u> Indirect costs of the regulation are not anticipated to be impacted as a result of this regulatory change.</p> <p><u>Indirect Benefits:</u> The regulatory change will indirectly benefit DPOR because the Board will have sufficient revenue to cover the Board expenses without having to reduce services, obtain a Treasury loan, or obtain general funds. Otherwise, indirect benefits of the regulation are not anticipated to be impacted as a result of this regulatory change.</p>		
(6) Information Sources	<p>Box 2(a): Initial licensure. ABC license examination fee schedule. http://documents.goamp.com/Publications/candidateHandbooks/ABC-VA-Handbook.pdf</p> <p>License renewal and license reinstatement. Virginia Tech Water Treatment Plant and Wastewater Treatment Plant Short Courses. https://www.cpe.vt.edu/wwplant/registration.html</p> <p>Box 2(b): May 2021 State Occupational Employment and Wage Estimates Virginia, United States Bureau of Labor Statistics https://www.bls.gov/oes/current/oes_va.htm</p>		
(7) Optional	<p>Box 2(a):</p> <p>The estimated direct cost to an individual to obtain an initial license is \$202. Direct costs are (i) the application fee (\$100); and (ii) the average license examination fee (\$102).</p> <p>The license examination fee for Class 5 and Class 6 waterworks operator examination is \$82; the examination fee for Class 1, Class 2, Class 3, and Class 4 waterworks and wastewater works examinations is ≈ \$121.</p>		

	<p>The estimated direct cost to renew a license is \$282. Direct costs are (i) the application fee (\$100); and (ii) an estimated cost for completing 12³ hours of continuing professional education (CPE) at \$15.15 per credit hour ≈ \$182.</p> <p>The Board does not approve CPE courses, so course providers are not required to provide information regarding course fees to the Board. Costs for CPE courses depend various factors including the course provider, length of the course, and method of instruction (e.g. classroom or virtual). Some providers, including state agencies such as DEQ, provide training courses for no charge. Other providers, such as Water Otter, have a subscription-based model that charges a flat fee for an unlimited number of courses (current subscription price is \$429 per year). The estimated cost per credit hour above is derived from the fee charged by Virginia Tech to conduct its Short School. Virginia Tech charges \$500 for a 33-hour series of virtual courses.</p> <p>Licenses are valid for a period of two years. Calculation of direct costs includes the direct costs for initial licensure (Year 0), and direct costs for renewal of a license every other year (Years 2, 4, 6, and 8). The calculation assumes that a licensee will complete CPE during a renewal year.</p> <p>Calculation of direct costs does not include the reinstatement fee that would be due if a licensee fails to renew a license within the timeframe required by the regulation.</p> <p>Box 2(b): This is the estimated value for the direct benefit of receiving the occupational license based on the mean annual wage in Virginia for those who are waterworks or wastewater works treatment plant operators (\$47,890).</p>
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Impact on Local Partners

- (1) Describe the direct costs and benefits (as defined on page 1) for local partners in terms of real monetary costs and FTEs. Local partners include local or tribal governments, school divisions, or other local or regional authorities, boards, or commissions. If local partners are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
 - (a) Enter estimated dollar value of total (overall) direct costs described above.

³ 18VAC160-30-190 provides that Class 1, 2, and 3 operators complete 20 contact hours of CPE each two-year license cycle; Class 4 operators must complete 16 hours CPE each license cycle; Class 5 waterworks operators must complete eight (8) contact hours of CPE; and Class 6 waterworks operators must complete four (4) contact hours of CPE. This averages to 12 hours of CPE in order to renew a license.

- (b) Enter estimated dollar value of total (overall) direct benefits described above.
- (3) Indirect Costs & Benefits: Describe any indirect benefits and costs (as defined on page 1) for local partners that are associated with all significant changes. If there are no indirect costs or benefits, include a specific statement to that effect.
- (4) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why they are not.
- (5) Assistance: Identify the amount and source of assistance provided for compliance in both funding and training or other technical implementation assistance.
- (6) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

Table 2: Impact on Local Partners

(1) Direct Costs & Benefits	No direct impact to local partners is anticipated as a result of the regulatory change. The licensure regulation does not impose direct costs on local government entities, and local government entities receive no direct benefits.
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	(a) N/A
Direct Benefits	(b) N/A
(3) Indirect Costs & Benefits	Local government entities that choose to assume the license application fee costs for their employees to obtain and maintain waterworks or wastewater works operator licenses may be indirectly impacted as a result of the change. Such entities could either (i) absorb the additional costs; (ii) pass along the costs in the form of increased service fees to the public; or (iii) no longer pay for employees' licenses. There are no apparent indirect benefits to local government entities resulting from the regulatory change.
(4) Information Sources	N/A
(5) Assistance	N/A

(6) Optional	N/A
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Economic Impacts on Families

- (1) Describe the direct costs and benefits (as defined on page 1) to a typical family of three (average family size in Virginia according to the U. S. Census) arising from any proposed regulatory changes that would affect the costs of food, energy, housing, transportation, healthcare, and education. If families are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
 - (a) Enter estimated dollar value of direct costs.
 - (b) Enter estimated dollar value of direct benefits.
- (3) Indirect Costs & Benefits: Describe any indirect costs and benefits (as defined on page 1) to a typical family of three that are most likely to result from the proposed changes.
- (4) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why not.
- (5) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

Table 3: Impact on Families

(1) Direct Costs & Benefits	No direct impact to families is anticipated as a result of the regulatory change. The licensure regulation does not impose direct costs on families, and families receive no direct benefits.
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	(a) N/A
Direct Benefits	(b) N/A
(3) Indirect Costs & Benefits	No indirect impact to families is anticipated as a result of the regulatory change.
(4) Information Sources	N/A

(5) Optional	N/A
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Impacts on Small Businesses

- (1) Describe the direct costs and benefits (as defined on page 1) for small businesses. For purposes of this analysis, “small business” means the same as that term is defined in § 2.2-4007.1. If small businesses are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
 - (a) Enter estimated dollar value of direct costs.
 - (b) Enter estimated dollar value of direct benefits.
- (3) Indirect Costs & Benefits: Describe the indirect benefits and costs (as defined on page 1) for small businesses that are most likely to result from the proposed changes.
- (4) Alternatives: Add a qualitative discussion of any equally effective alternatives that would make the regulatory burden on small business more equitable compared to other affected business sectors, and how those alternatives were identified.
- (5) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why not.
- (6) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

Table 4: Impact on Small Businesses

(1) Direct Costs & Benefits	Licenses for waterworks and wastewater works operators, and for onsite sewage system professionals are issued to individuals, and not to business entities. There are no direct impacts on small businesses.
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	(a) N/A
Direct Benefits	(b) N/A
(3) Indirect Costs & Benefits	Individuals who are licensed may be owners or employees of business entities that meet the definition of "small business" in § 2.2-4007.1 of the Code of Virginia. To the extent such business entities assume the costs for obtaining or maintaining a license, these entities would be indirectly affected.

(4) Alternatives	N/A
(5) Information Sources	N/A
(6) Optional	N/A

Changes to Number of Regulatory Requirements

For each individual VAC Chapter amended, repealed, or promulgated by this regulatory action, list (a) the initial requirement count, (b) the count of requirements that this regulatory package is adding, (c) the count of requirements that this regulatory package is reducing, (d) the net change in the number of requirements. This count should be based upon the text as written when this stage was presented for executive branch review. Five rows have been provided, add or delete rows as needed.

Table 5: Total Number of Requirements

	Number of Requirements			
Chapter number	Initial Count	Additions	Subtractions	Net Change
18VAC160-30	90	0	0	0