

Preliminary Evaluation of the Board of Waterworks and Waste Systems Operators

Recommendations:	Waive from full evaluation Extend termination date by 10 years to July 1, 2031 Require preliminary evaluation by December 15, 2028 Amend statute to require fees established by the board to raise sufficient revenue to cover the board's operating costs
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Date Established: 1957

Most Recent Prior Evaluation: Full Evaluation in 2009
Extended termination date by 10 years to July 1, 2021 (enacted by Chapter 416 of 2010); required follow-up report by October 1, 2011 (submitted)

Composition: Eleven members consisting of eight members appointed by the Governor representing specified areas of the waterworks and waste systems field and three members appointed by the Secretary of the Environment, including one engineer from the Maryland Department of the Environment and two members of the public

Regulated Entities: Operators and superintendents of waterworks and waste systems

Authorizing Statute: Title 12, Subtitle 2, Environment Article

Evaluation Completed by: Conor McCarthy, Department of Legislative Services, 2018

The State Board of Waterworks and Waste Systems Operators

The Board of Waterworks and Waste Systems Operators was established by Chapter 430 of 1957. The board was initially created to examine and certify the superintendents of waterworks and waste systems. In 1982, the board's regulatory purview increased to include operators in addition to superintendents. An operator of a waterworks participates in the control of the flow, processing, and distribution of water and an operator of a wastewater works participates in the collection, control of flow, processing, and discharge of wastewater and effluent. Waterworks operators treat water so that it is safe to drink and waste systems operators remove harmful pollutants from domestic and industrial waste so that it is safe to return to the environment. A superintendent is certified as the individual who is in charge at either type of facility. The purpose of the board is to protect the quality of water and public health by ensuring that operators and superintendents meet minimum professional standards.

The board operates under the provisions of Title 12 of the Environment Article and is a unit within the Maryland Department of the Environment (MDE) Water Supply Program. The board consists of 11 members. The Secretary of the Environment appoints 3 members: 1 engineer representative from MDE and 2 public members to represent the community at large. With the advice and consent of the Senate, the Governor appoints 8 members, who represent one or more of the following:

- municipal government;
- county government;
- a sanitary or a metropolitan commission;
- waterworks supervision;
- wastewater works or industrial wastewater works supervision;
- agriculture;
- industrial wastewater works superintendents; and
- the Maryland Environmental Service.

The members appointed by the Governor serve four-year terms and may be reappointed. The members appointed by the Secretary of the Environment serve at the pleasure of the Secretary. The board's general responsibilities include:

- recommending to the Secretary of the Environment the education, experience, and examination standards that applicants must satisfy to be certified by the board;

- issuing and renewing operator and superintendent certifications in accordance with those standards;
- recommending regulations for promulgation by the Secretary of the Environment;
- hearing appeals concerning certification requirements;
- investigating allegations of misconduct by certificate holders; and
- taking disciplinary action, including the reprimand of a certificate holder or suspension or revocation of a certificate.

Legislative Activity Since Last Evaluation

The last sunset review of the board was a full evaluation conducted by the Department of Legislative Services (DLS) in 2009. The 2009 full evaluation made several recommendations for the board. **Appendix 1** summarizes the legislation that was enacted in response to these recommendations.

2010 Legislation Enacted in Response to 2009 Full Evaluation

The 2009 full evaluation made various recommendations for the board, including amending the relevant statutes to clarify that MDE is the entity responsible for enforcing the requirement that facilities have board-certified operators and are under the responsible charge of a certified superintendent. The report noted that statutory ambiguity and a lack of resources by the board had resulted in extensive noncompliance with this requirement. The full evaluation also recommended repealing obsolete language regarding limited certificates that were no longer being issued by the board, and asked for a report from the board by 2011 on the implementation of various non-statutory recommendations.

Chapter 416 of 2010 embodied the statutory recommendations developed by DLS during the 2009 sunset review of the board. The bill clarified that MDE is responsible for the enforcement of the section requiring all operators to be certified and each waterworks, wastewater works, and industrial wastewater works to be under the supervision of a certified superintendent. The bill also removed all statutory references to limited certificates. The board's composition was altered to replace the representative from the Department of Natural Resources with a representative from the Maryland Environmental Service. Furthermore, the bill required that the board, in conjunction with MDE, report to the Senate Education, Health, and Environmental Affairs Committee and the House Environmental Matters Committee by October 1, 2011, on several topics, including: options for developing a database for tracking waste systems facilities; options for upgrading the board's administrative database; whether to exempt certain smaller facilities from the requirement to employ a certified superintendent; information on the use of circuit riders in Maryland; the use of MDE's penalty authority; pre-examination training opportunities; the status of computer-based

examinations; and the board's ability to generate sufficient fee revenue for the general fund to cover the board's expenses. Finally, Chapter 416 extended the termination date for the board from July 1, 2011, to July 1, 2021, and required an evaluation of the board by July 1, 2020.

2011 Board of Waterworks and Waste Systems Operators Report

As required by Chapter 416 of 2010, the board submitted a report to the General Assembly in 2011 addressing the various recommendations made by DLS. The report noted that, due to federal grant commitments, the board's database associates individual operators with their employment at water treatment facilities. There is no similar computer-based system for tracking wastewater operator employment. The 2009 full evaluation recommended that MDE develop a database for waste systems personnel similar to that for waterworks facilities. In its 2011 report, the board and MDE agreed that this database was necessary and should be developed, but that the funding did not exist for such an endeavor.

The 2009 full evaluation also made several recommendations regarding circuit riders. Specifically, DLS recommended that the board track circuit riders and promote the use of circuit riders by facilities. In its 2011 report, the board explained that a number of private companies provide circuit riders to water and wastewater systems. Therefore, it would be a conflict of interest for the board or MDE to promote circuit riders on an official basis as the regulator of public water systems and waste systems. Furthermore, the board claimed it did not have the resources to track circuit riders.

The board utilizes an outdated FOXPRO-based database for administrative and financial recordkeeping. MDE has a centralized database that utilizes ORACLE software. DLS recommended that MDE upgrade the board's administrative database to a modern system that allows for the efficient tracking of both facilities and personnel by certain attributes including the presence of a certified operator or superintendent, the date a certificate is to lapse, and contact information for the operator and system owner. This updated administrative database would need to be compatible with MDE databases such as ORACLE. In its 2011 report, the board stated that funding was not available for this upgrade. To date, the board has yet to upgrade from the FOXPRO system.

DLS also recommended that the board offer more computer-based exams to its applicants. In its 2011 report, the board stated that it was currently offering computer-based exams for all of its certificate categories.

The 2011 report also examined the fees charged by the board for various services and determined that certain fees needed to be adjusted in order to generate sufficient revenue to cover the board's expenses. Subsequently, regulations raising the board's fees were adopted, creating a noticeable increase in revenues.

2012 Legislation Enacted in Response to Board's 2011 Report

The 2011 report from the board also determined that certain statutes should be amended to provide relief to small treatment facilities by exempting them from the requirement that they employ a certified superintendent. In response to this finding, Chapter 23 of 2012 establishes that a waterworks, wastewater works, or industrial waterworks may have a certified operator be in charge instead of a certified superintendent if the facility (1) serves fewer than 500 people; (2) has minimal treatment requirements as determined by MDE; and (3) employs no more than two operators.

Certification Activity

The board certifies operators and superintendents for five categories of facilities – two categories of waterworks (distribution and treatment) and three categories of wastewater systems (treatment, collection, and industrial). Within these five broad categories are 23 classes of facilities, each with a unique certificate defined by process technology. At the time of the last evaluation there were 24 classes of facilities; however, Wastewater Collection C1 facilities are now defunct and their corresponding certificates are no longer issued. All certificates are renewable for three-year periods. As shown in **Appendix 2**, four types of certificates are authorized by the board.

The 2011 report determined that the board should raise some certification fees in order to increase revenues to cover the board's expenses. In response, the board raised the fees for exams, initial certificates, and certificate renewals to \$100. However, in 2016, the Governor initiated a statewide licensing fee reduction initiative. As a result, the fees for exams, initial certificates, and renewals were all cut in half. **Appendix 3** depicts the current fees charged by the board.

Appendix 4 shows the trends in the certificates issued over the last four fiscal years. The majority of the new certificates issued have been for operators-in-training. Overall, the volume of new and renewed certificates has remained relatively steady with some normal variance from year to year.

The number of active grandparented certificates continues to slowly dwindle as those certificate holders retire. Nevertheless, the number of total active certificates has gradually risen over the past several years. As of July 2018, there are currently 4,964 active operator certificates, 3,176 active operator-in-training certificates, and 815 active superintendent certificates. In total, there are 8,955 active certificates. Accounting for the overlap between operators and superintendents, there are 6,317 active certificate holders.

Complaints and Enforcement

Complaints are very rarely filed with the board. The board has the authority to take disciplinary action against a certificate holder who has been determined to have (1) fraudulently obtained, attempted to obtain, or used a certificate; (2) been professionally incompetent;

(3) falsified records; (4) failed to submit self-monitoring reports; or (5) been negligent in the operation and maintenance of the facilities. MDE's Office of the Attorney General provides legal counsel to the board as needed. MDE's Water Supply Program provides investigative support for matters involving enforcement action by the Office of the Attorney General against operators. According to reports filed with the U.S. Environmental Protection Agency, the board did not undertake any formal disciplinary actions in 2014, 2015, 2016, or 2017.

As noted by DLS in prior sunset reviews, the small number of complaints may be due in part to the nature of the self-reporting system in place. The board is tasked with investigating all reports of violations, but it is outside the scope of the board's mandate to proactively seek out violations. Therefore, the board is reliant upon the waterworks and waste systems facilities and others to report violations. According to the board, its typical approach is to allow the alleged offender to voluntarily give up their certificate, thus avoiding any drawn out legal process.

Finances

The board is funded with State general funds, and board revenues from fees associated with certification are likewise credited to the general fund. Under the relevant statutes, the board is authorized to set reasonable fees for the issuance and renewal of certificates and its other services, including exams. Based on a recent review by DLS, 20 out of 23 nonhealth-related regulatory entities with fee-setting authority are required by law to set fees so as to raise sufficient funds to cover their costs, but the State Board of Waterworks and Waste Systems Operators is 1 of the 3 entities that is not required to do so. However, State law *authorizes* the board to set the fees so "as to produce funds to approximate the cost of maintaining the board."

After conducting its full evaluation of the board in 2009, DLS requested that the board look into whether its fees should be increased to fully cover its annual expenditures. The board's 2011 report determined that the current fees were not sufficient and needed to be raised. A fee increase for initial certificates, renewals, and exams went into effect on October 1, 2014. The increased fees resulted in substantially increased revenues that eliminated the persistent gap between the board's annual expenditures and revenues identified by the 2009 full evaluation. In fiscal 2015, the board had collected excess revenues of \$110,058. However, in 2016, the Governor initiated a statewide fee reduction initiative, and the board approved a fee reduction that restored its fees to the pre-2014 levels. As shown by **Appendix 5**, revenues have taken a precipitous decline in the years following the statewide reductions. After fully covering costs in fiscal 2015 and 2016, revenues are now well below the board's expenditures. According to the board, the total cost of providing an exam to an applicant is approximately \$64, which is more than the \$50 applicants are currently paying to take it under the new fee structure, which further contributes to the board's funding shortfall. The financial history of the board suggests that it would cover its expenses if certain fees were raised back to where they were before the statewide cuts were implemented.

Other Issues

Enforcement

The previous full evaluation recommended introducing legislation that would clarify that MDE is responsible for the enforcement of the law requiring all operators to be certified and each waterworks, wastewater works, and industrial wastewater works to be under the supervision of a certified superintendent. Chapter 416 of 2010 made this change. In response, MDE has implemented an inspection process. The operator/superintendent employment requirement enforcement is carried out during the periodic inspections of the facility or system. For water treatment and distribution systems, the Regulatory and Compliance Engineers in the Engineering and Technical Assistance Division of the Water Supply program check that water systems have the required operator and/or superintendent during the sanitary survey. The sanitary survey is a detailed onsite inspection that covers eight elements, including water system management and operations, and operator compliance with State requirements. For wastewater and collection systems, the Environmental Compliance Specialists in the Compliance Program check that wastewater systems have the required operator and/or superintendent as part of their periodic inspections. Both of these programs are part of the Water and Science Administration in MDE.

Computer-based Examinations

Paper exams are offered at least monthly at various locations across the State and administered by board staff. Paper exams are forwarded to the Association of Boards of Certification (ABC) for scoring. The 2009 full evaluation of the board recommended increased usage of computer-based exams. Computer-based exams are now available for all categories at select locations. The exams are coordinated through ABC and allow an approved third-party contractor to administer the exams. Computer-based exams are available at eight testing facilities in Maryland, Pennsylvania, West Virginia, Virginia, and the District of Columbia. These facilities charge an additional fee for the exams. In 2016, board staff began administering a computer-based exam at the MDE Baltimore office that requires no additional fee. Computer-based exams allow applicants to receive their score immediately after finishing the exam.

Technology

The board staff utilizes a FOXPRO software system for operator certification and license renewal. The software was installed in 1988 and has very limited capability for data management. In 2017, the Water Supply Program approached MDE's Office of Information Management and Technology to construct a new database, but was informed development could not be performed in-house due to the complexity of data for the 24 (now 23) classifications. The board Secretary hopes to have the current database modified in the future to provide greater flexibility for database management.

The 2009 full evaluation recommended that updates be made to the board's databases. The board agrees that its systems are outdated and would support a new updated database, but the complexity of such a system and a lack of funding has hindered any developments.

Conclusion and Recommendations

The board appears to be operating within its statutory authority and meeting its mandated duties. In the years since the last evaluation, the board has shown a high level of efficiency and professionalism. Key issues regarding enforcement of certification requirements identified in the last evaluation were addressed by statute and largely removed from the board's jurisdiction. Fees were initially raised in response to concerns raised by the evaluation and confirmed by the board's follow-up report, but were subsequently lowered again as part of a statewide initiative (but nevertheless approved by the board).

As the board is fulfilling its mission, DLS recommends that the Legislative Policy Committee waive the Board of Waterworks and Waste Systems Operators from full evaluation and that legislation be enacted to extend the board's termination date by 10 years to July 1, 2031. Thus, another preliminary evaluation would be conducted in 2028.

However, as a result of the adoption of regulations in 2016 that reduce the board's fee structure, the board does not generate sufficient revenues to cover its expenditures. **Therefore, DLS further recommends that statute be amended to *require* that fees be set at a level such that revenues generated by the board are sufficient to cover its expenditures; this requirement is the norm among most other regulatory bodies in the State that have fee-setting authority.**

DLS also recommends that, since the State Board of Waterworks and Waste Systems Operators and the State Board of Well Drillers are both within the Water Supply Program, the Secretary of the Environment be required to calculate the direct and, if appropriate, indirect costs attributable to each board, and that the boards be required to set fees based on those calculations. Future fee increases (after any necessary initial fee increase) should be capped at 12.5% of the existing fee. In order to establish fees that more equitably distribute the costs associated with each board, statute should authorize the Secretary to average the costs of each board covered by the general fund, provided both boards consent to allow the Secretary to do so.¹

Finally, DLS recommends that the board coordinate with MDE's Office of Information Management and Technology on an upgrade of the board's database. The board's database has been outdated since the previous sunset review and needs to be addressed in the near future to allow the board to continue fulfilling its obligations.

¹ A concurrent evaluation of the State Board of Well Drillers includes a similar recommendation.

Appendix 1.

Legislative Changes Related to the Board of Waterworks and Waste Systems Operators

<u>Year</u>	<u>Chapter</u>	<u>Change</u>
2010	416	Clarified that Maryland Department of the Environment (MDE) is responsible for the enforcement of provisions requiring all operators to be certified and each waterworks, wastewater works, and industrial wastewater works to be under the supervision of a certified superintendent. Repealed obsolete provisions related to the issuance of limited certification. Altered the board's composition to replace the representative from the Department of Natural Resources with a representative from the Maryland Environmental Service. The termination date for the board was extended from July 1, 2011, to July 1, 2021, with an evaluation of the board required by July 1, 2020. Required that the board, in conjunction with MDE, report to specified committees of the General Assembly by October 1, 2011, on several matters related to the board, including updating the board's databases.
2012	23	Authorized specified waterworks, wastewater works, and industrial wastewater works to have a certified operator serve in responsible charge instead of a certified superintendent. In order to qualify for the exemption from the requirement to be under the supervision of a certified superintendent, the system must serve fewer than 500 persons, have minimal treatment requirements, and employ no more than two operators.

Source: Laws of Maryland

Appendix 2. Certificate Categories

Operator Certificate: Issued to an operator who has obtained the required education and experience and passed the appropriate examination. They are process specific and transferrable to all appropriate plants.

Operator-in-Training Certificate: Temporary certificate issued to an individual who is employed at a facility but has not yet satisfied the experience, education, and examination requirements necessary to receive operator certification. An operator-in-training must only work under the direction of a certified operator or superintendent. These certificates were previously referred to as “Temporary Certificates.”

Grandparented Certificate: These certificates were issued to individuals who acted as operators for facilities that were not required to employ certified operators before February 2001, and who meet the minimum education and experience requirements. These certificates are site-specific and terminate if the facility changes to a different class; they are no longer issued.

Superintendent Certificate: Issued to an operator who holds a valid operator certificate, has obtained the required education and experience for a superintendent, is appointed by an employer, and completes the mandatory superintendent training program. They are plant specific and not transferrable.

Appendix 3. Certificates and Fee Structure

<u>Service</u>	<u>Operator</u>	<u>O-I-T</u>	<u>Superintendent</u>	<u>Grandparented</u>
Exam	\$50	N/A	N/A	N/A
Retake Exam	100	\$100	N/A	N/A
Certificate (Initial and Renewal)	50	50	\$50	\$50 for Water treatment and Water distribution N/A for others
Reciprocity	150	N/A	N/A	N/A
Replacement Certificate	25	25	25	25
Replacement Renewal Card	15	15	15	15
Late Renewal (in addition to standard renewal fee)	100	100	100	100
Reinstatement (in addition to standard renewal fee)	150	N/A	N/A	N/A

O-I-T: Operator in Training

Source: Code of Maryland Regulations (COMAR)

Appendix 4. Certification Activity

	Fiscal 2015-2018			
	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
<u>New Certificates</u>				
Operators	330	381	303	309
Superintendents	56	49	48	67
Operator-in-Training	1,040	677	730	725
<u>Renewed Certificates</u>				
Operators	902	797	833	964
Superintendents	84	99	140	147
Operator-in-Training	155	189	196	236
Total New and Renewed Certificates	2,567	2,192	2,250	2,448

Source: Board of Waterworks and Waste Systems Operators

Appendix 5. Fiscal History of the Board

	Fiscal 2014-2019					
	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018*</u>	<u>2019*</u>
Expenditures	\$278,373	\$210,941	291,941	223,940	266,189	33,934
Revenues	214,271	320,999	305,946	194,522	184,240	36,492
Excess Gap	(64,102)	110,058	14,914	(29,418)	(81,949)	2,558
Coverage of Expenditures	77%	152.2%	105%	86.9%	69.2%	107.5%

*Fiscal 2019 encompasses the board's revenues and expenditures as of August 31, 2018.

Source: Board of Waterworks and Waste Systems Operators

Appendix 6.
**Written Comments of the State Board of Waterworks and
Waste Systems Operators**

The board reviewed a draft of this preliminary evaluation and provided these written comments. Appropriate factual corrections and clarifications have been made throughout the document; therefore, references in board comments may not reflect the final version of the report.



STATE BOARD OF WATERWORKS AND WASTE SYSTEMS OPERATORS

December 11, 2018

Mr. Michael C. Rubenstein
Principal Policy Analyst
Department of Legislative Services
90 State Circle
Annapolis, MD 21401-1991

Dear Mr. Rubenstein:

The Maryland Board of Waterworks and Waste Systems Operators has received the draft report of the preliminary evaluation of the Board that was prepared by the Department of Legislative Services (DLS). Mr. Shreve and I appreciate the time and attention that was spent on reviewing the Board's activities and the opportunity for factual review and submission of comments on the draft report.

The Board further appreciates the report's conclusion that the Board appears to be operating within its statutory authority and meeting its mandated duties, and that in the years since the last evaluation, the Board has shown a high level of efficiency and professionalism.

Chairman Shreve and I have reviewed the report and offer the following comments for your consideration:

- ***Staffing of the Board – Board Leadership***

Ms. Christine Nagle serves as Board Secretary, in addition to being the Deputy Program Manager of the Water Supply Program. Mr. Neil Winner's title is Chief, Compliance, Tracking, and Operator Certification Division in the Water Supply Program. The Board staff are in Mr. Winner's division and he also acts on behalf of the Board Secretary at meetings and on administrative matters.

- ***Staffing of the Board - The Board does not share staff with the Well Driller's Board.***

Page 8, second to the last paragraph – This paragraph mainly speaks about allocation of expenses between the two boards and is based on the incorrect premise that the boards share staff, we suggest deleting this paragraph. We recommend retaining one sentence, "Future fee increases (after any necessary initial fee increase) should be capped at 12.5% of the existing fee" and moving it to the paragraph above.

- ***Technology – Board Database***

Page 8, last paragraph – we suggest this recommendation be revised to the following: Finally, DLS recommends that the Board coordinate with MDE's Office of Information Management and Technology on an upgrade of the Board's database. The Board agrees with and welcomes this recommendation. We will be working with the Office of Information Management and Technology to address the Boards database needs.

- ***Certification Activity – Appendix 4***

Appendix 4 – Certification Activity Fiscal 2015-2018 has been revised and is submitted for your review. The numbers were recalculated using data from MDE's financial and accounting database.

Thank you again for your time and consideration.

Sincerely,



Neil Winner
Chief, Compliance, Tracking, and Operator Certification Division
Water Supply Program

Cc: Secretary Benjamin H. Grumbles
Mr. William Shreve

Appendix 4.
Certification Activity
Fiscal 2015-2018

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>
<u>New Certificates</u>				
Operators	330	381	303	309
Superintendents	56	49	48	67
Operator-in-Training	1,040	677	730	725
<u>Renewed Certificates</u>				
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Source: Board of Waterworks and Waste Systems Operators